

Glossary

- ACCOR:** a language corpus
ACH: Association For Computing In The Humanities
ACL: Association For Computational Linguistics
ACL/DCI: Association For Computational Linguistics' Data Collection Initiative
ADPCM: adaptive differential pulse-code modulation (PCM)
AI: Artificial Intelligence; also Articulation Index
ALBAYZIN: a language corpus
ALLC: Association for Literary and Linguistic Computing
AM: acoustic model
ANDOSL: Australian National Database of Spoken Language
ANN: artificial neural network, also NN
AR: autoregressive (model)
ARPA: Advanced Research Projects Agency (U.S.), predecessor of DARPA
ARS: a language corpus
ASCII: American Standard Code for Information Interchange
ASR: automatic speech recognition
ASR: automatic speech recognition
ATIS: Air Travel Information Service (task)
ATLAS II: Japanese-English translation system by Fujitsu
ATM: asynchronous transfer mode
ATR: a language corpus
- BMFT:** Bundesministerium für Forschung und Technik, German Federal Ministry
for Research and Technology
BNC: British National Corpus
bps: bits per second
BRA: Basic Research Actions
BRAMSHILL: a language corpus
BREF: a language corpus

- C_0 : first cepstral coefficient
CAD: Computer-Assisted (or -Aided) Design
CADCAM: Computer-Assisted Design / Computer-Assisted Manufacture
CAR: a language corpus
CART: Classification and Regression Tree
CCG: combinatorial categorial grammar
CD-ROM: compact disk—read-only memory
CELP: code-excited linear prediction
CFE: Caterpillar Fundamental English
CFG: context-free grammar
CKY: Cocke, Kasami, and Younger (algorithm)
CL: controlled language
CLAWS: Constituent-Likelihood Automatic Word-Tagging System
CLE: core language engine
CLR: Consortium for Lexical Research
CMN: cepstral mean normalization
CMU: Carnegie Mellon University
CPU: central processing unit (of a computer)
CSC: character shape code
CSLU: Center for Spoken Language Understanding
CSR: continuous speech recognition
C-STAR: Consortium for Speech TrAnslation Research
CUG: categorial unification grammar
CV: consonant-vowel phoneme sequence
CVC: consonant-vowel-consonant phoneme sequence
- DARPA**: Defense Advanced Research Projects Agency (U.S.), successor to ARPA
dB: deciBel
DBMS: data base management system
DBMT: dialogue-based machine translation (MT)
DK: Dansk Korpus
DP: dynamic programming
DPCM: differential pulse-code modulation (PCM)
dpi: dots per inch (resolution quality)
DRT: discourse representation theory
DSP: digital signal processing
DTW: dynamic time warping
DoD: Department of Defense (U.S.)
- EAGLES**: Expert Advisory Group on Linguistic Engineering Standards

EBMT: example-based machine translation (MT)
ECI: European Corpus Initiative
EDI: electronic data interchange
EDR: electronic dictionary research
ELRA: European Language Resources Association
ELSNET: European Network In Language And Speech
EM: expectation maximization algorithm, also estimate-maximize
EMIR: European Multilingual Information Retrieval
ESCA: European Speech Communication Association
ESPRIT: European Strategic Programme for Research and Development
in Information Technology
ETL: Electrotechnical Laboratory (Japan)

F_0 : Fundamental Frequency
FIR: finite impulse response filter
FOPC: first order predicate calculus
FSA: finite state automaton
FSM: finite state machine
FST: finite state transducer
FUF: functional unification grammar framework
FUG: functional unification grammar

GIST: Generating InStructional Text
GPD: generalized probabilistic descent
GPSG: generalized phrase structure grammar

HAMT: human-aided machine translation (MT)
HCI: human-computer interaction
HG: head grammar
HLT: human language technology
HMM: hidden Markov model
HPSG: head-driven phrase-structure grammar
Hz: Hertz (cycles per second)

ICAME: International Computer Archive of Modern English
ICASSP: International Conference on Acoustics, Speech, and Signal Processing
ICR: intelligent character recognition
ICSLP: International Conference on Spoken Language Processing
IDS: Institut für deutsche Sprache
IIR: infinite impulse response filter

ILC-CNR: Istituto di Linguistica Computazionale
ILSAM: International Language for Serving and Maintenance
INaLF-CNRS: Frantext of Institut National de la Langue Francaise
INL: Instituut voor Nederlandse Lexicologie
Interlingua: language independent semantic representation
IR: information retrieval
ISDN: integrated services digital network
ISO: International Standards Organization

JEIDA: Japan Electronic Industry Development Association
J-RASTA: Relative Spectra PLP with Jah smoothing

LC: Lambek Calculus
LCD: liquid crystal display
LDA: linear discriminant analysis
LDC: Linguistic Data Consortium
LD-CELP: low-delay code-excited linear prediction (CELP)
LE: Language Engineering
LE-MLAP: Language Engineering Multilingual Action Plan
LFG: lexical-Functional grammar
LIG: linear indexed grammar
LKB: lexical knowledge base
LM: language model
LPC: linear predictive coding
LR: Left-to-right scanning, rightmost derivation parsing
LRE: Linguistic Research and Engineering
LV-CSR: large vocabulary continuous speech recognition

MAHT: Machine-Aided Human Translation, see also HAMT
MAP: maximum a-posteriori probability
MAR: multivariate auto-regression (AR)
MAT: machine-assisted translation
METEO: Canadian meteorological bulletin translator
MFCC: mel-frequency cepstral coefficient
MIT: Massachusetts Institute of Technology
MITalk: Dennis Klatt's MIT speech synthesizer
MLDB: multilingual lexical data base
MLP: multi-layer perceptron (ANN)
MMSE: minimum mean square error
MMSEE: minimum mean square error estimator

MOS: mean opinion score/scoring

MRD: machine-readable dictionary

MSR: multiple split regression

MT: machine translation

MTDB: multilingual terminological data base

MUC: Message Understanding Conference

NIST: National Institute of Standards and Technology (U.S.)

OGI: Oregon Graduate Institute of Science & Technology

OGITS: OGI Multilanguage Telephone Speech Corpus

PACE: Perkins Approved Clear English

PAHO: Pan American Health Organization

PCA: principal components analysis

PCFG: probabilistic context-free grammar

PCM: pulse-code modulation

PDA: personal digital assistant

PDL: page description language

PECO: Pays d'Europe Centrale et Orientale

PEP: Plain English Program

PLP: perceptual linear prediction

RASTA: relative spectra perceptual linear prediction (PLP)

RELATOR: a language corpus

RM: Resource Management task

RPS: root power sum

RST: rhetorical structure theory

SAM: Speech Technology Assessment Methodology

SAM-A: Speech Technology Assessment Methodology in Multilingual Applications

SGML: Standard Generalized Markup Language

SLS: spoken language system

SLU: spoken language understanding

SNR: signal-to-noise ratio

SR: speech recognition, also ASR

SRI: Stanford Research Institute

SSC: speech synthesis from concept

STI: speech transmission index

SUC: Stockholm-Umea Corpus

- SUNDIAL:** a language corpus
SUNSTAR: a language corpus
SYSTRAN: SYSTRAN language translation system
- TAG:** tree adjunction grammar
TED: Translanguage English Database
TEI: Text Encoding Initiative
TES: Telephone Enquiry System
TFS: typed feature structure
TI: Texas Instruments
TIDE: Telematics Initiative for Disabled and Elderly people, sponsored by the European Commission
TIF: terminology interchange format
TIMIT: Texas Instruments—MIT speech corpus
TKE: terminological knowledge engineering
TREC: Text Retrieval Evaluation Conference
TtS: Text-to-Speech
- UKA:** University of Karlsruhe
USPS: U.S. Postal Service
UW: University of Washington (Seattle)
- VC:** vowel-consonant phoneme sequence
VERBMOBIL: a european language translation project
VLSI: very large scale integration (microchip technology)
VQ: vector quantization
- WOZ:** Wizard of Oz (data collection method)
WSJ: Wall Street Journal corpus
WSJCAM0: Wall Street Journal, Cambridge, language corpus zero
WST: word shape token
WWB: Writer's Workbench
WWW: World Wide Web
- XUNET:** Xperimental University NETwork
- ZIP:** Zone Improvement Code (U.S. Postal Service)

Citation Index

- Abe, K., 191, 225
Abe, Mototsugu, 194, 216
Abney, Steven P., 145, 148, 151, 488, 511, 513
Abry, C., 361, 362
Acero, Alex, 18, 57, 65
Ades, Anthony E., 136, 144
Adjoudani, A., 359, 360, 365
Adriaens, G., 275, 277
Ahmad, K., 462, 463, 469
Ahmadi, M., 82, 105
Aho, A., 420, 429
Aikawa, K., 403, 429
Akamine, S., 325
Alimi, A., 99, 101, 106
Allen, 346
Allen, James F., 127, 144, 233, 236–238, 245, 250, 251, 253
Allen, Jonathan, 111, 144, 189, 199, 205, 216, 344, 362
Allen, T., 92, 101
Allen, W. G., 358, 366
Allerhand, M., 67
Alleva, Fil, 33, 57
Almeida, L., 372, 385
Alshawi, Hiyan, 116, 127, 128, 137, 139, 144, 286, 318, 394, 395, 429
Alvarado, V. M., 21, 57
Amako, Y., 226
Anastasakos, Anastasios, 33, 64
Anastasakos, T., 19, 57
Andersen, Ove, 314, 320
Anderson, A. H., 452, 469, 474
Anderson, S., 185
André, Elisabeth, 169, 187, 233, 253, 351, 369
Andry, François, 235, 238, 244, 245
Angelini, Bianca, 452, 469
Anger, F. D., 362, 363, 366
Anigbogu, J. C., 83–85, 101
Anttila, A., 152
Antworth, E. L., 112, 145
Aoki Waibel, N., 310, 327
Appel, Andrew W., 112, 145, 421, 429
Appelt, Douglas E., 137, 150, 165, 171, 180, 237, 245, 249, 265, 278, 421, 429
Applebaum, T. H., 14, 57
Arens, Y., 168, 182
Ariki, Y., 26, 62
Arnold, D., 286, 318, 486, 511
Arnold, D. J., 116, 144
Arnold, E., 486, 511
Arntz, R., 459, 469
Asada, H., 77, 82, 108
Asadi, Ayman O., 416, 435
Asher, N., 346, 366
Asher, R. E., 62, 516
Atal, Bishnu S., 45, 57, 199, 216, 372, 374, 379, 385, 387, 395, 429
Atkins, B. T. S., 119, 120, 145, 150, 155
Atlas, Les, 319, 405, 429, 512
Atwell, E., 157
Aubert, Xavier, 33, 58
Aurnague, Michel, 345, 347, 362
Austin, J. L., 235, 245

- Austin, Steve, 426, 429, 438
Ayuso, D., 278
- Bacchiani, M., 403, 429
Bachenko, Joan, 207, 216
Backofen, R., 144
Bader, M., 452, 469
Badler, Norman I., 349, 356, 359, 362, 367, 368
Bahl, Lalit R., 28, 37, 58, 133, 145
Bahler, L., 45, 62
Bailly, Gérard, 196, 216, 217, 220, 224, 225, 362, 368
Baird, H. S., 83, 101, 104, 509, 511
Bajcsy, R., 348, 362
Baker, James K., 138–140, 145, 395, 398, 399, 430, 451, 473
Balkan, L., 486, 511
Baltin, M., 152
Baltus, C. M., 75, 107
Bamberg, P., 307, 318
Bard, E. G., 469, 474
Baret, O., 88, 91, 104, 107
Barnard, Etienne, 6, 60, 314, 315, 318, 324
Barry, W., 471
Bartkova, K., 192, 216
Bartneck, N., 83, 107
Bartsch, R., 153
Barwise, J., 124, 127, 145
Bass, L., 364
Batchelder, E. O., 316, 318
Bateman, D. Charles, 432
Bateman, John A., 161, 164, 166, 175, 179, 180
Bates, M., 127, 145, 161, 183
Batter, J., 363
Baum, Leonard E., 139, 145, 398, 430
Bayer, T., 82, 101, 107
Bayya, A., 62
Bear, John, 150, 429
- Beckman, M., 319, 512
Beckman, M. E., 197, 223
Beesley, K. R., 112, 152, 316, 318
Belaïd, Abdel, 81, 83–85, 101
Belkin, N. J., 259, 277
Bellegarda, Jerome R., 18, 28, 58
Bellik, Yacine, 353, 362
Bellman, R. E., 424, 430
Belogonov, G., 303, 318
Ben, J. I., 102
Bengio, Y., 27, 58
Benkerimi, K., 120, 157
Bennet, P., 149
Benoît, Christian, 196, 216, 217, 220, 224, 225, 359, 362, 365, 368
Benson, R., 183
Berger, A., 36, 58
Bergeron, P., 359, 362
Bergler, S., 147
Berkley, D. A., 338, 363
Berkling, Kay M., 314, 315, 318
Bernsen, N. O., 354, 363
Bernstein, J., 473
Berouti, M., 380, 385
Berwick, Robert C., 145, 148, 151
Bickley, C. A., 199, 225
Bierman, A., 319, 512
Bilange, E., 234, 235, 245
Billi, R., 307, 324
Bimbot, Frédéric, 498, 511, 512
Bischoff, Bradford, 357, 358, 367
Black, A. W., 156
Black, Ezra, 114, 131, 138, 139, 142, 145, 146, 148, 488, 489, 511, 513
Blanchet, M., 65
Blanchon, H., 293, 319
Block, Hans Ulrich, 171, 180
Blonder, G. E., 334, 363
Bobrow, D., 234, 245
Bobrow, R., 127, 145

- Bocchieri, E. L., 27, 58
Bod, Rens, 138, 146
Bodoff, David, 367
Boguraev, Bran, 120, 156, 457, 469
Boie, R. A., 334, 363
Boitet, Christian, 288, 293, 295, 319
Bokser, M., 77, 84, 102
Bolc, L., 187
Boll, S. F., 18, 68, 373, 380, 381, 385, 387
Bolt, R. A., 353, 363
Bonafonte, A., 473
Booth, Taylor L., 139, 146
Boser, B., 413, 434
Boudy, J., 18, 65
Bouma, G., 116, 146
Bourbeau, L., 290, 319, 323, 486, 515
Bourlard, Hervé, 412–415, 430, 437
Bouwhuis, D. G., 253, 363
Boyle, E. H., 469, 474
Bregler, Christoph, 357, 358, 363
Breiman, Leo, 208, 216
Bremer, J., 280
Bresnan, J., 116, 118, 146, 151, 170, 180
Bridle, John, 415, 423, 430
Briffault, 345
Brill, E., 480, 512
Briscoe, E. J., 118, 120, 139, 142, 143, 146, 147
Briscoe, Ted, 141, 157, 456, 457, 469
Broglia, J., 260, 277
Brooke, N. Michael, 356, 363, 367
Brooks, F., 334, 363
Brown, P. F., 28, 40, 58, 285, 319, 392, 430
Brugnara, Fabio, 24, 452, 469
Bryant, M., 153
Brynjolfsson, E., 255, 277
Budín, Gerhard, 459, 461, 462, 469–471, 473, 474
Bunke, H., 511
Buo, Finn Dag, 327
Bürckert, H. J., 346, 367
Burdea, G., 334, 363
Burgess, C. J. C., 89, 102, 108, 518
Burnett, Daniel C., 470
Busemann, S., 170, 180, 369
Bush, M., 319, 512
Butler, C., 180
Butterworth, B., 212, 216
Butzberger, J., 33, 66, 132, 133, 155
Bylander, E., 238, 245

Cabré, T., 459, 470
Caeyers, H., 514
Calder, J., 159, 172, 180, 188
Callan, J., 260, 277
Calzolari, Nicoletta, 455, 458, 470, 473, 474
Campari, Irene, 346, 365
Campbell, Ruth, 369
Campbell, W. N., 193, 198, 216
Campia, P., 264, 277
Capman, F., 496, 512
Carballo, J. P., 171, 187, 261, 280
Carberry, Sandra, 212, 216, 217, 233, 236–238, 246, 248
Carbonell, J. G., 286, 319, 323
Carcagno, D., 290, 319
Carlson, R., 192, 217
Carpenter, Bob, 116, 118, 119, 137, 146, 147
Carré, R., 452, 470
Carroll, John, 139, 142, 146
Carter, D. M., 144
Carter, David, 139, 144, 286, 318
Casacuberta, F., 471
Casey, R. G., 77, 78, 82, 102, 108
Casey, Richard G., 77
Cavner, W. B., 316, 319

- Cawsey, Alison, 163, 180, 211, 212, 217, 233, 246
 CCW, 510, 512
 Cerf Danon, H., 307, 319
 Chandiooux, J., 284, 290, 319
 Chandler, B. J., 293, 319, 327
 Chang, Chao Huang, 225
 Chang, Jyun Shen, 204, 217
 Chang, L., 90, 102
 Chang, Nancy, 224
 Chapman, D., 238, 246
 Charpentier, F., 199, 223, 245
 Che, C., 21, 59
 Chen, D., 439
 Chen, H. H., 416, 435, 439
 Chen, J. H., 372, 379, 385
 Chen, Keh Jiann, 203, 217
 Chen, M. Y., 89, 102, 415, 430
 Chen, Shun De, 204, 217
 Chen, Z., 104
 Cheng, Jeannette, 177, 184, 212, 221
 Cherry, C., 330, 363
 Chevalier, M., 287, 319
 Chiang, Tung Hui, 203, 221
 Chiaramella, Y., 261, 277
 Childs, L., 279
 Chollet, G., 496, 498, 512
 Chomsky, Naom, 134, 420–422, 430
 Choukri, K., 245
 Chow, Y L., 432
 Chow, Y., 18, 68
 Chu Carroll, Jennifer, 212, 217
 Church, Kenneth W., 113, 114, 147, 205, 206, 208, 217, 265, 277, 400, 431, 445
 Ciravegna, F., 264, 277
 Clark, H. H., 237, 239, 246
 Coccaro, N., 323, 327
 Cocke, J., 148, 285, 319, 392, 430
 Cohen, A., 219
 Cohen, E., 76, 102
 Cohen, J. R., 9, 21, 59, 319, 403, 431, 512
 Cohen, Michael M., 359, 360, 363, 365, 437
 Cohen, Phil R., 223, 229, 234, 237–240, 246, 248, 250, 252, 502, 503, 512, 516
 Cohen, Robin, 212, 217
 Cohn, Anthony, 347, 363
 Coiffet, P., 334, 363
 Coker, Cecil H., 199, 205, 217, 223
 Cole, P., 149
 Cole, Ronald A., i, 1, 9, 17, 59, 60, 314, 317, 319, 324, 413, 431, 450, 451, 470, 473, 502, 503, 512
 Coleman, J., 223
 Collier, R., 198, 219
 Colognese, A., 277
 Condon, W., 356, 364
 Connon, T. M., 14, 69
 Cooper, R., 124, 145, 147
 Copestake, A., 120, 147, 157, 456, 469
 Cotterill, R., 106
 Coulmas, Florian C., 71, 102
 Coulthard, R. M., 235, 253
 Council, National Research, 486, 512
 Coutaz, J., 353, 364
 Cowan, Jack D., 93, 103, 158, 433
 Creecy, R., 108, 518
 Crettez, J P., 88, 105
 Croft, W. B., 259, 277
 Cuperman, Vladimir, 372, 385
 Cutting, D., 113, 147
 d'Alessandro, C., 196, 198, 199, 218, 224
 Dagan, Ido, 135, 147
 Dahlbäck, N., 234, 236, 246
 Dahlgren, K., 278
 Dahlgren, N. L., 50, 67, 471

- Dale, Robert, 161, 163, 173, 181–183,
186, 187, 214, 217, 218, 247, 250,
270
- Dalsgaard, P., 314, 320
- Danieli, M., 242, 244, 247
- Dansereau, J., 287, 319
- Daoud, J. F. A., 512
- Darroch, J. N., 36, 59
- Daubechies, I., 15, 59
- David, P. A., 255, 277
- Davidson, D., 122, 147
- Davies, A., 462, 469
- Davis, J. R., 213, 218, 228, 247
- Davis, J. W., 147
- Davis, S. B., 13, 59, 403, 431
- De Beaugrande, R., 462, 470
- de Haan, P., 146, 153, 156
- de Marcken, C., 142, 147
- De Mori, Renato, 24, 27, 40, 58, 59, 64
- de Paiva, V., 157, 469
- De Rose, S. J., 113, 147
- De Smedt, K. J. M. J., 214, 218
- de Souza, Clarisse Sieckenius, 177, 186
- de Souza, Peter V., 18, 28, 58
- de Vries, B., 59
- de Vries, F. J., 126, 159
- Dean, 346
- Debili, F., 304, 320
- Dedina, Michael, 205, 218
- DeGennaro, S., 307, 319
- DeJong, G. F., 267, 277
- Dekker, P., 159
- Delin, Judy, 233, 247, 284, 320
- Della Pietra, S., 36, 58, 319, 430
- Della Pietra, V. J., 40, 58, 319, 430
- Deller, John R., Jr., 357, 364
- Demedts, A., 307, 318
- Dempster, A. P., 19, 59, 139, 148
- Demuth, K., 68
- Den, Y., 172, 181
- Dengel, A., 79, 102
- Denker, J. S., 102, 434
- Dent, Lisa, 217
- Deprettere, E., 372, 386
- des Tombes, L., 286, 318
- Descout, R., 452, 470
- DeSmedt, K., 173, 174, 181
- Diagne, A. K., 516
- Diaz, J., 452, 471
- Dickmann, L., 516
- Digalakis, Vassilios, 28, 60, 66, 155
- Dobroth, K. M., 235, 250, 502, 515
- Dodd, Barbara, 369
- Doddington, George R., 66, 451, 471
- Doherty Sneddon, G., 474
- Doherty, G. M., 469
- Doshita, S., 370
- Dowty, David R., 151, 155
- Draskau, J., 459, 473
- Duda, R. O., 21, 60, 83, 102, 397, 431
- Dugast, C., 33, 58
- Dutoit, T., 199, 218
- Dwehus, D., 157
- Dymetman, M., 171, 172, 181
- EAGLES, 501, 513
- Eagon, J. A., 398, 430
- Earley, Jay C., 132, 133, 148, 406, 431
- Eckert, W., 69
- Edmonds, P. G., 239, 247
- Ejerhed, Eva, 445
- Ekman, Paul, 356, 364
- Elder, J., 318
- Elhadad, M., 164, 165, 181, 212, 218
- Elman, J. L., 417, 431, 433
- Elworthy, D., 113, 148
- Emele, M., 116, 148
- EMIR, 304, 320
- Endres Niggemeyer, B., 266, 278
- Ephraim, Yariv, 18, 32, 60, 66, 380–382,
385, 386

- Erber, N. P., 359, 364
ERCIM, 363
Erell, A., 18, 60
Erman, L., 356, 364
ESCA, 55, 60
Eskénazi, Maxine, 470–472
Etchemendy, J., 127, 145
Evans, D., 261, 278
Evans, S., 514
- Fagan, J. L., 260, 278
Falavigna, D., 469
Falkedal, Kirsten, 486, 513, 515
Fallside, F., 213, 226, 414, 437
Fang, J., 405, 429
Fant, Gunnar, 194, 218
Fanty, Mark, 6, 60, 413, 417, 431, 451, 470
Farvardin, Nariman, 330, 368
Farwell, D., 286, 320
Faure, C., 86, 96, 101, 102
Favata, J., 103
Fawcett, R. P., 164, 181
Feiner, S. K., 169, 182, 350, 364
Felber, H., 459, 471
Fellbaum, K., 515
Ferguson, G., 144
Ferreti, M., 319
Filipsson, Marcus, 213, 220
Finin, T., 251
Finkler, W., 253, 369
Finn, Kathleen, 356, 364
Fiscus, J. G., 8, 22, 50, 67, 471, 502, 516
Fisher, C. G., 356, 364
Fisher, W., 50, 67, 451, 471, 473, 516
Fitzpatrick, Eileen, 207, 216
Flammia, G., 58
Flanagan, James L., 59, 196, 218, 329, 332, 338–340, 342, 363–365, 372, 383, 386
Flannery, B. P., 427, 437
- Fleck, M., 154
Flickenger, D., 118, 119, 148, 511, 513
Fluhr, Christian, 301, 304, 320
Fong, Sandiway, 136, 148
Foote, Jonathan, 474
Forman, G., 90, 102
Formentini, U., 365
Forney, Jr., G. D., 424, 431
Fossey, R., 83, 101
Foster, D., 185
Fourcin, Adrian J., 452, 471, 472, 495, 513
Francis, W., 446, 447, 471
Franco, H., 437
Frank, A. U., 346, 365, 366
Franke, J., 107
Fransen, Jeroen, 452, 474
Fraser, A. G., 336, 365
Fraser, N. M., 234, 243, 247
Frege, G., 125, 148
Friedman, Jerome H., 208, 216
Frohlich, D., 247
Fu, K. S., 399, 431
Fudge, Eric, 206, 218
Fujisaki, H., 193, 218
Fujisaki, T., 138, 142, 148, 198, 218
Fulford, H., 469
Furui, Sadaoki, 14, 42, 44–48, 50, 54, 55, 60, 61, 65, 66, 68, 150, 332, 365, 372, 385, 386, 516
Furuse, O., 285, 320
- Gale, William, 224, 265, 277
Galen, Van, 96, 102
Gales, M. J. F., 18, 19, 61
Galinski, Christian, 459, 460, 462, 471
Galliers, J. R., 492, 493, 497, 513
Garcia, Oscar, 319, 357, 365, 512
Gärdenfors, P., 126, 148
Gardent, C., 171, 182
Garofolo, J. S., 67, 451, 471, 516

- Garrod, S. C., 469
 Garside, R., 113, 114, 142, 145, 148, 153, 488, 511
 Gaudin, 461, 471
 Gauvain, J. L. S., 18, 19, 61, 308, 314, 315, 321, 322, 452, 471, 472
 Gawron, J. M., 282, 322
 Gay, L., 185
 Gazdar, G., 119, 149, 170, 182
 Gdaniec, C., 511, 513
 Geach, 148
 Geist, J., 91, 103, 108, 510, 518
 Gelatt, Jr., C. D., 426, 434
 Geller, D., 24, 61
 Gerbino, E., 242, 244, 247
 Gerdemann, D. D., 172, 182
 Gershenfeld, N. A., 414, 440
 Gersho, Allen, 385
 Ghitza, Oded, 21, 61
 Giachin, Egidio, 241
 Gibbon, Dafydd, 221
 Gilbert, G. N., 234, 247
 Gilbert, N., 235, 243, 247
 Giles, C. Lee, 103, 158, 435, 439
 Gilliom, Laura A., 219
 Gish, Herbert, 9, 59, 435
 Gisotti, A., 81, 105
 Giuliani, D., 469
 Glass, James, 6, 69, 308, 321
 Glover Stalls, B., 278
 Goddeau, D., 41, 61
 Godfrey, Jack, 441
 Goff, B. Le, 360, 365
 Goldberg, D. E., 92, 103, 426, 431
 Goldberg, E., 319
 Golding, Andrew, 205, 218
 Goldman, E., 370
 Goldman, N., 165, 182
 Goldman, Robert, 153
 Goldschen, Alan J., 356, 357, 365
 Goldstein, Moise, 357, 358, 370
 Gonzalez, J., 319
 Goodine, D., 308, 321
 Gopalakrishnan, Murali, 431
 Gopalakrishnan, P. S., 58
 Gordon, Peter C., 212, 219
 Gornostaev, J., 364
 Gorski, N., 107
 Gouadec, D., 459, 472
 Goudie Marshall, K., 471
 Govindan, V. K., 81, 103
 Govindaraju, V., 74, 103
 Graf, W., 187
 Graham, Susan L., 132, 149
 Granström, B., 192, 196, 217, 219
 Granville, Robert, 214, 219
 Gray, Jr., A. H., 14, 65
 Greatex, R., 289, 326
 Greaves, J., 183
 Green, Nancy, 233, 248
 Greenbaum, S., 448, 473
 Greenberg, Steven, 15, 61
 Greene, B. B., 113, 149
 Greene, B. G., 500, 515
 Greenwood, A., 191, 223
 Gretter, R., 469
 Grice, H. P., 122, 149, 228, 248
 Griffin, C., 47, 61
 Griffin, D., 372, 386
 Grishman, Ralph, 278, 279, 455, 511, 513
 Groenendijk, J., 125, 126, 149, 151, 155, 250
 Grolier, 448, 472
 Grosz, Barbara J., 152, 183, 211, 212, 219, 222, 227–230, 232, 233, 237–239, 248, 249, 251
 Grother, P. J., 108, 518
 Guiard Marigny, T., 359, 360, 365
 Gupta, N. K., 261, 280
 Gupta, Vishwa N., 152

- Güsgen, H. W., 362, 363, 366
Gutenberg, 72
Gutiérrez, R., 101
Guyomard, M., 234, 235, 245, 248
Guyon, Isabelle, 90, 95, 103, 415, 438
- Haddock, J. Nicholas, 116, 149, 159, 188
Haeb Umbach, R., 24, 61
Hager, Joseph, 364
Hahn, U., 267, 278
Haigh, R., 138, 157
Hakoda, K., 193, 219
Halle, M., 421, 430
Haller, Susan M., 214, 219
Halvorsen, Per-Kristian, 255
Hamada, H., 191, 223
Hamburger, H., 267, 279
Hammond, B., 108, 518
Hammond, D. L., 319
Hanauer, S. L., 395, 429
Hanks, P., 277, 400, 431
Hansen, John H., 364
Hanson, B., 14, 57, 319, 512
Hanson, Stephen José, 93, 103, 158
Haralick, R. M., 509, 515
Hardcastle, W. J., 452, 472
Harland, G., 452, 471
Harman, Donna, 259, 278, 305, 321, 482, 484, 513
Harrison, Michael A., 132, 149
Harrison, P., 275, 280, 488, 511, 513
Hart, J., 198, 219
Hart, P. E., 83, 102, 397, 431
Hartley, Anthony, 233, 247, 284, 320
Hartson, H. R., 517
Haskel, B., 330, 367
Hauptmann, A. G., 238, 253, 327, 353, 365
Hausser, R., 157, 485, 514
Hayes, P. J., 267, 280
Hazan, V., 471
Hazen, Timothy J., 314, 315, 321
Hecker, M. H. L., 514
Heeman, P. A., 144, 239, 248
Heidorn, G., 114, 151
Heidorn, G. E., 142, 151
Heikkilä, J., 152
Heinrich, P., 316, 321
Henderson, D., 434, 438
Hennecke, Marcus, 357, 365
Henton, C., 359, 366
Herkovits, A., 345, 366
Hermansky, Hynek, 6, 14, 20, 21, 62, 64, 319, 403, 404, 431, 512
Herzog, O., 185
Hess, M., 261, 278
Hieronymus, James L., 314, 322, 395, 433
Higgins, A. L., 45, 62
Hild, Hermann, 357, 358, 363
Hindle, Donald, 53, 62, 114, 131, 133, 135, 136, 138, 141, 142, 149, 150, 154, 208, 219, 277, 511, 513
Hinrichs, E. W., 172, 182
Hintikka, J., 155
Hinton, G. E., 427, 434, 438
Hirsch, H. G., 14, 20, 62, 64, 431
Hirschberg, Julia, 205–208, 212, 213, 218, 219, 223, 224, 226, 228, 232, 233, 247, 248
Hirschman, Lynette, 9, 17, 59, 241, 243, 244, 248, 252, 317, 319, 451, 472, 475, 502, 503, 512
Hirshberg, J., 225
Hirst, G., 134, 154, 239, 248
Hix, D., 517
Ho, T. K., 85, 88, 103
Hoard, J., 275, 278
Hoard, James E., 274
Hobbs, Jerry R., 120, 137, 150, 211, 219, 227, 230, 233, 249, 266, 278, 421,

- 429
Höge, M., 493, 514
Hohmann, A., 493, 514
Holden, N., 293, 319, 327
Holdsworth, J., 67
Hollan, Rene, 133, 152
Holmes Higgin, P., 469
Holstege, M., 82, 103
Holt, P., 278
Holzhauser, K., 278
Hon, Hsiao Wuen, 28, 62, 403, 432
Hopcroft, J. E., 419, 432
Höppner, W., 164, 187
Horacek, Helmut, 177, 182
Horiguchi, K., 323, 327
Horne, Merle, 213, 220
Horsfall, H. J., 319, 327
Horton, D., 364
Horty, J. F., 119, 158
House, A. S., 316, 321, 504, 514
House, Jill, 213, 220
Houtgast, T., 505, 514, 518
Hovy, Eduard H., 161, 163, 166–168,
175, 177, 180–183, 232, 233, 247,
249, 250
Howard, R. E., 434
Huang, C., 318
Huang, Thomas, 356, 364
Huang, X., 18, 19, 26, 28, 33, 57, 62, 63,
293, 321
Hubbard, W., 434
Hudson, Richard, 136, 150
Huettner, A., 185
Huitric, H., 368
Hull, J. J., 73, 76, 84, 88, 89, 102, 103,
108, 518
Hunnicut, M. Sharon, 111, 144, 189,
199, 205, 216
Hunt, Melvyn J., 11, 15, 16, 21, 62, 63,
403, 432
Hunter, W., 92, 101
Hutchins, W. John, 486, 514
Hwang, C. H., 144
Hwang, M. Y., 28, 57, 63
Iida, E. S., 285, 321
Iida, H., 237, 238, 253, 285, 320, 321
Ikeda, H., 370
Impedovo, S., 81, 86, 103, 104, 106, 402,
432
Ince, Nejat, 518
Ingebretsen, R. B., 69
Ingle, N. C., 316, 322
Ingold, C., 318
Ingria, R., 145, 511, 513
Inn, Y. J., 82, 103
Inoue, H., 221
IPM, 268, 278
Isabelle, P., 171, 172, 181
Isahara, H., 487, 491, 516
Isard, S. D., 198, 216, 469
Ishii, K., 509, 514
ISO, 492, 514
Isotani, R., 323
Israel, David, 150, 237, 252, 429
ITU, 501, 514
Iwahashi, Naoto, 193, 220, 224
Iwanska, L., 265, 278
IWNLG, 180, 249
Iyer, R., 40, 64
Jack, M., 62
Jackel, L. D., 102, 434
Jackson, Eric, 137, 150
Jacobs, J., 390, 433
Jacobs, Paul S., 137, 150, 171, 183, 227,
249, 261, 263, 264, 278, 279
Jacobson, Guy J., 112, 145, 421, 429
Jacobson, M., 101
Jain, A., 310, 327, 417, 433, 439
Jain, Neena, 315, 324

- Jameson, A., 166, 173, 183, 187, 369
Jan, E. E., 365
Janet, S., 103, 108, 518
Janssen, Rik D. T., 431
Janssen, Th., 151, 250
Järvinen, T., 114, 150
Jayant, N. S., 330, 368, 372, 374, 379, 386
Jefferson, G., 235, 249, 252
JEIDA, 291, 322
Jekosch, U., 500, 501, 514, 517
Jelinek, Frederick, 33, 37, 40, 58, 64, 131, 133, 135, 138, 140, 142, 145, 146, 148, 150, 157, 319, 398, 399, 424, 430, 433, 511
Jenkins, J., 364
Jennings, N. R., 240, 249
Jensen, K., 114, 142, 151
Jerome, P., 363
Johansson, S., 153
Johnson Laird, B., 280
Johnson, C. Douglas, 112, 151, 421, 433
Johnson, Mark, 136, 151
Johnson, R., 149, 158
Johnston, J., 379, 386
Jones, B., 141, 151
Jones, D., 326
Jones, K., 495, 514
Jones, Marlene, 212, 217
Jönsson, A., 234, 236, 246
Jordan, M., 414, 433
Joshi, Aravind K., 116, 133, 136, 151, 348, 362, 406, 407, 433, 438
Juang, B. H., 15, 17, 64, 386, 396, 397, 403, 416, 433, 437
Kadambe, Shubha, 314, 322, 395, 433
Kahan, S., 81–83, 101, 104
Kaiki, Nobuyoshi, 191, 193, 220, 224
Kaiser, J., 404, 435
Kakusho, O., 226
Kalman, L., 149
Kalmanek, C. R., 336, 365
Kambhatla, N., 413, 433
Kameyama, Megumi, 150, 429
Kamp, Hans, 125, 126, 151, 230, 231, 250
Kamp, Y., 413, 430
Kanai, Junichi, 81, 104, 106, 507, 508, 510, 515, 517
Kandel, S., 362
Kanungo, T., 509, 515
Kaplan, A. E., 365
Kaplan, Ronald M., 112, 118, 137, 151, 152, 154, 204, 220, 409, 410, 419, 421, 433, 434, 436
Karis, D., 235, 250, 502, 515
Karlgren, H., 152, 159, 181–183, 225, 319, 321–323, 326, 434
Karlsson, Fred, 111, 113, 152
Karttunen, Lauri, 111, 112, 116, 151, 152, 155, 204, 220, 410, 434
Kasami, T., 406, 434
Kasper, R., 394, 434
Kassel, R. H., 451, 472
Kasturi, R., 79, 104
Kato, Hiroaki, 193, 220
Kato, T., 144
Kautz, H., 236, 238, 250
Kawahara, H., 429
Kawai, H., 198, 218
Kay, Martin, 112, 116, 118, 132, 152, 282, 285, 287, 294, 322, 421, 433, 434
Ke, Shu Jin, 217
Kehler, Andrew, 228, 250
Keidel, W. D., 330, 366
Kelledy, F., 280
Kemp, T., 327
Kempen, Gerard, 161, 173, 174, 181, 183, 184

- Kenny, Patrick, 133, 152
Keppel, E., 319
Keuss, P., 101, 102
Khoroshilov, Alexander, 303, 318
Kiefer, B., 394, 434
Kimura, F., 89, 104
King, Margaret, 286, 322, 486, 491, 515
Kinny, D., 253
Kirkpatrick, S., 426, 434
Kitani, T., 279
Kitoh, A., 226
Kittredge, Richard I., 177, 183, 287, 319, 322
Klare, G. R., 486, 517
Klatt, Dennis H., 144, 145, 192, 196, 198, 199, 207, 216, 220, 430
Klatt, L. C., 198, 220
Klaus, H., 501, 515
Klavans, J., 511
Klein, Ewan, 116, 118, 146, 149, 159, 170, 182, 188
Klein, J., 516
Klix, H., 501, 515
Knight, K., 167, 183
Knorz, G., 280
Koehler, J., 20, 64
Koenig, E., 116, 146
Kohn, P., 62
Kohonen, T., 413, 434
Kompe, Ralf, 58, 241, 251
Konig, Yochai, 363
Korelsky, Tanya, 175, 177, 183, 186
Koskenniemi, Kimmo, 112, 114, 152, 204, 220, 422, 434
Kowaltowski, T., 112, 154, 421, 435
Kowtko, J. C., 469
Kraft, V., 200, 221
Kraus, Sarit, 229, 233, 237, 239, 248
Krause, J., 280
Krieger, H. U., 116, 153
Krifka, M., 125, 153
Kroch, A., 152
Kroon, P., 372, 386
Krotkov, E., 362
Krupka, G., 264, 278, 279
Kryter, K. D., 505, 514, 515
Kubala, Francis, 33, 64, 68, 155
Kucera, H., 446, 447, 471
Kugler, M., 469
Kuhn, G., 414, 434
Kuhn, R., 24, 40, 59, 64
Kuhn, T., 69
Kukich, K., 124, 154, 163, 183
Kulikowski, S., 316, 322
Kummert, Franz, 251
Kundu, A., 89, 102, 415, 430
Kupiec, J., 113, 147, 153
Kurematsu, A., 323
Kuwabara, H., 216
Kuznetsov, B., 318
Kwasny, S., 142, 153
Lachapelle, P., 359, 362
Ladd, D. Robert, 206, 221
Ladendorf, D., 434
Lafferty, John D., 41, 64, 135, 138–140, 142, 146, 150, 153, 319, 430
Lai, J. C., 58
Laird, N. M., 19, 59, 139, 148
Lallouache, M. T., 359, 361, 362
Lam, S. W., 83, 104
Lambek, Joachim, 136, 153, 409, 434
Lamel, Lori F., 308, 314, 315, 321, 322, 450–453, 471, 472
Landauer, T. K., 303, 322
Lander, Terri, 470
Landman, F., 149
Landsbergen, J., 285, 323
Lang, Bernard, 132, 140, 153, 410, 434
Lang, K. J., 414, 434
Lang, M., 248

- Lari, K., 138, 143, 153
Laroche, J., 199, 221
Larsen, N. J., 108, 518
Lascares, Alex, 178, 183, 233, 250, 346,
366
Lashley, K. S., 97, 104
Lau, R., 36, 40, 64
Lavid, Julia, 177, 182
Lavie, A., 323, 327
Le Cun, Y., 102, 413, 434
Leblanc, H., 147
Leclerc, F., 106
Lecolinet, E., 86, 88, 91, 104, 105
Lecourtier, Y., 88, 105
Lee, C., 370
Lee, C. H., 18, 19, 61
Lee, Kai Fu, 18, 19, 24, 28, 62, 69, 432
Lee, Y. C., 435, 439
Leech, G., 113, 142, 145, 148, 153, 473,
511
Leen, Todd K., 413, 433
Leermakers, R., 407, 435
Lefèbvre, C., 15, 21, 63
Lefferts, R., 261, 278
Lehrberger, J., 290, 323, 486, 515
Leich, H., 199, 218
Len, M., 291, 327
Lenning, Matthew, 152
Leonard, R. G., 450, 472
Lesser, V., 356, 364
Levelt, W., 214, 221
Levesque, H. J., 229, 237–240, 246
Levin, B., 120, 145
Levin, E., 399, 416, 435, 437
Levin, L., 309, 323
Levine, Earl, 369
Levine, John, 186
Levinson, S., 122, 153, 236, 241, 250,
319, 395, 398, 435, 512
Levy, L. S., 136, 151
Li, Kung Pu, 314, 315, 323
Li, Wei Chuan, 204, 225
Li, Y., 509, 515
Liang, S., 82, 105
Lieberman, Mark Y., 103, 112, 159, 193,
204, 206, 217, 221, 225, 448, 472,
511
Lickley, R. J., 55, 65
Liddy, E. D., 260, 267, 279
Liénard, J. S., 196
Light, M., 144
Ligozat, Gérard, 343, 347, 366
Liljencrants, J., 194, 218
Lim, J., 19, 65, 372, 373, 386
Lin, J., 21, 59
Lin, Ming Yu, 203, 221
Lin, Q., 218
Lindop, J., 144
Lipoff, S. J., 379, 387
Lippmann, R. P., 15, 65, 414, 415, 435
Litman, Diane J., 212, 219, 232, 237,
238, 250
Littman, M. L., 303, 322
Litwinovitz, P., 359, 366
Liu, F. H., 19, 65
Liu, Shing Huan, 203, 217
Liu, Xian Zhong, 217
Liu, Y. D., 416, 435
Ljungberg, M., 253
Lleida, E., 473
Llisterri, J. R., 473
Lloyd, S. P., 398, 435
Lochbaum, Karen E., 229, 239, 250, 251
Lockwood, P., 18, 65
Loeckx, J., 153, 434
Logan, J. S., 500, 515
Lopresti, D., 509, 515
Lorette, G., 88, 96, 101, 102, 105
Lowerre, B., 425, 435
Lubensky, David M., 415, 416, 435, 436

- Luca, P. G., 81, 105
Lucchesi, C. L., 112, 154, 421, 435
Luff, P., 247
Lund, B. A., 67, 516
Lyon, R. F., 21, 60, 65
- Maarse, F. J., 96, 107
Macarron, Alejandro, 368
MacDonald, John, 357, 359, 367
MacQueen, C., 90, 105
Madams, P., 212, 226
Maeda, S., 193, 221
Magerman, David M., 131, 142, 146, 154
Magnenat Thalmann, N., 359, 366
Maier, Elisabeth A., 164, 178, 180, 182,
186
Mak, M. W., 358, 366
Makhoul, John, 19, 57, 64, 385, 402, 404,
435
Malah, D., 381, 382, 385, 386
Mamdani, E. H., 240, 249
Mandel, M., 318
Mandler, E., 107
Manganaro, L., 318
Manke, Stefan, 363
Mann, William C., 161, 164, 175, 180,
183, 184, 186, 221, 231, 249, 251
Manning, C. D., 394, 435
Mantas, J., 81, 84, 105
Maragos, P., 404, 435
Marburger, H., 348, 369
Marchal, A., 452, 472
Marcus, Mitchell P., 131, 133, 142, 154,
511, 513
Mariani, Joseph, i, 334, 366, 470, 472,
495, 514
Marinescu, M., 187, 280
Marino, J. B., 473
Mark, D. M., 346, 366
Markel, J. D., 14, 65
Markov, A. A., 398, 436
Markovitch, Shaul, 147
Markus, Shaul, 135, 147
Marsh, E., 267, 279
Marshall, I., 113, 154
Marshall, W. T., 365
Martin, A., 67
Martin, F. A., 15, 65
Martin, James R., 178, 184
Martin, N., 144
Martin, Paul, 150, 249
Maruyama, H., 293, 323
Maruyama, Y., 194, 221
Mase, Kenji, 357, 366, 367
Massaro, Dominic W., 359–361, 363, 366
Mast, Marion, 241, 251
Matan, O., 89, 102
Matsui, T., 44–47, 61, 65, 66, 510, 515
Matsumoto, H., 194, 221
Matthiessen, Christian M. I. M., 164,
179, 183, 184
Mauldin, M., 279
Maxwell, John T., III, 137, 154, 409, 436
Maybury, Mark T., 211, 221, 350, 364,
366
Mayer, R., 514
Mayfield, L., 323
McAllister, J. M., 469
McAulay, R., 372, 387
McAvinney, P., 353, 365
McClelland, J. L., 438
McCord, Michael C., 136, 154
McCoy, Kathleen F., 175, 177, 184, 212,
221
McDermott, D., 344, 346, 366
McDonald, David D., 163, 177, 179,
183–185, 214, 222
McGee, M. Wood, 319
McGill, M., 303, 325
McGurk, Harry, 357, 359, 367
McKeown, D., 67

- McKeown, Kathleen R., 124, 154, 161,
163, 165, 169, 175, 177, 182–185,
210, 212, 222, 231, 251, 319, 350,
364, 512
- McKevitt, P., 348, 367
- McNair, A., 327, 439
- McNaught, J., 458, 470
- McRoy, Susan, 133, 154, 214, 222
- Meijs, W., 146
- Meisel, W. S., 397, 436
- Melby, A. K., 297, 323, 462, 473
- Mel'čuk, Igor A., 136, 154
- Mellish, Chris S., 177, 181, 182, 186,
187, 218, 264, 279
- Meltz, M., 105
- Meng, Helen M., 22, 66
- Mercer, David, 146
- Mercer, Robert L., 58, 135, 138, 145,
150, 157, 319, 430
- Merchant, R., 277, 279
- Mergel, D., 32, 66
- Merhav, N., 32, 66
- Merialdo, B., 40, 64
- Mermelstein, Paul, 13, 59, 152, 403, 431
- Mersereau, Russell, 357, 368
- Mertens, P., 198, 218
- Meteer, M., 163, 166, 185
- Meteer, M. M., 173, 185
- Meteer, Marie W., 177, 178, 185
- Meyer, P., 14, 20, 62
- Miller, B., 144
- Miller, George A., 167, 185, 305, 323,
457, 473
- Miller, J., 469
- Miller, M., 101
- Millien, E., 64
- Mimura, Katsuhiko, 224
- Minsky, Marvin, 416, 436
- Mitamura, T., 279
- Mittal, Vibhu, 182
- Mizoguchi, R., 226
- Moens, M., 345, 367
- Mohamadi, T., 359, 362
- Monachini, M., 458, 473
- Monaghan, Alex, 206, 222
- Montague, R., 124, 155
- Montgomery, C., 278
- Moore, Johanna D., 163, 166, 175, 176,
178, 180, 185, 188, 210–212, 214,
222, 223, 228, 233, 251
- Moore, R. C., 187, 488, 516
- Moore, R. K., 19, 69
- Moore, Robert, 150
- Moortgat, Michael, 136, 155
- Moreno, A., 452, 473
- Moreno, Pedro J., 65, 333, 368
- Morgan, D. P., 414, 436
- Morgan, J. L., 68
- Morgan, Jerry, 223, 246, 248, 250, 252
- Morgan, N., 14, 20, 62, 64, 319, 404,
412, 414–416, 430, 431, 437, 512
- Mori, S., 84, 86, 87, 105, 106, 402, 437
- Morimoto, T., 310, 323
- Morrill, Glyn, 149, 159, 188
- Moser, Megan, 212, 222, 223
- Moulines, E., 194, 199, 200, 221, 223,
225
- Muraki, K., 285, 324, 325
- Murveit, H., 28, 33, 60, 66, 132, 133, 155
- Mustonen, S., 316, 324
- Muthusamy, Yeshwant K., 314, 315, 324,
451, 473
- Myaeng, S. H., 260, 279
- Nadas, A. J., 58
- Nadeu, C., 473
- Nadler, M., 81, 82, 105
- Nagao, M., 285, 324
- Nagata, M., 323
- Nagy, G., 77, 82, 84, 102, 105, 509, 515,
516

- Nahamoo, D., 58
Nahas, M., 368
Naik, Jayant M., 46, 66, 415, 435, 436
Nakagawa, Seiichi, 316, 325, 326
Nakajima, S., 191, 223
Nakamura, S., 194, 216
Nakayama, 317, 324
Nakhimovsky, A., 346, 367
Narayan, S., 432
Nartker, T. A., 85, 106, 515, 517
Nebel, B., 346, 367
Nedderhoff, M-J., 407, 436
Néel, F., 253, 363
Nerbonne, J., 477, 516
Netravali, A., 330, 367
Netsch, L. P., 46, 66
Netter, K., 144, 434, 477, 516
Neuberg, E. P., 316, 321
Neumann, Bernd, 348, 367
Neumann, Günter, 170–174, 185
Neumeyer, L., 19, 66
Newlands, A., 474
Newman, P., 316, 324
Ney, H., 32, 58, 61, 66, 307, 324, 425, 436
Nguyen, Long, 64, 133, 155
Nie, J., 261, 277
Niemann, Heinrich, 27, 69, 248, 251
Nigay, L., 353, 364
Nilsson, Nils J., 33, 66, 134, 155, 399, 436
Nirenburg, S., 286, 318, 319, 322, 324
Nishida, T., 357, 367, 370
Nishino, T., 148
Noel, Mike, 451, 470
Nohl, C. R., 102
Noll, A., 66
Noll, P., 368, 372, 379, 386
Nomura, H., 319, 487, 491, 516
Nomura, Y., 226
Nonnecke, B., 105
Nord, L., 196, 219
Norvig, P., 322
Noumi, T., 510, 515
Novak, Hans Joachim, 179, 185
Novick, David G., 319, 512
Novoselov, A., 318
Nunberg, G., 120, 141, 155
Nusbaum, Howard, 205, 218
Oberlander, Jon, 178, 183, 233, 250
Oberlander, M., 107
Occhinegro, S., 104, 432
O'Donnell, R., 261, 280
Ogino, S., 323
O'Gorman, L., 104
Ohshima, Y., 22, 66
Ohta, Y., 226
Oja, E., 413, 436
Okumura, A., 285, 325
Olive, J., 225
Olive, J. P., 191, 223
Olshen, Richard A., 216
Omohundro, Stephen, 138, 158, 357, 358, 363
Omologo, M., 469
Oostdijk, N., 114, 146, 153, 155, 156
Oppenheim, A., 19, 65, 373, 386
Osborne, R., 157
Osgton, W., 356, 364
O'Shaughnessy, Douglas, 48, 67, 207, 223
O'Shaughnessy, Douglas, 152
Oshika, Beatrice T., 324, 470, 473
Ostendorf, Mari, 40, 55, 64, 68, 319, 512
Osterholtz, L., 439
Ostler, N., 120, 155
Ottaviano, L., 81, 104, 402, 432
Ouh Young, M., 334, 363
Oviatt, Sharon L., 319, 502, 503, 512, 516
Paesler, A., 66

- Paice, C. D., 266, 267, 279
Pallett, David S., 8, 22, 50, 67, 471, 473, 495, 502, 516
Palmer, M. S., 227, 251, 474
Pao, C., 244, 248
Paoloni, A., 512
Papert, S., 416, 436
PARC Understander Group, The, 234, 245
Paris, Cécile L., 161, 163, 175, 176, 178, 180, 182, 184–186, 211, 212, 214, 221–223, 233, 247, 249, 251, 284, 320, 325
Parke, F. I., 359, 360, 367
Partee, B., 125, 155
Parthasarathy, S., 199, 223
Pashchenko, N., 318
Passoneau, Rebecca J., 227, 232, 250, 251
Patrick, E. A., 397, 436
Patterson, R. D., 21, 67
Paul, Douglas B., 33, 65, 67, 133, 155, 426, 436, 451, 473
Pavlidis, T., 81–83, 86, 88, 101, 104, 106, 107, 402, 437
Pearson, J., 59
Peckham, J., 241, 242, 251
Pedersen, J., 147
Peinado, A., 471
Pelachaud, Catherine, 356, 367
Pentland, Alex, 357, 366, 367
Pentus, M., 409, 437
Pereira, Fernando C. N., 130, 131, 138, 139, 143, 155, 156, 171, 172, 187, 249, 251, 264, 279, 310, 325, 368, 394, 410, 437, 438
Perrault, C. R., 236–238, 245, 246, 251
Perrault, F., 181
Perry, J., 127, 145
Perschke, S., 286, 322, 325
Petajan, Eric, 357, 358, 365, 367
Peterson, P. M., 21, 68
Petheroudakis, J., 111, 156
Petrie, Ted, 139, 145, 398, 430
Phillips, C. B., 349, 362
Phillips, I., 515
Phillips, M., 69, 321
Piau, Alain, 432
Picheny, Michael A., 58
Picht, H., 459, 460, 469, 471, 473
Pieraccini, R., 399, 437
Pierce, J. R., 330, 367
Pierrehumbert, Janet B., 193, 198, 212, 219, 221, 223
Pisoni, D. B., 515
Pitrelli, J., 197, 223
Placeway, Paul, 155, 429
Plainfossé, A., 171, 182
Plamondon, Rejean, 86, 91, 96–99, 101, 103, 106, 107
Platt, S. M., 359, 368
Poch, D., 452, 473
Podilchuk, Christine, 330, 368
Podlozny, Ann, 150
Poesio, M., 144
Polanyi, R., 235, 252
Polguere, A., 319
Pollack, I., 359, 369
Pollack, Martha E., 188, 211, 222, 223, 228, 233, 246, 248, 250–252
Pollard, Carl, 116, 118, 136, 156, 170, 186
Pollard, E., 319
Polos, L., 149
Pols, Louis C. W., 200, 225, 500, 501, 516, 517
Polzin, T., 327
Ponamalé, M., 245
Poritz, A. B., 424, 427, 437
Portele, T., 200, 221

- Porter, J. E., 18, 62, 68, 381, 387
Posner, M., 248
Prasad, K., 357, 365
Prawitz, Dag, 132, 156
Press, W. H., 427, 437
Prevost, S. A., 213, 223
Price, P., 55, 68, 319, 451, 473, 512
Prieto, N., 471
Primeau, E., 359, 366
Prince, Alan, 206, 221
Pritchett, Brad, 134, 156
Proakis, John G., 357, 364
Proctor, C. E., 241, 253
Profitlich, H. J., 253, 369
Przybocki, M. A., 67, 516
Pullum, G., 182
Pulman, Stephen G., 122, 144, 156
Pustejovsky, J., 120, 147, 156, 392, 437
Pye, David, 474

Quatieri, T., 372, 387, 435
Quirk, R., 448, 473

Rabiner, Lawrence R., 15, 16, 25, 27, 64,
68, 196, 218, 340, 357, 368, 370,
402, 403, 416, 433, 437
Radasao, P., 320
Rambow, Owen, 175, 183, 186
Ramesh, Padma, 314, 325
Rao, A., 253
Rao, Ram, 357, 368
Raskin, V., 286, 324
Ratcliff, D., 36, 59
Rau, Lisa F., 137, 150, 227, 249, 267, 279
Rau, M. D., 316, 325
Rayner, M., 311, 325
Reape, M., 172, 180
Rebecca, C. N., 410, 437
Reddy, D. R., 430
Reichenbach, 344
Reichman, R., 235, 252

Reiter, Ehud, 177, 186
Reithinger, N., 164, 186
Remde, J. R., 199, 216, 372, 385
Renals, Steve J., 416, 437, 474
Restrict, R. C., 365
Revuz, D., 112, 156
Reyes, Allan A., 314, 325
Reyle, U., 125, 126, 151, 231, 250
Rhyne, J. R., 502, 517
Rice, S. V., 85, 106, 508–510, 515, 517
Richard, G., 199, 224
Richardson, D., 92, 103
Richardson, Stephen M., 403, 432
Richter, Helmut, 221
Riddesma, S., 105
Rieck, S., 69
Riley, Michael D., 193, 208, 224, 325,
368, 394, 437
Riloff, E., 278
Rinsche, A., 487, 517
Rist, Thomas, 187, 253, 369
Ritchie, G. D., 112, 156
Robin, J., 165, 181, 184, 212, 222
Robinson, J., 158
Robinson, K., 21, 67
Robinson, T., 414, 437, 464
Robinson, Tony, 452, 474
Rocha, J., 88, 107
Roche, Emmanuel, 112, 156, 410, 438
Roe, David B., 310, 314, 325, 333, 368,
440, 512
Rogers, M., 469
Rogina, I., 327
Rohlicek, R., 64
Rollinger, C. R., 185
Roossin, P. S., 319, 430
Rooth, Mats, 135, 136, 150
Rose, C. P., 323, 327
Rosenberg, A. E., 48, 68
Rosenberg, Charles, 204, 224

- Rosenfeld, R., 36, 40, 64
Rösner, D., 164, 181, 186, 247, 284, 325
Rosner, M., 158
Rossi, M., 470
Roth, M., 143, 157
Roukos, Salim, 35, 64, 146, 150, 404,
435, 511
Rubin, D. B., 59, 148
Rubin, G. M., 113, 149
Rubinstein, R., 83, 107
Rubio, A., 452, 471
Ruehl, H. W., 62
Ruge, 261, 279
Rumelhart, D. E., 427, 433, 438
Russell, G. J., 112, 156
Rustin, R., 322
Ruzzo, William L., 149

Sacks, H., 235, 252
Sadek, D., 237, 252
Sadler, V., 293, 325
Safranek, R., 386
Sag, Ivan A., 116, 118, 136, 156, 170,
182, 186, 221
Sagayama, S., 323
Sager, J. C., 459, 474
Sagerer, G., 248
Sagisaka, Yoshinori, 189, 191, 193, 194,
220, 223–225
Saintourens, M., 359, 368
Saito, H., 327, 439
Sakai, S., 321
Salber, D., 364
Salisbury, M. W., 353, 368
Salton, Gerard, 303, 325
SAM partners, 501, 517
Sampson, G., 138, 141, 148, 156, 157
Samuelsson, C., 394, 438
Sanfilippo, Antonio, 118, 120, 157
Sanmugasunderam, Amar, 217
Santorini, B., 511, 513

Sato, H., 193, 219
Sato, S., 285, 326
Scha, R., 235, 252
Schabes, Yves, 116, 136, 138–140, 143,
151, 156, 157, 407, 409, 410, 438
Schaefer, U., 116, 153
Schafer, Ronald W., 16, 68, 357, 368,
402, 437
Schank, R. C., 182
Schauble, Peter, 259
Schegloff, E. A., 235, 239, 252
Schenkein, J., 252
Schenkel, M., 415, 438
Schiel, Florian, 453, 472
Schirra, J., 349, 368
Schmidbauer, O., 439
Schmitt, J. C., 316, 326
Schmitz, Klaus Dirk, 463, 474
Schomaker, L., 95, 103
Schreuers, D., 275, 277
Schroeder, M. R., 372, 379, 385, 387
Schroeter, J., 15, 68
Schubert, K., 286, 326
Schubert, L. K., 127, 144
Schüller, G., 111, 157
Schultz, T., 327
Schurmann, J., 83, 107
Schürmann, J., 77, 107
Schutz, J., 286, 326
Schwartz, Richard, 18, 57, 64, 68, 133,
155, 380, 385, 426, 429, 438
Schwarz, 261, 279
Scofield, C. L., 414, 436
Scott MacKenzie, I., 90, 102, 105
Scott, Donia, 177, 186, 230, 233, 247,
251, 284, 320, 325
Searle, John R., 228, 235, 236, 241, 252
Segarra, E., 471
Seino, Takashi, 314, 325
Sejnowski, Terrence, 204, 224, 364, 370

- Sell, G. R., 398, 430
Sells, Peter, 151, 433
Seneff, Stephanie, 21, 68, 69, 137, 157,
241, 243, 252, 321, 472
Seni, G., 74, 107
Seth, S., 77, 105
Shaked, V., 173, 185
Shank, Roger, 283, 286
Shapiro, Stuart C., 108
Sharman, R., 142, 157
Shaw, J., 154
Shekhawat, A., 74, 103
Shieber, Stuart M., 116, 131, 133, 151,
157, 158, 171, 172, 174, 178, 186,
187, 391, 409, 433, 438
Shih, Chilin, 203, 204, 224
Shikano, K., 216
Shirai, K., 50, 54, 55, 68
Shivaprasad, A. P., 81, 103
Shlien, S., 83, 107
Shneiderman, B., 234, 252
Shriberg, E. E., 55, 68
Shridhar, M., 89, 104, 105
Shukat Talamazzini, E. G., 27, 69
Sibun, Penelope, 147, 185, 212, 224, 317,
326
Sider, I., 279
Sidner, Candace L., 211, 212, 219, 224,
228–230, 233, 237–239, 248, 252,
253
Sigurdson, J., 289, 326
Sikkel, K., 407, 438
Silsbee, Peter, 356–358, 368, 369
Silva, F., 372, 385
Silva, O. Da, 366
Silverman, H. F., 21, 57, 319, 383, 387,
512
Silverman, Kim, 212, 224
Simner, M., 106, 107
Simon, J. C., 86, 88, 103, 104, 107, 402,
432
Sinaiko, H. W., 486, 517
Sinclair, J. McH., 235, 253
Singer, Elliot, 314, 315, 328
Singer, H., 403, 429
Sira, S., 79, 104
Siroux, J., 235, 241, 245, 248, 253
Slaney, Malcolm, 60
Sleator, Daniel, 41, 64, 135, 136, 140,
153, 158
Sloboda, T., 439
Slocum, J., 327
Sluyter, R., 386
Smeaton, Alan F., 259, 261, 279, 280
Smith, E. T., 253
Smith, Steve, 357, 358, 369
Somers, H. L., 149, 293, 326, 486, 514
Sondhi, M. Mohan, 15, 68, 150, 372, 385,
386, 516
Sonenberg, E., 229, 253
Sonheimer, N., 142, 153
Soong, F. K., 48, 68
Sorin, C., 192, 216, 500, 517
Sotillo, C. F., 469, 474
Sotscheck, J., 515
Soudoplatoff, S., 245
Soules, G., 430
Sparck Jones, Karen, 152, 222, 228, 248,
266, 267, 278, 280, 478, 492, 493,
497, 513, 517
Spencer, Bruce, 217
Spiegel, M. F., 500, 517
Spitz, J., 319, 502, 512, 518
Spitz, Lawrence A., 314, 317, 326
Sproat, Richard W., 112, 158, 196,
202–208, 221, 224, 225, 325, 368,
437
Srihari, Rohini K., 71, 74, 75, 107
Srihari, Sargur N., 71, 73, 78, 83, 84,
102, 103, 107, 108

- St. Dizier, P., 156
Stabler, Edward P., Jr., 136, 158
Stallard, D., 145
Stede, M., 284, 325
Steedman, Mark J., 136, 144, 213, 223,
345, 367
Steeneken, Herman J. M., 416, 439, 504,
505, 514, 518
Steffens, P., 470
Steinbiss, V., 58
Stelmach, G. E., 96, 102
Stenard, C. E., 102
Stenstrom, A., 153
Stern, Richard M., 17–19, 21, 57, 65, 69
Sternefeld, W., 433
Stevens, K. N., 199, 225
Stevenson, Suzanne, 133, 158
Stickel, Mark E., 120, 150, 227, 233, 249
Stock, O., 181, 247
Stockham, T. G., Jr., 14, 69
Stoddard, S., 105
Stokhof, M., 125, 126, 149, 151, 159, 250
Stolcke, Andreas, 138, 158
Stone, Charles J., 216
Stopp, E., 349, 368
Stork, David, 357, 358, 365, 369
Strauss, M., 64
Strzalkowski, Tomek, 171, 187, 261, 280,
511, 513
Stylianou, Y., 199, 221
Su, Keh Yi, 221
Suchman, L. A., 239, 253
Sudnow, D., 249
Suen, C. Y., 84, 87, 91, 96, 105–108, 402,
439
Suhm, B., 309, 323, 327
Sullivan, T. M., 21, 69
Sumby, W. H., 359, 369
Summerfield, Quentin, 356, 357, 359, 369
Sun, G. Z., 416, 435, 439
Sundberg, J., 200, 225
Sundheim, Beth M., 482
Surendran, A. C., 340, 365
Suthers, Daniel D., 163, 177, 187
Sutton, S., 470
Svartvik, J., 473
Swartout, William R., 161, 180,
183–186, 221, 249
Syock, O., 181
Szabolcsi, Anna, 221
Takahashi, M., 151
Takeda, K., 191, 193, 220, 225
Takezawa, T., 310, 323
Tanaka, M., 193, 226
Tanenblatt, M., 184, 222
Tannen, D., 252
Tapanainen, P., 422, 439
Tappert, C. C., 91, 108, 402, 439
Tashiro, T., 323
Taylor, M. M., 253, 363
Tebelskis, J., 327, 439
Teich, E., 180
Teil, D., 334, 366
Teitelbaum, Ray, 140, 158
Temperley, Davey, 64, 136, 153, 158
Tenny, Carol, 145, 148, 151
Teukolsky, S. A., 437
Thalmann, D., 363, 366
Thalmann, N. M., 363
Thomason, R. M., 158
Thompson, Henry S., 452, 469, 474, 475,
493, 518
Thompson, Richard A., 139, 146
Thompson, Sandra A., 175, 183, 231, 251
Thuring, J. P., 97, 108
Thurmair, G., 261, 279, 286, 326, 469
Tidhar, G., 229, 253
Tillmann, Hans G., 472
Tjaden, B., 67
Tohkura, Y., 429

- Tokuda, L., 103
Tombre, K., 79, 108
Tomita, Masaru, 132, 151, 154, 158, 286,
293, 319, 326, 327, 410, 439
Tomkins, A., 515
Tong, G., 64
Tong, L. C., 297, 326
Touretzky, D. S., 119, 158, 433, 435, 439
Traber, C., 193, 225
Tramus, M. H., 359, 368
Trancoso, Isabel, 371, 452, 474
Traum, David R., 144, 233, 253
Tremain, T., 372, 387
Trenkle, J. M., 316, 319
Tseng, Gwyneth, 203, 226
Tsujii, J. I., 144, 293, 326
Tsujimoto, S., 77, 108
Tsujimoto, Y., 82, 108
Tsuzaki, Minoru, 193, 220
Tubach, J. P., 225
Turner, R., 127, 158
Tyson, Mabry, 150, 158, 429
Tzoukermann, Evelyne, 112, 159, 204,
225

Uchida, H., 285, 286, 326
Ueda, Yoshio, 316, 326
Ullman, J. R., 83, 108, 419, 420, 429, 432
Umeda, N., 192, 225
Under, C., 364
Unicode Consortium, The, 73, 108
Uszkoreit, Hans, i, 109, 116, 146, 158,
159, 170, 187, 389

v. Stechow, A., 390, 433
Valbret, H., 200, 225
Valderrama, M. J., 101
van Benthem, J., 153, 362, 363, 366
Van Bezooijen, R., 200, 225
Van Compernelle, Dirk, 21, 69, 380–382,
387

van der Gon, J. J. Denier, 97, 108
van der Horst, K., 514
van Eijck, J., 126, 149, 159
van Emde Boas, P., 153
Van Ess Dykema, C., 323
van Even, S., 318
Van Leeuwen, D. A., 416, 439
van Noord, Gertjan J. M., 170–172, 174,
185, 187
Van Santen, J., 196, 225
Van Santen, J. P. H., 193, 198, 200, 225
Van Slype, G., 486, 518
Vandeloise, C., 345, 369
Vander Linden, Keith, 247, 320
Varga, A. P., 19, 69
Varile, Nino, 457, 474
Vasconcellos, M., 291, 327
Vaxiviere, P., 79, 108
Vecchi, M. P., 434
Velho Lopes, Roseane R., 301, 327
Veltman, F., 126, 146, 149, 159
Vendler, 344
Vennemann, Th., 433
Verhave, J., 505, 518
Vetterling, W. T., 437
Viaud, Marie Luce, 359, 367, 369
Vidal, E., 437
Vidick, J. L., 277
Viegas, E., 156
Vieu, Laure, 345, 347, 362
Vijay-Shanker, K., 133, 136, 151, 407,
410, 433, 434, 438, 439
Vila, L., 345, 346, 369
Vinter, A., 101, 102
Vintsyuk, T. K., 425, 439
Vitale, Tony, 205, 225
Viterbi, A. J., 399, 439
Vogl, T. P., 108, 518
Von Hahn, W., 164, 187
Voorhees, E., 261, 280

- Voutilainen, A., 113, 152, 159, 422, 439
- Waegner, N., 143, 146
- Wahl, F. M., 108
- Wahlster, Wolfgang, 169, 173, 183, 187,
232, 233, 253, 312, 327, 348, 351,
369
- Waibel, Alexander H., 24, 69, 306, 310,
319, 323, 327, 339, 363, 370, 414,
417, 434, 439, 512
- Wakahara, T., 108, 439
- Walker, Don, 455, 474
- Waltz, D., 367
- Wang, Liang Jyh, 204, 225
- Wang, Michelle Q., 208, 226, 516
- Wang, P. S. P., 86, 108
- Wanner, L., 180
- Ward, Wayne H., 4, 137, 159, 253
- Warwick, Colin, 90, 91, 108
- Wasow, Tom, 151, 433
- Watanabe, H., 293, 323
- Watanabe, T., 515
- Waters, K., 359, 370
- Watrous, R. L., 414, 434
- Webber, Bonnie Lynn, 152, 222, 248,
345, 362, 370
- Wedekind, J., 172, 187
- Wehrli, E., 293, 327
- Weigend, A. S., 414, 440
- Weinert, R., 469
- Weinstein, C. J., 320, 512
- Weintraub, M., 18, 19, 60, 66, 155
- Weir, C., 142, 154, 251
- Weir, David J., 151, 407, 433, 439
- Weiss, N., 430
- Werner, E., 253
- Werner, P., 253
- White, J. S., 487, 518
- Whitelock, P. H., 149
- Whitelock, P. J., 293, 327
- Whitney, R. A., 180
- Wilfong, G., 395, 440
- Wilkes Gibbs, D., 237, 239, 246
- Wilkinson, R. A., 91, 108, 510, 518
- Wilks, Y., 180, 286, 320
- Williams, C. E., 504, 514
- Williams, M., 277
- Williams, N., 278
- Williams, R. J., 438
- Wilpon, Jay G., 64, 340, 370, 397, 400,
440, 512
- Wilske, D., 470
- Wilson, C. L., 108, 518
- Winsoft, 297, 327
- Witkam, T., 286, 325, 327
- Witten, L., 212, 226
- Wojcik, R., 275, 278, 280
- Wojcik, Richard H., 274
- Wolf, C. G., 502, 517
- Wolf, Jared J., 145, 430
- Wolff, Greg, 357, 358, 369
- Womser Hacker, C., 280
- Wong, K. Y., 77, 108
- Wood, M. McGee, 149, 293, 327
- Wooffitt, R., 235, 247
- Woszczyzna, M., 310, 327, 439
- Wright, N., 437
- Wright, S. E., 461, 469, 471, 473, 474
- Wu, Zimin, 203, 226
- Xie, F., 382, 387
- Yahia, H., 359, 369
- Yamada, A., 349, 370
- Yamamoto, K., 105, 511
- Yamamoto, T., 349, 370
- Yamaoka, T., 237, 238, 253
- Yamashita, I., 515
- Yamashita, Y., 193, 226
- Yarowsky, David, 205, 224, 226
- Yato, F., 323
- Yergeau, P., 106

- Yoshimuro, M., 515
Youd, Nick, 213, 220
Young, R. Michael, 178, 188
Young, S. J., 18, 19, 61, 138, 143, 153,
213, 226, 241, 253
Young, Sheryl R., 238, 253, 267, 280
Younger, D. H., 132, 133, 159, 406, 440
Yuan, B., 403, 432
Yuhas, Ben, 357, 358, 370
- Zaenen, Annie, i, 109, 116, 120, 155,
220, 434
Zahorian, S., 320, 512
Zahorjan, J., 90, 102
Zajac, R., 116, 148
Zampolli, Antonio, 150, 441, 455, 457,
474
Zavaliagkos, G., 64
Zeevat, H., 118, 159, 170, 180, 188
Zelenkov, Y., 318
Zernik, U., 277
Zhang, C., 67
Zheng, Ying, 217
Zhou, J., 102, 430
Zhuang, J., 334, 363
Ziegler, D. V., 316, 327
Zierl, M., 111, 157
Zissman, Marc A., 314, 315, 328
Zock, Michael, 181, 182, 186, 187, 218
Zoltan Ford, E., 502, 518
Zue, Victor W., i, 1, 6, 22, 41, 61, 66, 69,
252, 314, 315, 320, 321, 512
Zwarico, A., 362
Zwicky, Arnold M., 151, 155

Index

- 3-D model, 79
- abduction, 178, 228, 233, 391
 - reasoning, 120
- accent, 192, 196, 197, 202, 206, 208, 213, 450, 454, 500
 - parameters, 202
 - placement, 213
- acceptors, 394
- ACCOR, 452, 465, 519
- ACH, *see* Association for Computing in the Humanities
- ACL, *see* Association for Computational Linguistics
- ACL/DCI, 447, 519
- acoustic
 - confusability, 307
 - correlation, 415
 - degradation, 17, 360
 - differences, 193
 - environment, 9, 450
 - evidence, 130
 - feature space, 396
 - features, 24, 396
 - generator, 500
 - information, 356
 - model, 20, 33, 35, 307, 315
 - models, 24, 519
 - patterns, 395
 - phonetic labels, 190
 - phonetic studies, 442
 - phonetic units, 197
 - robustness, 34
 - signal, 24, 35
 - source, 356
 - transcript, 197
 - variability, 5, 17
- ACQUILEX, 457
- action expression, 238
- active focus, 242
- adaptation of vocal characteristics, 194
- adaptive, 9, 350
 - beamforming, 383
 - differential pulse code modulation, 376, 377, 519
 - filter, 383
 - step size, 427
 - VQ, 379
- additive background noise, 380
- additive-multiplicative modeling, 193
- adequacy, 487
 - evaluation, 486, 493
- adjacency pairs, 235
- ADPCM, *see* adaptive differential pulse code modulation
- adverbs, 135
- AECMA, 274
- aerospace industry, 274
- affixes, 118
- aggregation, 177
- agonist, 97
- AI, 50, 228, 343, 391, 392, 505, 519
- AIJ-SI, 228
- Air Travel Information Service, 8, 10, 123, 211, 241, 243, 308, 311, 400, 451, 497, 519

- Aktionsart, 344
 ALBAYZIN, 452, 465, 519
 ALE, 116
 ALEP, 116
 algorithm complexity, 371
 alignment, 454
 all-pole model, 403
 ALLC, *see* Association of Literary and Linguistic Computing
 allomorph, 111
 allophone, 27
 ALPAC, 486
 alphabet, 72, 419, 504
 alphanumeric code, 460
 ALT/JE, 290
 alternate pronunciations, 6
 alternative answers, 424
 AM, *see* acoustic models
 Ambassador, 297
 ambiguity, 25, 96, 115, 304
 characters, 93
 intrinsic, 92
 resolution, 392
 scope, 351
 sentences, 500
 American, *see* English, American
 amplitude, 55
 spectra, 395
 analogical reasoning, 205
 analogies, 460
 analysis, 449
 -by-synthesis, 372
 grammatical, 488
 -synthesis, 194
 analytical approach, 88
 anaphora, 135, 214, 231, 242, 351, 449
 ANDOSL, 453, 465, 519
 animated graphical simulation, 349
 animation, 214
 AnimNL project, 349
 ANN, *see* artificial neural network
 annotated
 phrase-structure grammar, 110, 117
 surface structure, 114
 training material, 142
 antagonist, 97
 ANTLIMA, 349
 APASCI, 452
 Apple, 446
 application domains, 86
 application-specific metric, 508
 appointment scheduling, 312
 apposition, 135
 appropriateness, 486
 Aquila, 298
 AR, *see* autoregressive
 Arabic, 297, 298
 archive, 375, 446
 Ariane
 /aéro/F-E, 290
 -G5, 291
 ARPA, *see* U.S. Advanced Research Projects Agency
 ARS, 452, 465, 519
 articulation, 199, 359, 379
 model, 189
 poor, 308
 representation, 372
 Articulation Index, *see* AI
 artificial intelligence, 463, *see* AI
 artificial neural network, 6, 27, 74, 88,
 94, 315, 357, 373, 392, 404,
 412–417, 441, 519
 feed-forward, 193, 424
 recurrent, 414
 time-delay, 414
 AS-Transac, 290
 ASCII, 73, 88, 89, 202, 519
 Asian languages, 203
 ASR, *see* automatic speech recognition

- assessment, 476, 495, 496, 504
 - defined, 499
- Association of/for
 - Computational Linguistics, 442, 519
 - Computing in the Humanities, 442, 519
 - Literary and Linguistic Computing, 442, 519
- asterisks, 420
- ASURA, 310
- asynchronous transfer mode, 336, 519
- ATIS, *see* Air Travel Information Service
- ATLAS, 285, 286, 289–291, 519
- ATM, *see* asynchronous transfer mode
- atomic nonterminal symbols, 390
- atomic symbols, 116
- ATR, 310, 453, 465, 488, 519
- AT&T, 310, 400
 - Bell Labs, 51, 90, 130, 202, 445
 - EO, 92
 - GIS, 92
- attentional state, 231
- attribute value structure, 408
- attributes, 484
- audience, 266
- audioconferencing, 375
- audiovisual symbols, 460
- auditory
 - frequency selectivity, 21
 - masking, 377
 - model, 21, 22, 403
 - processing, 372
- augmented phrase structure grammar, 310
- Australian Research Council, 453
- Australian Speech Science and Technology Association Inc., 453
- authoring, 352
 - aids, 257, 494
- automata, 112, 390, 419
 - pushdown, 131
 - theory, 394
- automatic
 - abstracting, 266
 - checkers, 275
 - experiments, 508
 - indexing, 79
 - language identification, 314
 - learning, 24
 - lipreading, 357
 - summarization, 169
 - summarizing, 266, 268
 - term extraction, 462
 - text generation, 175
 - translation, 281, 333
- automatic speech recognition, 4, 24, 34, 49–54, 56, 93, 132, 135, 194, 238, 241, 242, 332, 340, 396, 397, 399, 402, 405, 413–417, 423, 442, 478, 490, 495, 497, 502, 519, 523
 - accuracy, 478
 - continuous, *see* continuous speech...
 - evaluation, 478
 - robust, 17
- autonomous agents, 361
- autoregression, multivariate, *see* multivariate...
- autoregressive, 46, 519
 - model, 14
- auxiliary verbs, 206
- banking, 84
 - check reading, 76, 78, 86
- Bark scale, 403
- Baum-Welch procedure, 427
- Bayes, 138
 - classifiers, 94
 - rule, 396
- BBN, *see* Bolt Beranek and Newman
- BDSONS, 452
- beamforming, 383

- Belgian, 304
- belief, 124, 125
 - revision, 126
 - system, 230
- benchmark, 500
- bibliographic records, 259
- BIG5, 202
- bigram, 31, 33, 36, 84, 315, 316
- bilinear expressions, 193
- bimodal intelligibility of speech, 361
- binary constraint network, 346
- binaural system, 21
- bit rate, 371
- bits per second, 376, 519
- black box, 482, 483
- blind equalization, 45
- BMFT, *see* German Federal Ministry for Research and Technology
- BNC, *see* corpora, British National Corpus
- Boeing Company, 275
- Bolt Beranek and Newman, 51
- Boolean system, 259
- bootstrap, 243
- boundary, 113
 - constituent, 489
- bps, *see* bits per second
- BRA, 457, 519
- Bramshill, 452, 465, 519
- breakdowns, 175
- BREF, 452, 465, 519
- British, *see* English
- broadband background noise, 381
- burstiness, 40
 - in speech, 380
- business letters, 77
- business news, 264
- C-STAR, *see* Consortium for Speech TrAnslation Research
- C_0 , *see* cepstral coefficient
- CAD, *see* computer aided design
- CADCAM, *see* computer aided design, computer-assisted manufacture
- CAIP Center, 339
- calibrate, 505
- call routing, 2, 332
- Canada, 462
- Candide, 487
- Canon, 50
- canonical
 - parse, 141
 - representation, 111
- CAR, 452, 465, 520
- Carnegie Mellon University, 51, 310, 520
- CART, *see* classification and regression tree
- CAT, 289
- catalogues, 493
- categorial
 - grammar, 136
 - homonymy, 113
 - unification grammar, 116, 520
- Caterpillar Fundamental English, 274, 520
- Caterpillar Tractor Company, 274
- CCG, *see* combinatory categorial grammar
- CD, *see* compact disc
- CD-quality, 378
- CD-ROM, 331, 374, 443, 454, 461, 520
- CEC, 241, 242, 444
 - DG-XIII, 442, 457
 - LRE-RELATOR, *see* Relator
- ceiling effect, 505
- Celex Lexical Database, 442
- cellular, 8, 56, 372, 377
- CELP, *see* code-excited linear prediction
- census forms, 76
- Center for Language Technology, 50

- Spoken Language Understanding,
 - 450, 451, 465, 520
- central-limit theorem, 98
- cepstral coefficient, 13, 14, 520
 - mel frequency scale, *see* mel...
- cepstrum, 13, 20, 44, 332, 396, 403
 - mean normalization, 20, 520
- CFE, *see* Caterpillar Fundamental English
- CFG, *see* context free grammar
- chains, 88
- channel
 - 1D, 337
 - 2B, 337
 - characteristics, 9
 - coding, 372, 379
 - effects, 404
 - errors, 375
 - noise, 375
- character
 - building, 82
 - learning, 83
 - recognition, 73, 83, 85, 88, 510
 - recognition, optical, *see* optical character recognition
 - shape code, 317, 520
- chart, 172, 460
 - based agenda driven strategies, 172
- checkers, 493
- cheeks, 356
- chemical structure diagram, 77
- Chinese, 72, 90, 203, 204, 298, 510
- Chomsky hierarchy, 235, 390
- chrominance, 330
- chronological order, 353
- chunking, 141
- CIC, 90, 92
- CIENTEC, 301
- CKY, *see* Cocke, Kasami, and Younger
- CL, *see* controlled languages
- clarifications, 237
- CLARITECH, 261
- clarity, 243
- class
 - conditional density function, 397
 - model, 40, 75
 - names, 462
 - of user, 494
- classification, 412
 - and regression tree, 28, 208, 520
 - system, 461
 - task, 484
- classifier, 93
- CLAWS, *see* Constituent-Likelihood Automatic Word-tagging System
- CLE, *see* Core Language Engine
- clean speech spectral magnitude, 380
- client system, 490
- clipping, 381
- closed set, 484
- CLR, *see* Consortium for Lexical Research
- clustering, 28, 40, 397
- CMN, *see* cepstrum, mean normalization
- CNRS, 450
- co-occurrence, 303
 - smoothing, 37
- coarticulation, 17
- Cobuild, 457
- cochlea, 403
- Cocke, Kasami, and Younger, 406, 407, 520
- COCOSDA, 444, 501
- code-excited linear prediction, 340, 372, 377, 378, 520
- codebook, 46, 404
- coded modulation, 379
- coded speech, 501
- coding, 371, 378, 402
 - algorithms, 374

- distortion, 374
- Huffman, 372
- waveform, *see* waveform, coding
- cognition, 462
 - aspects, 398
 - oriented, 229
 - processes, 49
- COGRAM, 275
- coherence, 211, 229, 230, 268, 346, 351
- collaboration, 210, 214, 229, 233, 240
- colocation, 75, 445, 448
- comb, 91
- combination of results, 85
- combinatorics, 192, 423
- combinatory categorial grammar, 136, 407–409, 520
- COMET, 169, 350, 351
- command
 - and control, 4
 - retrieval, 96
 - sequencing, 96
- common lexical databases, 444
- common sense, 285, 287
 - knowledge, 178
- COMMUNAL, 164
- communication
 - units, 460
- communication and networking, 378
- communication delay, 371, 376
- communicative action, 236
- communicative acts, 351
- compact disc, 333
- compactness in lexical description, 120
- comparative evaluations, 487
- comparator, 357
- compensation procedure, 18
- competence grammar, 174
- compilation methods, 394
- complex hidden structure, 130
- complex noun phrases, 206
- complexity, 376, 389, 407
- compound nouns, 307
- comprehension, 487
 - tests, 500
- compression, 257, 336, 374
- computational
 - complexity, 383
 - grammar, 445
 - linguistics, 109, 135, 172, 173, 271, 343, 420
 - physics, 200
 - requirements, 135
 - semantics, 122
- computer aided design, 349, 520
 - computer-assisted manufacture, 79, 520
- computer science, 49
- computer-assisted
 - human translation, 461
 - technical and scientific writing, 461
- computerized document analysis system, 81
- computing resources, 424
- concatenated phoneme models, 47
- concatenation, 419
- concatenative synthesis, 192, 198, 199, 500
- concatenative unit indices, 202
- concept, 443, 459
- concept-oriented approach, 462
- conceptual
 - categories, 209
 - network, 459
 - relationships, 459
- concordances, 446
- concretion, 350
- conditional independence, 139, 417
- conditional probability, 139
- conditioned exception control, 193
- conference-registration task, 417

- conferencing, 331
- confidence, 10
- configuration space, 130
- confirmation feedback, 503
- confusability, 307
- confusion
 - between phonemes, 504
 - matrix, 507
- conjugate gradients, 427
- connected digit recognition task, 416
- connectionist
 - architecture, 96
 - methods, 392, 393
 - network, 204
- connectivity, 125, 335
- consensual voting, 81
- consonant, 356
- consonant-vowel-consonant, 504, 520
- Consortium for
 - Lexical Research, 447, 464, 520
 - Speech TrAnSlation Research, 310, 311, 520
- constituent combination, 130
- Constituent-Likelihood Automatic
 - Word-tagging System, 113, 520
- constraint, 86
 - based categorial framework, 170
 - based grammar, 116, 133, 137, 139
 - based linguistic model, 116
 - based theories, 171
 - grammar, 113, 114
 - logic programming, 391
 - propagation method, 346
 - resolution techniques, 178
- constructional properties, 445
- consumers, 479
- content
 - aggregation, 165
 - carrying terms, 261
 - planning, 351
 - selection, 175
 - words, 202, 206
- context, 52, 227, 242, 462
 - dependent acoustic modeling, 6
 - factors, 266
 - free grammar, probabilistic, *see* probabilistic...
 - free grammar, 41, 75, 132, 264, 406–410, 417, 520
 - free skeleton, 137
 - freeness, 407
 - sensitive grammar, 4
 - sensitive rewriting rules, 421
 - sensitive summarizing, 269
- contextual
 - adequateness, 191
 - analysis, 89
 - differences, 191
 - factors, 345
 - information, 92
 - processing, 84
 - resolution, 128
 - rules, 77, 78
 - variations, 5
- continuous
 - gestures, 355
 - problems, 423
 - speech, 414
 - speech recognition, 4, 8, 33, 415, 479, 520
- contrastive intonation, 213
- control automaton, 131
- control rules, 189
- controlled languages, 274–276, 520
- controlled vocabulary, 301
- conversational
 - analysis, 241
 - control, 503
 - repair, 51
- convolutional noise, 380

- coordination, 135
- Core Language Engine, 116, 117, 128, 286, 520
- core rules, 143
- coreference, 485
 - markers, 116
- corpora, 264, 265, 394, 441, 443, 446, 450, 458, 508
 - analysis, 446, 458
 - annotated, 445, 479
 - Bank of English, 114
 - bilingual, 305
 - British National Corpus, 113, 447, 453, 464, 519
 - Brown Corpus, 38, 446, 447
 - Canadian Parliament bilingual corpus, 303
 - Chinese National Speech Corpus, 453, 466
 - development, 483
 - evidence, 448
 - handtagged, 113
 - IR, 480
 - King Corpus, 451
 - MT, 480
 - multi-language corpus, 451
 - Normal Speech Corpus, 452, 467
 - of errors, 272
 - of naturally-occurring text, 483
 - OGI_TS, 314, 315, 317, 523
 - public domain speech, 450
 - shared, 485
 - speech, *see* speech, corpora
 - spoken language, 453, 480, 498
 - Susanne Corpus, 141
 - Switchboard, 9, 442
 - tagged, 445
 - telephone speech, 451
 - test, 480, 484
 - TI-DIGITS, 442, 450
 - TIMIT, 442, 451, 524
 - training, 36, 137–139
 - written language, 445, 480
- corpus-based
 - approach, 190, 194, 195
 - methods, 192
 - statistical approach, 208
- CorrecText, 271
- correlation, 402
- corrupted transcription, 399
- cosine transform, 13
- cost estimate, 134
- count re-estimation, 37
- coverage, 38, 131, 135, 140, 141
- CPU, 86, 520
- Cranfield IR testbed, 304
- Critique system, 271
- cross references, 231
- cross-modal expressions, 351
- CSC, *see* character shape code
- CSELT, 465
- CSLU, *see* Center for Spoken Language Understanding
- CSR, *see* continuous speech recognition
- CT2, 377
- cue phrases, 212, 232, 267
- CUG, *see* categorial unification grammar
- currency exchange, 310
- cursive handwriting recognition, 72, 74, 86, 87, 91, 94, 96, 334, 414
- curvilinear abscissa, 97
- curvilinear velocity profile, 97, 99
- cut-and-paste analyzers, 111
- CV, 520
- CVC, *see* consonant-vowel-consonant
- Dagstuhl, 266
- Dandelion, 179
- Danish, 452
- DARPA, *see* U.S. Defense Advanced Research Projects Agency

- data
 - analysis, unsupervised, 413
 - collection, 448
 - driven, 177, 447
 - driven content selection, 177
 - entry, 2, 4, 84
 - oriented grammar, 135
 - stereo, 20
 - unfolding, 93
- database
 - access, 137
 - content display, 168
 - management system, 296, 520
 - multilingual lexical, *see* multilingual lexical data base
 - multilingual terminological, *see* multilingual...
 - query, 123, 128
 - question-answering, 234
 - storage, 375
- datagloves, 353
- dB, 13, 22, 520
- DBMS, *see* database management system
- DBMT, *see* dialogue-based machine translation
- de facto standard, 494
- deaccented, 206
- decision
 - support, 352
 - tree, 82, 94, 208
- declarative formalisms, 117
- declaratively specified grammar, 173
- decoding an acoustic pattern, 423
- DECOMP, 111
- deconvolution, 14
- decorative fonts, 74
- deductive process, 409
- deep generation, 175, 178
- deep structure, 41, 171
- definite description, 229
- definitions, 460, 462
- deformable templates, 357
- dehooking, 93
- deictic aspects, 345
- delay, 424
- delay-and-sum beamformer, 383
- delayed strokes, 93
- deleted interpolation, 37
- deletions, 92
- delta
 - δC_0 , 14
 - cepstrum, 44
 - lognormal equation, 98
 - lognormal model, 99
- denotation, 123
- denotational semantics, 116
- dependency
 - grammar, 136
 - links, 303
 - relations, 304
- depth-first backtrack strategy, 172
- dereverberate, 383
- derivation, 132
 - space, 139
 - tree, 408
- descriptive-acoustic methods, 200
- descriptors, 301
- determiners, 135
- Devanagari script, 72
- diacritics, 316
 - information, 204
- diagnostic analysis, 504
- diagnostic evaluation, 476, 486, 493
- dialogue, 52, 227, 229–231, 233, 234, 239, 241, 266, 450
 - analysis, 230
 - based machine translation, 299, 520
 - cooperative, 234
 - features, 238

- fluent, 498
- grammar, 235, 236, 238
- human, 234
- human-human, 234, 241, 242
- human-machine, 210
- manager, 242, 244
- natural spoken, 503
- phenomena, 239
- rational cooperative, 234
- speech recognition, 243
- spoken, *see* spoken dialogue
- strategy, 243, 244
- system, 214, 230, 231, 244
- theory, 234
- theory of cooperative task-oriented
 - d., 234
- written interactive, 211
- dictation, 24, 38, 392
- dictionaries, 138, 203, 204, 291, 307, 443
 - access, 422
 - checking, 81
 - glossaries, 445
 - glossary tools, 445
 - Longman's, 457
 - machine-readable, 456, 457, 523
 - Merriam-Webster, 456
 - on-line, 204
 - Oxford Advanced Learner's, 457
 - Oxford English Dictionary project,
 - 448
 - published, 456
 - transfer, 305
- differential pulse-code modulation, 331, 520
- diffusion translation, 288
- digit, 504, 510
 - recognition, 450
- digital
 - answering machine, 375
 - cellular service, 375
 - connectivity, 335
 - signal processing, 378, 402, 404, 520
 - wireless communication, 375
- digitizing, 72, 91
- digressions, 235
- diphone, 199
 - concatenation, 359
 - units, 199
- disabled, *see* Technology Initiative for Disabled and Elderly People
- disambiguation, 113, 141
- discourse, 55, 136, 168, 230, 266, 272
 - analysis, 241
 - coherence, 230
 - communities, 460
 - comprehension, 268
 - features, 213
 - focus, 232
 - generation, 233
 - history, 214
 - knowledge, 265
 - level, 163, 346
 - model, 351, 393
 - number of relations, 232
 - plan, 238
 - processing capabilities, 265
 - production, 231
 - relations, 231, 232
 - relations, nature of, 232
 - representation theory, 125, 126, 231, 232, 520
 - research, 227
 - segmentation, 212, 227, 230, 233
 - segments, nature of, 232
 - specialized, 460
 - structure, 164, 165, 211, 271
 - understanding and generation, 233
 - units, 265
 - universe of, 123
- discrete script, 86

- discriminant training, 412, 415
- disfluencies, 56, 241, 502
- disjunctive terms, 116
- distance, 45, 267
- distortion
 - masking, 374, 379
 - model, 509
- distribution, 135
- DK, 447, 464, 520
- DLT, 285
- document, 255
 - analysis, 81
 - analysis and retrieval, 227
 - class, 508
 - filtering, 508
 - image analysis, 73, 75, 77
 - images, 509
 - indexing, 78
 - layout handling, 81
 - layout style, 507
 - preparation, 2, 4
 - production system, 270
 - reconstruction, 258
 - relevant, 483
 - retrieval, 78, 259, 260, 262
 - reuse, 257
 - routing task, 482, 484
 - storage, 257
 - structure, 77
 - understanding, 258
- DoD, *see* U.S. Department of Defense
- domain, 508
 - adaptation, 41
 - based approaches, 268
 - knowledge, 263, 264
 - modeling, 165, 166
- domains, specific, 486
- dots per inch, 72, 520
- DP, *see* dynamic programming
- DPCM, *see* differential pulse-code
 - modulation
- dpi, *see* dots per inch
- DR-LINK, 260
- DRA, 50
- Dragon Systems, 11
- DRT, *see* discourse representation theory
- DS-3, 336
- DSP, *see* digital signal processing
- DTW, *see* dynamic time
 - alignment/warping
- dual-language programming, 375
- dual-source excitation model, 372
- DUET, 286, 290
- duration, 55, 197, 315
 - control, 193
 - model, 197, 198
 - shortness, 206
- Dutch, 307, 452, 453
- dyads, 191
- dynamic
 - adaptation, 18, 22
 - model, 40
 - parameter adaptation, 18
 - predicate logic, 126
 - programming, 33, 88, 93, 132, 140, 424, 425, 427, 496, 520
 - semantics, 126, 127
 - time alignment/warping, 46, 382, 520
- e-mail, 258, 446, 501
- EAGLES, *see* Expert Advisory Group
 - on Linguistic Engineering Standards
- ear, 356
 - hair-cell transduction, 21
 - lateral suppression, 21
 - model, 21
- Earley algorithm, 406
- ease, 503
 - of learning, 493

- of use, 243, 493
- EBMT, *see* example-based machine translation
- EC, 289
- echoes, 381, 505
- ECI, *see* European Corpus Initiative
- economic factors, 491, 492
- EDI, *see* electronic data interchange
- edit signal, 55
- EDR, *see* electronic dictionary research
- EES, 163
- efficiency, 492
- elderly, *see* Technology Initiative for Disabled and Elderly People
- electro-acoustic theory, 189
- electronic
 - data interchange, 257, 521
 - dictionaries, 447
 - dictionary research, 443, 447, 457, 521
 - funds transfer, 332
 - ink, 90
 - publishing, 375
- Electrotechnical Laboratory, 453, 465, 466, 468, 509, 521
- elementary strings, 408
- elliptical, 125, 128, 135, 242
 - sentences, 125
 - utterances, 230
- ELRA, *see* European Language Resources Association
- ELSNET, *see* European Network in Language and Speech
- EM, 19, 94, 427, 521
- embedded transmission, 379
- EMIR, *see* European Multilingual Information Retrieval
- empiricist, 447
- encyclopedias, 447
- end-to-end, 483
- endoscopic surgery, 335
- engine service reports, 264
- engineering, 49
 - drawings, 80
- English, 50, 203, 204, 206, 208, 257, 264, 274, 275, 282, 284, 289, 290, 293, 294, 296–298, 303–305, 307, 311, 312, 316, 333, 351, 402, 443, 452, 453, 456, 457, 459, 479, 481, 488
 - American, 193, 444
 - British, 193, 452, 456
- ENGSPAN, 291
- enhancement, 76, 371, 402
- entropy, 37
- envelope, 402
- environment, 354
- epistemological, 460, 461
 - studies, 462
- equalization, 45
- equivalence, weak, 407
- ERBA, 452, 466
- ergonomy, 299
- error
 - deletion, 496
 - estimators, minimum mean square,
 - see* minimum mean square error
 - estimators
 - handling, 503
 - insertion, 496
 - insertions, 92
 - legitimate, 92
 - minimum mean square, *see* minimum mean square error
 - misrecognized characters, 507
 - patterns, 503
 - rejection, 507, 508
 - residual, 507
 - substitution, 92, 496, 507, 508, 510
 - tolerance, 493
 - transmission, 378

- unrecognized characters, 507
- ESCA, 453, 521
- Esperanto, 286
- ESPRIT, *see* European Strategic Programme for Research and Development in Information Technology
 - MULTILEX, 457
- estimate-maximize, *see* EM
- estimation procedure, 18
- ET-7, 457
- ETL, *see* Electrotechnical Laboratory
- EU, 275, 444
- Euclidean distance, 15
- EUREKA GENELEX, 457
- EuroCocosda, 453, 466
- EuroDicautom, 298, 461
- EuroLang, 445
 - Optimizer, 296
- EUROM, 452, 466
- European
 - Commission, 486, 487
 - Community, 445
 - Corpus Initiative, 447, 464, 521
 - Language Resources Association, 452, 466, 521
 - Multilingual Information Retrieval, 304, 305, 521
 - Network in Language and Speech, 452, 466, 521
 - Strategic Programme for Research and Development in Information Technology, 50, 179, 304, 451, 452, 457, 462, 493, 495, 498, 501, 521
- Eurotra system, 286
- evaluable task, 482
- evaluation, 215, 269, 272, 475, 479, 481, 491, 495, 496, 508
 - benchmark, 478
 - black box, 476
 - comparative information, 477
 - Consumer Reports paradigm, 477
 - defined, 499
 - diagnostic, 476, 477
 - extrinsic, 476
 - formative, 477, 480
 - function, 133, 136, 138–140
 - glass box, 476
 - group, 493
 - in-house, 492
 - intrinsic, 476
 - metric, 483, 485, 487
 - objective methods, 194
 - of adequacy, 475–477, 480
 - of coverage, 477
 - of parsing, 480
 - of performance, 479
 - of portability, 480
 - procedures, 488
 - proper, 475
 - regression testing, 476, 477
 - test sets, 479
 - test suite, 477
 - user, 492, 493
 - versus human performance, 477
- event reference, 228
- evidential tasks, 131
- example-based machine translation, 285, 299, 300, 520
- excitation, 379
 - signals, 199
- execution efficiency, 493
- expectation, 503
 - driven processing, 349
 - maximization, *see* EM
- Expert Advisory Group on Linguistic Engineering Standards, 442, 444, 457, 493, 494, 501, 520
- expert system, 210

- explanation, 168
- explanation, 460
 - based learning, 394
 - of errors to users, 272
 - pedagogically adequate, 177
- expressions, 356
- expressive power, 503
- extended text, 227
- extendibility, 486
- extracted facts, 483
- extragrammaticality, 143
- extraposition, 135
- eye, 330, 356
 - blink, 356
 - brows, 356
 - eyes-busy, 210
- F_0 , *see* fundamental frequency
- face/facial
 - and lip modeling, 361
 - expressions, 52
 - recognition, 339
 - region, 358
- fact, relevant, 483
- factorial analysis, 243
- factorization of derivations, 136
- false alarm, 484
- false implicatures, 352
- fault tolerant, 264
- fax, 72, 82, 84, 94, 257, 446
- feasible scenario, 346
- feature
 - based system, 164
 - comparison, 19
 - extraction, 83, 93, 402
 - logic, 391
 - selection network, 164
 - structure, 409
 - terms, 116
 - vector, 404
- feedback, 93, 269
- female voices, 194
- fenone, 28
- fiber-optic network, 336
- FIDDITCH, 208
- fidelity, 486
- filter, 13, 258
 - all-pole, 14
 - bank, 403
 - high-pass, 18
 - linear, 17, 18
- finite alphabet, 419
- finite state
 - approximation, 264
 - automaton, 410, 521
 - devices, 410
 - grammar, 110, 132, 310, 311
 - machine, 131, 416, 420, 521
 - methods, 393
 - model, 139
 - n-gram grammar, 134
 - network, 4, 112
 - technology, 112, 393, 411, 420
 - transducer, 112, 393, 410, 421, 422, 521
- Finnish, 204
- FIR, 521
- first order predicate calculus, 123, 124, 126, 521
- fixed collocations, 462
- fixed schemata, 231
- flexibility, 503
- fluency, 487
- fluent conversational speech, 341
- fluid dynamics equations, 200
- focus, 177, 212, 232, 241, 351, 500
 - of attention, 229, 231
 - signaling, 165
- font, 72
 - consideration, 82
 - customized, 82

- differentiation, 83
- family, 74
- identification, 81
- lower-case, 510
- mixing, 81
- multifont environment, 85
- omnifont context, 83
- size, 508
- style, 508
- typeface, 508
- upper-case, 510
- FOPC, *see* first order predicate calculus
- forensic applications, 42
- formal
 - language, 419
 - theory, 390
 - logic, 344
 - logical operations, 399
 - philosophy, 343
 - semantics, 110
 - symbolic representation of meaning, 399
- formalisms, 390
- formant, 199
 - based methods, 200
 - parameters, 202
- format, 266
- forms, 78
 - income tax, 78
 - processing, 86
- forward-backward algorithm, 37, 424, 427
- Fourier
 - coefficient, 403
 - descriptor, 88
 - inverse transform, 403
 - transform, 13, 390, 402
- frame, 268
 - language, 137
- Framemaker, 296
- France, 289, 290
- Frantext of Institut National de la Langue Francaise, 447, 464, 522
- free conversation, 504
- free-text records, 259
- French, 50, 282, 284, 290, 296, 297, 303–305, 307, 308, 316, 345, 443, 445, 452, 459, 481
- frequency
 - analysis, 403
 - band, 13
 - domain estimators, 380
 - warping, 403
- friendliness, 243
- front end interface, 215
- fruit flies like a banana, 448
- FSA, *see* finite state automaton
 - weighted, 394
- FSM, *see* finite state machine
- FST, *see* finite state transducer
- FUF, *see* function/functional unification
 - grammar framework
- full text revolution, 268
- function/functional, 266
 - application, 408
 - class, 488
 - composition, 408
 - constraint, 116
 - elements, 345
 - structure, 409
 - unification grammar, 116, 171, 521
 - unification grammar framework, 164, 521
 - words, 206, 207
- fundamental frequency, 55, 193, 197, 198, 521
- funding agencies, 491
- fusion, 329, 353, 357
- fuzzy
 - logic integrator, 357

- matching, 462
 - system, 94
- garden paths, 133
- Gaussian, 26, 416
- gazetteers, 264
- GB, 202
- GENELEX, 442
- general knowledge, 285, 287
- generalization, 130, 266
- generalized
 - phrase structure grammar, 170, 521
 - probabilistic descent, 397, 521
- Generating InStructural Text, 284, 521
- generation (of), 178, 266
 - alternative explanations, 214
 - choice criteria, 165, 166
 - different genres/types of text, 168
 - ellipsis, 173
 - grammar, 213
 - incremental, 174
 - paraphrases, 173
 - referential expressions, 173
 - stylistically appropriate, 167
 - theory, 161
- genetic algorithms, 426
- geometric terms, 345
- geometric transformation, 83
- German, 50, 282, 290, 296, 304, 307, 316, 333, 351, 452, 453, 459
 - alphabet recognition, 358
 - Federal Ministry for Research and Technology, 286, 312, 519
- Germany, 290
- gesture, 339, 353, 356
 - recognition, 355
- GIST, *see* Generating InStructural Text
- givenness, 207
- Globalink, 487
- glottal
 - flow, 199
 - source model, 194
 - waveform, 194
- gouraud shading, 360
- government and binding, 136
- GPD, *see* generalized probabilistic descent
- GPSG, *see* generalized phrase structure grammar
- gradient descent, 424, 427
- grammar, 109, 123, 130–132, 167, 170, 179, 271, 272, 291, 292, 356, 390, 406, 407, 419, 422, 441, 448, 485
 - and style checking, 257, 447
 - based generation, 174
 - checkers, 445
 - checking technology, 271
 - classes, 134
 - engineering, 110, 117
 - formalisms, 118, 407
 - implicit, 131
 - porting, 117
 - reusability, 117
 - slot, 136
 - transformational, 136
 - weak, 143
- grammar, context-free, probabilistic, *see* probabilistic...
- grammatical, 53, 448
 - coverage, 172, 173
 - description, 122
 - deviations, 53
 - heuristics, 291
 - ill-formedness, 308
 - structure, 502
 - tagging, 304
- Grammatik, 271
- grand-variance weighting, 15
- grapheme, 88, 204
 - to phoneme conversion, 196, 500
- graphic, 214, 272, 460, 462

- /pictorial description, 460
 - symbols, 460
- gray-scale image binarization, 76
- greedy algorithm, 203
- Greek, 307
- Grid, 92
- Groningen, 452, 466
- ground truth, 484
- Gutenberg loop, 77
- hair, 356
- halftones, 77
- HAMT, *see* human-aided machine translation
- hand configuration, 353
- hand-built grammar, 140
- hand-crafted domain model, 265
- handball, 335
- hands busy, 210
- handwriting, 74, 86, 90, 339
 - addresses, 78
 - analysis, 96
 - characters, 334, 509
 - deskewing, 93
 - deslanting, 93
 - generation, 96
 - holistic recognition, 74
 - manuscripts, 80
 - recognition, 35, 86–88, 90, 91, 395, 413–415, 490
 - analytical, 74
 - off-line, 91
 - on-line, 91, 93
 - running, 76
 - unconstrained handwritten language processing, 87
- hardwiring, 177
- HCI, *see* human-computer interaction
- HCRC Map Task, 452
- head grammar, 407, 408, 521
- head-driven phrase-structure grammar, 116, 117, 136, 170, 521
- head-position, 356
- head/modifier relations, 114
- headed strings, 408
- hearer
 - background, 210
 - goals, 210
- hearing, 378, 379
- held-out data, 37
- heuristic, 178, 203
 - disambiguation rules, 142
- HG, *see* head grammar
- HICAT, 290, 291
- hidden Markov model, 6, 7, 22, 25, 26, 28, 30, 31, 33, 46, 47, 84, 88, 89, 93, 113, 142, 143, 315, 316, 332, 392, 393, 398, 399, 404, 414–417, 427, 441, 521
 - AR, 416
 - continuous, 26
 - discrete, 26
 - ergodic, 46, 316, 382
 - frame-based, 6
 - gaussian-mixture continuous, 47
 - semicontinuous, 26
 - tied-mixture, 47
- hidden nodes, 412
- hierarchical control, 193
- hierarchical error function, 193
- hill-climbing algorithm, 349
- Hindi, 72
- HLT, 413–415, 417, 521
- HMM, *see* hidden Markov model
- holistic approach, 88
- holography, 332
- homograph, 205
- homonyms, 307, 460
- hopes, 125
- HPSG, *see* head-driven phrase-structure

- grammar
- human
 - aided machine translation, 288, 521
 - behavior for multisensory inputs, 342
 - computer
 - interaction, 168, 241, 353, 477, 503, 521
 - interface, 213, 227
 - spoken interaction, 502
 - virtual interface, 361
 - factors analysis, 338
 - factors specialists, 200
 - human communication, 503
 - language processing, 394
 - language technology, 451
 - processing capacity, 330
 - translation, 289, 486, 487
- HuMaNet, 338, 339
- hybrid, 485
 - approaches, 415
 - system, 6, 89
- hypermedia, 256
 - knowledge bases, 463
- hyperterminology, 463
- hyphenation routines, 445
- hypothesis, word, 24
- Hz, 376, 521

- IBM, 92, 295
- IBM/Lancaster, 114
- ICAME, 446, 447, 464, 521
- ICASSP, 521
- ICR, *see* intelligent character recognition
- ICSLP, 521
- ideogram, 72
- idioms, 135
- IDS, *see* Institut für deutsche Sprache
- IIR, 521
- ILC-CNR, *see* Istituto di Linguistica Computazionale
- illocutionary act, 235, 236
 - recognition, 238
- ILSAM, 275, 522
- image
 - processing, 76
 - segmentation, 77
 - signals, 330
 - synthesis, 196
- imagers, 257
- IMELDA, 15
- implementation complexity, 378
- implicature, 351
- INaLF-CNRS, *see* Frantext of Institut National de la Langue Francaise
- incremental generation, 173
- incremental processing, 173
- independent evaluation, 510
- indexing, 263, 267, 268
- indications of relationships, 462
- indirect utterances, 238
- individual plans, 228
- inductive learning, 195
- inference, 178, 228
 - based approaches, 228
 - capabilities, 179
 - patterns, 124
- inflectional, 307
 - language, 39, 41
 - tags, 112
 - word forms, 112
- information, 446
 - access, 392
 - delivery system, 210
 - extraction, 258, 265, 421, 479, 483
 - extraction task, 482, 485
 - given/new, 212
 - highways, 201
 - management, 461, 462
 - retrieval, 137, 258, 262, 301, 461, 478, 479, 522
 - ad hoc task, 482

- documents, 483
- precision, 478
- telephonic, 196
- textual, 123
- value, 508
- retrieval and analysis, 352
- retrieval and extraction, 447
- retrieval system, 448
- science, 461
- superhighway, 273
- theory, 400, 446
- Information Science Research Institute, 84
- informational approaches, 228
- informativeness, 487
- InfoTerm, 297
- infrastructure, 161, 479
- inheritance, 118
 - default, 119
 - type system, 116
- initiative, 214, 242
- INL, *see* Instituut voor Nederlandse Lexicologie
- input
 - factors, 266
 - modalities, 90
 - noise, 378
- INRS, 50
- instantaneous energy operators, 404
- Institut für deutsche Sprache, 447, 464, 521
- Institute of Phonetics and Verbal Communication, 453
- Instituut voor Nederlandse Lexicologie, 447, 464, 522
- insurance claim processing, 258
- integrated circuit diagram, 79
- integrating sensory inputs, 329
- integration, 52
 - leaky, 14
- intellectual property rights, 444
- intelligent
 - assistants, 210
 - character recognition, 73, 521
 - system, 210
- intelligibility, 196, 200, 371, 373, 376, 380, 381, 486, 504, 505
- intelligible, 500
- intellimedia system, 350, 352
- intended meaning, 211
- intensional logic, 124
- intensity, 55, 197
- intention, 125, 232, 233, 283
 - approaches, 228
 - information, 175
 - role, 232
 - speaker, 16
 - structure, 211, 231
- interaction history, 242
- interaction model, 242, 244
- interactive
 - natural language capabilities, 210
 - spoken dialogue system, 211
 - spoken language system, 212, 213
 - system, 480
 - translation, 294
- interface, 502
 - design, 502
 - techniques, 502
- Interleaf, 296
- interlingua, 285, 522
- internal evaluation, 509
- Internal Revenue Service, 78
- interpersonal pragmatics, 168
- interpretation, 109, 266, 282
 - of sentences, 124
- Interpreting Telephony Laboratories, 310
- interruption, 56
- intersymbol interference, 375
- Intertalker, 310

- intonation, 192, 203, 211–213, 450
 - contour, 168
 - features, 212, 213
 - form, 210
 - indicators, 228
 - information, 212
 - unit, 207
- intractable, 137
- invariant under translation, 282
- inverse formatting, 77
- IPSI, 164
- IR, *see* information retrieval
- irregular verbs, 119
- ISDN, 337, 338, 375, 522
- ISO, 202, 462, 522
- ISO 9000, 492
- isolated handprinted characters, 76
- isolated-word, 8, 424
 - speech recognition, 4
- Istituto di Linguistica Computazionale,
 - 441, 447, 464, 521
- Italian, 50, 296, 307, 445, 452, 457
 - machine dictionary, 442
- iterative procedures, 139
- iterative re-estimation, 143
- ITU-TS, 501

- J-RASTA, 20, 522
- JANUS, 310
- Japan, 285, 333, 443, 453, 457, 510
 - Electronic Industry Development Association, 453, 465, 466, 487, 491, 522
- Japanese, 193, 264, 289, 290, 297, 298, 333, 443, 457, 481, 509
 - Kana, 72
 - Kanji, 72, 86, 87, 92
- jargon, 274
- jaw, 356
- JEIDA, *see* Japan Electronic Industry Development Association

- JETS, 290
- JICST, 289
- JIS, 202
- joint
 - action, 239
 - model, 239
 - intentions, 229

- K-means, 94
 - algorithm, 398
- keyboard shortcuts, 296
- keyboard, popup, 90
- Kleene closure, 420
- knowledge
 - acquisition, 194, 264
 - based system, 179, 286
 - bases, 167
 - engineer, 179
 - engineering, 463
 - incomplete, 346
 - representation, 179, 391
 - representation language, 137
 - units, 460
- KPML, 164
- KTH, 50

- LADL, 112
- Lambek calculus, 409, 522
- land-use maps, 79
- language, 398, 447
 - context, 79
 - corpus server, 447
 - engineering, 275, 447, 462, 522
 - generation, 169, 213
 - generation system, 213
 - ID, 281, 282, 314–316, 395, 402, 451
 - independent techniques, 498
 - model, 4, 10, 24, 29, 31, 33, 35–38, 40, 75, 95, 130–132, 134, 135, 139, 140, 307, 315, 417, 522
 - of origin, 205

- processing, 391
- processors, 449
- representation, 35
- sensitivity, 271
- structure, 134
- understanding, 477
- Language Engineering Multilingual
 - Action Plan, 443, 452, 522
 - MLAP ET-10, 457
- Laplacian, 26
- large grammar, 411
- large vocabulary, 332
 - connected speech recognition, 130
 - continuous speech recognition, 307, 308, 479, 522
 - speech recognition, 133, 400
- large-scale text structure, 266, 268
- laryngograph, 453
- lateral inhibition, 133
- lattice, 29
 - theoretic notions, 118
 - word, 33
- layout
 - analysis, 82
 - segmentation, 82
 - understanding, 77
- LC, *see* Lambek calculus
- LCD, *see* liquid crystal display
- LD-CELP, *see* linear prediction,
 - code-excited, low-delay
- LDA, *see* linear discriminant analysis
- LDC, *see* Linguistic Data Consortium
- LE, *see* language engineering
- LE-MLAP, *see* Language Engineering Multilingual Action Plan
- learning, 426, 503
 - automatic, 24
 - grammar from example sentences, 426
 - iterative, 27
 - methods, 394
- least mean square error, 412
- lemma, 111, 112, 114
- letter-based recognition methods, 89
- letter-to-sound rules, 204
- letters, *see* font
- level of abstraction, 232
- lexical, 353, 448, 508
 - acquisition, 448
 - ambiguity, 119, 120
 - categories, 206
 - category disambiguation, 142
 - choice, 168, 502
 - constraint, 264
 - coverage, 172
 - data base, multilingual, *see* multilingual lexical data base
 - database, 261, 441
 - decision, 500
 - dependencies, 410, 411
 - exceptions, 206
 - frequency, 52
 - functional grammar, 116, 137, 170, 409, 522
 - grammar, 410
 - information, 203, 410
 - knowledge, 89, 455
 - knowledge acquisition, 392
 - knowledge base, 457, 522
 - lookup, 202
 - patterns, 485
 - polymorphism, 121
 - selection, 164, 165
 - stress, 16, 55
 - structure, 118
 - tokens, 399
 - transcription, 399, 400
 - transcription accuracy, 400
 - transducer, 112
 - tree-adjoining grammar, 136

- valency, 394
- lexicographers, 129, 445
- lexicon, 74, 109, 112, 118, 165, 167, 173, 179, 207, 264, 296, 441, 443, 445, 448, 455, 458, 508
 - architecture, 456
 - construction, 110, 128
 - large, 34
 - size, 74
- Lexicus, 92
- LFG, *see* lexical functional grammar
- libraries, 446
- LIG, *see* linear indexed grammar
- likelihood, 45, 396
 - scores, 315
- limited frequency transfer, 505
- limited functional flexibility, 172
- LIMSI, 50, 450
- line curvature, 97
- line drawings, 77, 79
- linear
 - dimension reduction, 413
 - discriminant analysis, 15, 522
 - indexed grammar, 407, 408, 522
 - interpolation, 36
 - order, 175
 - prediction, 372, 395
 - code-excited, low-delay, 372, 377, 522
 - perceptual, *see* perceptual linear prediction
 - prediction, code-excited, *see* code-excited...
 - predictive coding, 14, 44, 357, 377, 378, 403, 522
 - regressive analysis, 193
- Lingstat, 487
- LinguaTech, 297
- linguistic, 161, 343, 390, 461
 - analysis, 80
 - based, 260
 - competence, 391, 392
 - constraint, 75, 179, 263, 264
 - context, 85, 391
 - convergence, 502
 - coverage, 391
 - data, 343
 - Data Consortium, 441, 443, 447, 451, 453, 457, 464, 466, 522
 - departments, 49
 - description, 460
 - grammar, 135, 136, 138
 - knowledge, 109, 179
 - methods, 266
 - motivated analyses, 449
 - parameter specifications, 202
 - Research and Engineering, 261, 284, 442, 451–453, 457, 494, 522
 - resources, 441, 442, 444
 - rules, 398
 - structure, 231, 448
 - theory, 272
- linguists, 420
- lingware, 291
- link grammar, 41
- linked letter tree, 112
- lip
 - model, 359
 - reading, 339, 358
 - sync, 361
- liquid crystal display, 73, 90, 522
- LIRIC, 444
- iterate, 395, 396
- LKB, *see* lexical knowledge base
- Lloyd-Max optimum quantizer, 398
- LM, *see* language model
- LMT, 290
- local densities, 402
- locality, 132
- localization, 288

- locations, 263
- locutions, 165
- log, 403
 - likelihood, 205
 - magnitude domain, 381
 - normal curve, 98
 - spaced array, 383
 - spectrum, 20, 403
- logic, 123, 391
 - deduction, 391
 - equivalence, 174
 - form, 170, 172, 174
- LOGOS, 290
- Logos system, 486
- long distance
 - bigram, 41
 - communication, 374
 - dependencies, 409
- loops, 402
- low bit rate digital communication, 374
- LPC, *see* linear predictive coding
- LR, *see* parsing, left-to-right, rightmost derivation
- LRE, *see* Linguistic Research and Engineering
 - DELIS, 457
 - ONOMASTICA, 452, 466
- Luhn's auto-extract, 266
- luminance, 330
- LV-CSR, *see* large vocabulary continuous speech recognition
- machine
 - aided human translation, 288, 295, 296, 298-300, 522
 - assisted terminology, 493
 - assisted translation, 288, 522
 - readable text, 266, 458
 - recognition, 356
 - translation, 110, 130, 167, 232, 285, 389, 392, 395, 445, 455, 456, 462, 491, 493, 508
- machine translation
 - evaluation, 481
 - workshops, 480
- Market and Technology Study Committee, 491
- System Research Committee, 491
- MAGIC, 111
- MAHT, *see* machine-aided human translation
- mail sorting, 84, 86
- MAJESTIC, 290
- Malay, 297
- Mandarin Chinese, 402, 443
- manually prepared, 509
- manufacturers, 491
- MAP, *see* maximum a-posteriori probability
- mapping accuracy, 194
- MAR, *see* multivariate autoregression
- marine weather bulletins, 284
- markers, 344
- Markov, 135
 - chains, 88
 - first-order hypothesis, 25
 - n-chain, 398
 - property, 424
- masking, 403
 - noises, 505
 - properties, 372
- Massachusetts Institute of Technology, 50, 51, 522
- MAT, *see* machine-assisted translation
- materials information system, 461
- mathematical logic, 123
- mathematical methods, 389, 391
- maximum
 - a-posteriori probability, 24, 373, 522
 - entropy, 36
 - likelihood, 396

- classifier, 396
- estimation, 37
- training, 427
- McGurk effect, 357
- mean noise power, 380
- mean opinion score, 376, 501, 505, 522
- meaning, 211, 282, 390, 399
 - as truth condition, 122
- meaningful words, 504
- medical information system, 213
- mel frequency scale, 13, 403
 - cepstral coefficient, 403, 404, 522
- melodic model, 197
- mental states, 234
- Mercury/Termex, 297
- message
 - encryption, 374
 - extraction, 394
 - routing, 123
 - to-speech system, 209
- Message Understanding Conferences,
 - 264, 267, 283, 480, 482–485, 523
- METAL, 290, 291, 487
- metaphor, 460
- METEO, 284, 287, 290, 522
- MFCC, *see* mel frequency scale cepstral coefficient
- MicroMATER, 297
- microphone, 383
 - array, 21, 383
 - electret, 339
 - multiple, 18, 21
- Microsoft, 92, 445
- Microtac, 487
- mildly context sensitive
 - formalisms, 136
 - grammar, 133, 407, 409
- MIND, 294
- minimum
 - mean square error, 21, 373, 522
 - estimators, 381, 382, 522
 - prediction residual method, 397
 - probability of error, 397
- minitels, 289
- mips-per-milliwatt, 379
- misrecognized documents, 78
- MIT, *see* Massachusetts Institute of Technology
- MITalk, 111, 189, 360, 522
- MITI, 444
- MITRE, 51, 475
- mixed initiative, 214
- mixture model, 40
- MLAP, *see* Language Engineering Multilingual Action Plan
- MLCC, 442
- MLDB, *see* multilingual lexical data base
- MLP, 417, 522
- MLTB, 298
- MMSE, *see* minimum mean square error
- MMSEE, *see* minimum mean square error estimators
- modal logic, 347
- modal tense logic, 344
- modality, 242, 353
 - of interaction, 227
- mode selection, 351
- model
 - acoustic, 35
 - allophone, 27
 - based vocoders, 377
 - errors, 423
 - language, 29, 33
 - of the uncertainty, 372
 - source-channel, 35
 - unit, 27
 - word, 27
- modem, 446
- moderate vocabulary speech

- understanding, 400
- modification/concatenation of
 - pre-recorded singing voices, 200
- modular approaches, 418
- modular diagnostic evaluation, 500
- modulation, pulse-code, *see* pulse-code modulation
- momentum smoothing, 427
- monitoring, 352
- monologic discourse, 233
- morpheme, 122, 203
 - allomorph pair, 112
- MORPHOGEN, 111
- morphology, 118, 131, 208, 310, 316, 448, 455, 508
 - alternations, 111–113
 - ambiguity, 113
 - analysis, 40, 111, 112, 114, 115, 205, 299, 410, 422
 - computational, 111
 - derivatives, 204, 205
 - disambiguation, 111, 114
 - paradigm, 119
 - processing, 393
 - productive processes, 204
 - properties, 111
- Morpholympics evaluation, 485
- morphosyntax, 458
 - analysis, 261
 - features, 455
 - tagging, 114
- morphotactics, 111
- MOS, *see* mean opinion score
- motor theories of perception, 96
- mouth, 356
- movement
 - coding, 96
 - control, 96
 - generation system, 99
- moving images, 330
- MRD, *see* dictionary, machine-readable
- MSR, *see* multiple split regression
- MT, *see* machine translation
- MTDB, *see* multilingual terminological data base
- MUC, *see* Message Understanding Conferences
- multi-band excited, 372
- multi-layer logistic perceptron, 427
- multi-level plan recognizer, 238
- multi-media documents, 256
- multi-media interface, 229
- multi-pulse, 372
- multi-pulse excitation, 377
- multi-word terms, 462
- multilingual, 178, 275, 281, 462
 - access to text databases, 301
 - benchmarks, 501
 - evaluation, 481
 - lexical data base, 296, 298, 299, 522
 - performance assessment, 498
 - support tools, 298
 - system, 199
 - terminological data base, 296, 298, 523
 - terminology, 459
 - text, 233
- multilocation games, 375
- multimedia, 169, 201
 - applications, 379
 - discourses, 233
 - information system, 329
 - memos, 375
- multimodal
 - communication, 348
 - environments, 343
 - helpware, 352
 - human-computer interface, 348
 - interface, 355
 - interface tools, 353

- system, 341, 503
- multipath interference, 375
- multiple beamforming, 340
- multiple split regression, 193, 523
- multipoint audio conferencing, 338
- multisentence
 - generation, 161
 - paragraph planning, 169
 - responses, 210
- MultiTerm, 298
- multivariate autoregression, 47, 522
- multitone, 28
- MUMBLE, 163
- musical noise, 381
- mutual information, 400

- n-best, 53
- n-gram, 36, 37, 113, 205, 316, 317, 398, 399, 446, 508
 - class model, 75
 - grammar, 135
 - part-of-speech model, 75
 - word model, 75
- names
 - foreign, 204
 - personal, 204
 - previously unseen personal, 204
 - pronunciation, 205
 - proper, 263
- National Science Foundation of China, 453
- natural face, 360
- natural language, 49–54, 56, 179, 241, 259, 274, 281, 343, 348, 441, 488
 - dictionaries, 421
 - generation, 161, 170, 172, 179, 210, 231, 271, 272
 - parsing, 172, 488
 - processing, 111, 118, 259–262, 266, 268, 270, 390, 410, 416, 417, 420, 423, 445, 448, 455, 458, 475, 477, 486, 497, 498, 508
 - broad coverage, 448
 - semantics, 124, 344
 - sentences, 130
 - software, 276
 - system, 234
 - technologies, 257
 - understanding, 170, 171, 211, 231, 451
- naturally-occurring text, 482, 485
- naturalness, 196, 197, 200, 242, 243, 374, 376
- nearest neighbor, 74, 397
- NEC, 310
- Nestor, 92
- network telephony, 376
- networking, 379
- neural network, *see* artificial neural network
- neuromuscular network, 98
- neuromuscular processes, 96
- new word uses, 120
- New York University, 457
- news stories, 75, 259, 263, 268, 283
- NHK, 289
- NIST, *see* U.S. National Institute of Standards and Technology
- NL, *see* natural language
- NLG, *see* natural language generation
- NLP, *see* natural language processing
- NN, *see* artificial neural network
- noise, 498, 509
 - additive, 17, 18, 21
 - co-channel interference, 23
 - convolutional, 19
 - high-intensity, 17
 - removal, 402
 - suppression, 373
 - transient interference, 22

- noiseless coding, 379
- noisy, 450
 - channel information transmission, 392
 - characters, 81
 - environments, 356, 357, 403
 - measurement, 380
 - speech, 373
- nominal accent, 206
- non-dynamic logic, 126
- non-linear
 - dimension reduction, 413
 - disturbances, 380
 - documents, 256
 - prediction, 416
 - signal processing, 404
- non-parametric voice conversion, 194
- noncausal, 382
- nonsense, 504
 - words, 16
- nonstationary, 417
 - speech signal, 383
- nonterminal, 132
- normalization, 44, 45
 - distance/similarity, 45
 - parameter-domain, 45
 - transformations, 83
- normative transcript, 197
- Norsk Tekstarkiv, 447, 464
- notebooks, electronic, 99
- noun phrase reference, 126
- NP-hard, 346
- NSF, 444
- NTT, 50
- NTT Human Interface Laboratories, 42
- nucleus, 231
- objective measures, 504, 505
- OCR, *see* optical character recognition
- office automation, 84
- on-line text, 263
- open response tests, 504
- open set identification, 42
- operator services, 502
- optical
 - character recognition, 35, 73, 74, 76–79, 81, 86, 93, 257, 258, 290, 317, 490, 507–510
 - isolated characters, 507
 - performance, 507
 - print degradation, 75
- flow, 357
- information, 356
- scanning, 91
- source, 356
- optimal search, 423
- optimization techniques, 392
- optimum sensory modes, 341
- Oracle, 296
- oral-cavity movements, 356
- ordering of prepositional phrases, 165
- Oregon Graduate Institute, 450, 451, 467, 523
- orthography, 73, 202, 209
 - representation, 35, 204
- out-of-vocabulary, 10
- outliner, 270
- output factors, 266
- overlap-add procedure, 380
- PACE, *see* Perkins Approved Clear English
- packet losses, 378
- page description language, 257, 523
- page segmentation, 510
- PAHO, *see* Pan American Health Organization
- Palm Computing, 92
- Pan American Health Organization, 291, 487, 523
- Pangloss, 167, 487
- paragraph images, 508

- Paragraph International, 92
- paralinguistic factors, 194
- parallel
- documents, 284
 - finite-state transducer, 112
 - processing, 341, 411
- parameter, 11
- estimation, 18
 - updates, 382
- paraphrase, 301
- PAROLE, 452, 467
- Parseval system, 488
- parsing, 40, 130–132, 134–136, 139, 140, 264, 268, 271, 272, 390, 399, 406, 447, 448, 480, 488
- an errorful symbol string, 423
 - broad-coverage, 488, 489
 - deterministic, 133
 - English, 488
 - FSA, 394
 - left-to-right, rightmost derivation, 41, 410, 522
 - natural language, *see* natural language, parsing
 - partial, 411, 445
 - procedural, 131
 - robust, 110, 141, 241
 - shallow, 111, 114
 - shift-reduce, 131
 - skeleton, 114
 - structured connectionist, 417
 - techniques, 53
 - technology, 411
- part of speech, 206, 399, 448, 458
- assignment, 208
 - model, 75
 - tagging, 113, 206, 260, 392, 394, 445, 446
- part-whole, 457
- partial state of the world, 127
- partial trace-back, 425
- partially disambiguated sequence, 142
- particles, 206
- past discourse, 210
- PATR, 116
- pattern
- differentiation, 83
 - matching, 485
 - rules, 419
 - techniques, 123, 373
 - recognition, 81, 393, 397
- pause, 55, 196, 197, 213
- Pays d'Europe Centrale et Orientale, 452, 523
- PC-Translator, 487
- PCA, *see* principal components analysis
- PCFG, *see* probabilistic context-free grammar
- PCM, *see* pulse-code modulation
- PDA, *see* personal digital assistant
- PDL, *see* page description language
- peak clipping, 505
- PECO, *see* Pays d'Europe Centrale et Orientale
- PEG, 114
- pen
- based systems, 100
 - computing, 90
 - lift, 93
 - trajectory, 93
- Penman Upper Model, 166
- PENMAN/KPML, 164
- PENSÉ, 290
- PEP, *see* Plain English Program
- perceptivomotor strategies, 96
- perceptual
- limitations, 377
 - linear prediction, 14, 15, 523
 - studies, 193, 194
 - system, 283

- perfect truth, 485
- performance
 - assessment, 495
 - evaluation, 486
- Perkins Approved Clear English, 275, 523
- perplexity, 4, 37, 38
- personal
 - communication services, 379
 - digital assistant, 76, 94, 523
- Personal Handyphone, 377
- personality, 356
- phase, 380
 - structure, 11
- philosophy, 344
 - of science, 461
- phonation, 199
- PHONDAT, 452, 467
- phone-to-viseme, 356
- phoneme, 4, 72, 191, 196, 197, 204, 232, 332, 392, 495, 504
 - classes, 396
 - confusions, 504
 - context, 191
 - duration, 197
 - durations, 197, 198
 - intelligibility, 500
 - pairs, 191
 - sequences, 202
 - signal processing, 390
 - to phoneme junctures, 199
 - variations, 191
- phonetics, 390, 395
- phonological, 170, 395, 450
 - rules, 199, 205
- phonotactics, 315, 395
- photocopy, 82
- photographs, 76
- phrase, 196, 213, 448, 500
 - accent, 197
- accentuation, 203
 - based system, 163
- based multisentence text structure
 - generation, 163
- boundaries, 139
- break, 55
- pattern, 163
- structure, 409
 - grammar, 131, 132, 136, 163
 - grammar rules, 235
 - rules, 116, 163
 - tree, 113, 114, 406, 408
- physical nature, 345
- physical properties, 504
- physiology, 21
- pictures, 256, 460, 462
- pitch, 315, 402
 - accent, 212
 - level, 168
 - prediction, 377
 - range, 212, 213
 - time/value pairs, 202
- Pivot, 285, 290, 291, 487
 - language, 302
- pixel images, 93
- Plain English Program, 275, 523
- plan
 - based
 - approaches, 236
 - model, 236
 - models of discourse, 211
 - theories of dialogue, 237
 - operators, 176
 - recognition, 236–238
- planning, 233
 - component, 170
 - problems, 239
 - techniques, 228
- pleasantness, 196
- PLNLP, 114

- PLP, *see* perceptual linear prediction
 POINTER, 452, 467
 Polhemus coil, 334
 POLYGLOT, 452, 467
 polynomial space, 132
 polynomial time, 136
 polyphone, 27, 453
 polysemes, 120, 460
 pooling method, 485
 POPEL, 164
 portable, 9
 information terminals, 379
 Portugese, 488
 positional differences, 191
 possible, 124
 pronunciations, 205
 worlds, 127
 post office, 84
 postal addresses, 76, 78
 postal code, 510
 posterior probability, 412
 power consumption, 376, 379
 power spectral subtraction, 381
 power spectrum, 11, 14, 380
 pragmatics, 55, 136, 141, 178, 230,
 270–272, 344, 395
 considerations, 345
 information, 230
 pre-processing, 500
 precision, 131, 140, 483
 predicate argument relations, 448
 predicate argument structure, 41, 449
 predicate logic, 347, 391
 predictive power, 135
 predictive tasks, 131
 preference analysis, 215
 prepositions, 206
 presentation design, 351
 Princeton, 457
 principal components analysis, 15, 413,
 523
 principle of compositionality, 125
 printed word recognition, 87
 Prior, 344
 privacy, 90
 probabilistic
 context-free grammar, 142, 143, 523
 evaluation function, 139
 grammar, 139
 parsing, 131, 392
 processing, 392
 probability, 30
 density function, 396
 distributions, 404
 estimation, 11
 maximum a-posteriori, *see* maximum
 a-posteriori probability
 transition, 31
 profile, 494
 programming language, 391
 progress evaluation, 476, 493
 progressive search, 53
 prominence, 55, 206
 pronoun, 125, 128, 228, 229, 231
 reference, 417
 specification, 165
 pronunciation, 202–204, 456
 network, 6
 proof tree, 408
 property theory, 127
 proposed revisions, 272
 propositional attitude, 124, 126
 prosody, 52, 54, 56, 192, 194, 197, 201,
 356, 395, 450, 454, 500
 characteristics, 500
 control, 191, 192
 information, 49, 315
 marks, 196
 modeling, 201
 phrase boundaries, 208

- phrase boundary decision, 208
- phrases, 203, 207, 208
- phrasing, 198, 207, 212
- structure, 193, 197
- symbols, 197
- pruning, 133, 409, 425
- pseudo-letter level, 88
- psycholinguistics, 161, 200, 214, 390
 - modeling, 133
 - realistic generation, 168
 - tests, 500
- psychologists, 200
- public domain, 443
- publishing system, 257
- pulse-code modulation, 331, 333, 376, 377, 523
- punctuation, 141
- purpose factors, 266

- quadratic operators, 405
- qualitative physics, 343
- quality, 381
 - assessment, 492
 - assurance, 463
 - ratings, 504
 - total quality management, 463
- quantifying elements, 135
- quantifying noun phrases, 128
- quantization, 505
- quasi-logical form, 128
- query, 259
 - expansion, 261
- question-answering system, 231
- quiet, 450

- radar chart, 492, 493
- rapid prototyping, 409
- RASTA, 14, 20, 523
- Ratcliff/Obershelp pattern matching
 - method, 84
- rationalist, 447

- re-creation, 288
- re-usability, 172
- readability, 275
- reading machine, 501
- real world data, 343
- realism, 196
- realization, 161
- reasoner, 178
- reasoning about discourse, 232
- recall, 483, 504
- recognition, 402, 510
 - risks, 354
 - small vocabulary, of telephony, 400
- recognition, machine, *see* machine
 - recognition
- recursion, 393
- recursive segmentation, 82
- redundancy, 87
- redundant speech material, 505
- reference, 282, 351
 - dependent items, 125
 - methods, 496
 - point based classifiers, 413
 - resolution, 232
 - semantics, 348
- referring expressions, 228
- reformatting, 443
- reformulation rules, 304
- regional variants, 462
- regression, multiple split, *see* multiple
 - split regression
- regular, 270
 - expression, 419
 - language, 419, 420
 - pulse, 372
 - excitation, 377, 378
 - relation, 422
- reified logic, 344
- relation
 - is-a, 457

- relational database, 263
- relative entropy, 412
- Relator, 444, 452, 467, 523
- relevant, 483
- RELEX, 112
- reliability, 492
 - statistics, 454
- rendering, 256
- RENOS, 261
- repairs, 55, 235
- repeated words, 55
- representation, 344, 390
 - language, 109, 391
- reproducible, 508
- requirements specifications, 493
- Resource Management task, 8, 416, 451, 523
- response generation, 213
- RETRANS, 303
- returned, 483
- reverberation, 21, 383, 505
 - conditions, 383
 - distortion, 340
- reversibility, 171, 173
- reversible multilingual formalisms and algorithms, 168
- rewrite
 - rules, 422
 - system, 390
- rhetorical, 232
 - predicates, 175
 - relations, 176, 177, 351
 - structure, 175–178
 - theory, 163, 231–233, 394, 523
- rhyme tests, 504
- rhythm, 192
- risk, 481
 - minimum, 397
- RM, *see* Resource Management task
- Road Rally, 451
- ROARS, 452, 467
- robust, 9, 242, 243, 413
- root power sum, 15, 523
- Rosetta system, 285
- rotation invariance, 97
- route, 258
 - description, 343, 347
- RPS, *see* root power sum
- RST, *see* rhetorical structure theory
- rule, 500
 - based
 - approach, 190
 - concatenation synthesis, 191
 - disambiguator, 113
 - formant synthesis, 200
 - formant synthesizer, 199
 - synthesis, 189, 191
 - tagging, 113
 - inference, 115
 - of grammar, 399
 - of inference, 123
 - probability, 138
 - synthesizer, 500
 - transducer, 112
- Russian, 298
- saliency, 55
- SAM, 495, 498, 501, 523
- satellite, 231
- Scandinavia, 446
- scanning, 72
- scene description, 343
- scopes, 135
- Scottish English, 452
- screening translation, 288
- SCRIBE, 452, 467
- script, roman, 86
- scriptors, 86
- search, 139, 423
 - admissible, 133, 134
 - A^* , 33, 82, 134

- beam, 32, 425
- best-first, 172
- branch-and-bound, 82
- error, 423
- exhaustive, 132
- fast match, 426
- methodologies, 259
- methods, 423
- procedure, 132, 136
- reduced search space, 133
- space, 132, 171, 172
- secure voice communication, 378
- segment
 - boundaries, 228
 - duration, 192
 - time-frequency model, 372
- segmentation, 55, 85
 - techniques, 82
- selection, 266
 - content, 175
 - criteria, 192
- semantics, 49, 53, 55, 109, 118, 122, 141, 170, 206, 230, 270–272, 344, 353, 391, 393, 395, 398, 399, 407
 - categories, 488
 - class, 344, 488
 - constraint, 10, 276
 - coverage, 127
 - description, 122
 - domains, 241
 - framework, 231
 - grammar, 53, 137
 - head-driven generation, 172
 - information, 40, 455
 - interpretation, 123
 - and translation, 411
 - rules, 170
 - knowledge, 458
 - model, 165
 - relations, 417
 - representation, 230
 - structure, 170
 - theory, 124, 127
 - update, 126
- Semeval system, 488
- semi-fixed sentence patterns, 462
- semiotic, 461
- SEMTEX, 164
- senone, 28
- sense
 - disambiguation, 458
 - tagging, 458
- sensory
 - modalities, 329
 - realism, 329
- sentence, 109
 - analysis, 266
 - distribution, 134
 - form, 55
 - generation, 163
 - grammar, 110
 - hypotheses, 131, 132
 - level, 163
 - parser, 132
 - parsing, 265
 - planning, 164, 165, 168
 - prefix, 130, 131
 - processing methods, 264
- sentential forms, 131
- separation, 76
- sequences of utterances, 227
- set-theoretic
 - constructions, 123
 - denotations, 124
- SGML, *see* Standard Generalized Markup Language
- shallow processing techniques, 268
- shallow recognizer, 264
- SHALT-J, 290
- shared resources, 451

- short function words, 206
- short-term spectrum, 402, 403
- short-time spectra, 381
- Shorten, 464
- Siemens AG, 310
- signal
 - distortion, 383
 - estimation, 380
 - fading, 375
 - processing methods, 200
 - redundancy, 374
 - representation, 11
 - to-noise ratio, 18–22, 523
- signature
 - recognition, 99
 - verification, 96, 99
- silicon memories, 375
- Simplified English, 274, 275
- SIMPR, 261
- simulated annealing, 424, 426
- simulated distortion, 509
- singing, 200
- single-sentence generation, 161, 163, 169
- sinusoidal/harmonic, 372
- SISKEP, 297
- SITE
 - B'Vital, 291
 - EuroLang, 295
 - Sonovision, 298
- situated testing, 502
- situation
 - context, 391
 - semantics, 127
 - theory, 127
- sketch pad, 334
- skew, 82
- slant variation, 83
- slopes, 402
- SLS, 523
- SLU, 523
- smoothing, 93, 381
- smoothness, 191
- SNR, *see* signal-to-noise ratio
- Socatra XLT, 487
- soccer matches, 348
- social context, 450
- Sociedad Estatal del V Centenario, 447
- sociology of technology, 461
- source
 - coding, 379
 - meaning representation, 266
 - representation, 266, 268
 - text, 266
 - extraction, 267
- SPANAM, 290, 291
- Spanish, 204, 296, 297, 307, 316, 443, 452, 459, 481
- Spanish Reference Corpus Project, 464
- spare parts administration, 461
- spatial
 - information, 343
 - layout, 86
 - pattern, 414
 - prepositions, 345
 - reasoning, 345
 - relations, 346
 - volume selectivity, 340
- speaker, 500
 - adaptation, 6, 19
 - adaptation technology, 194
 - characteristics control, 194
 - characteristics, 191
 - dependent system, 8
 - emotion, 356, 500, 502
 - enrollment, 4
 - face, 359
 - health, 48, 498
 - identification, 42, 442, 497
 - identity, 16
 - independent, 4, 8

- independent acoustic model, 6
- independent recognition, 404
- intention, 16, 211
- listener communication, 504
- mental states, 194
- non-native, 275
- recognition, 42, 315, 332, 376, 402, 451, 495, 497, 498
- state, 16
- variability, 17
- verification, 42, 332, 339, 415, 497
- voice characteristics, 194
- speaking
 - purpose, 194
 - rate, 55, 450
 - style, 454
- spectral, 403, 413, 505
 - characteristics, 191
 - coloration, 21
 - conversion methods, 194
 - distance, 194
 - distortion measures, 194
 - envelope, 402
 - equalization, 45
 - estimation, 382
 - magnitude coefficient, 381
 - magnitude estimation, 380, 381
 - mapping algorithm, 194
 - removal, 403
 - subtraction, 380, 383
 - variability, 25
- spectrogram, 390
- spectrum fit scores, 425
- speech, 214, 256
 - accent, 498
 - act names, 235
 - act theory, 228
 - acts, 236, 237, 241, 242
 - indirect, 237
 - analysis, 402, 404
 - characteristics analysis, 189
 - clean, 19
 - cliticized, 206
 - coders, 374, 376
 - coding, 194, 379
 - communication process, 395
 - communication system, 504
 - compression, 371, 374
 - contaminated by noise, 371
 - corpora, 23, 192, 450
 - data, 443
 - dialect, 17, 198, 450, 454, 498
 - disfluencies, 498
 - enhancement, 373, 380
 - false starts, 34, 55, 141, 498
 - generation, 168, 196
 - high-quality, 20
 - input, 498
 - input system, 495
 - non-native, 23
 - output, 498
 - Output Group, 501
 - parts of, 488
 - pauses, 380
 - processing, 272, 402, 405
 - production, 378
 - quality, 371, 376
 - rate, 17, 198
 - read, 308
 - recognition, *see* automatic speech recognition
 - recognition
 - scoring, 498
 - recognition research, 49
 - restarts, 141, 498
 - spontaneous, 4, 10, 34, 141, 244, 308, 451, 498, 502
 - spontaneous, characteristics, 503
 - storage, 374
 - synthesis, 162, 189, 191, 194, 201, 210, 211, 213, 228, 490, 501

- by rule, 189
- from concept, 213, 523
- from text, 332
- groups, 213
- system, 450
- technology, 194
- tags, 40
- technology, 502
- telephone, 22
- transmission index, 505, 523
- understanding, 137, 241, 456, 495, 496
- variability of output speech, 194
- waveform, 11
- SPEECHDAT, 452, 467
- speed, 424, 503
- SPELL, 452, 467
- spelling, 292
 - checking, 257
 - checking by wordlists, 112
 - correction, 445
 - technology, 271
 - error, 272
- spoken
 - dialogue, 230, 241
 - system, 241, 242
 - technology, 244
 - input, 110
 - language, 450
 - acquisition, 194
 - form, 214
 - generation, 210, 211, 213
 - human computer interface, 213
 - ID, 314–317
 - interface, 479
 - processing system, 498
 - system, 54, 211, 502, 503
 - technology, 450
 - technology workshops, 480
 - understanding, 49–51
 - understanding system, 497
 - Working Group, 501
 - newspaper, 501
 - spontaneity, 503
 - spontaneous, 50
 - Sprakdata, 447
 - SPRINT, 349
 - SR, *see* automatic speech recognition
 - SRI International, 50, 51, 310, 523
 - SSC, *see* speech synthesis from concept
 - stack-decoders, 426
 - Standard Generalized Markup Language, 297, 456, 462, 523
 - standardization, 455, 500, 501
 - standardized data sets, 510
 - standards, 443, 454
 - state association, 382
 - stationarity assumptions, 382
 - statistical, 447, 485, 497
 - adaptation, 83
 - approaches, 203
 - classifiers, 94
 - correlation analyses, 193
 - cues, 267
 - data-driven methods, 391
 - decision rule, 396
 - decision theory, 395
 - induction, 143
 - language modeling, 134, 394
 - learning, 392
 - machine translation, 392
 - methods, 24, 88, 259, 265, 394
 - modeling, 35, 190
 - modeling techniques, 441
 - optimization techniques, 192
 - parsing techniques, 400
 - properties, 395
 - tagging, 113
 - statistically based, 260
 - stereo display, 332, 335

- stereoconferencing, 375
- STI, *see* speech transmission index
- stochastic
 - context-free grammar, 75, 139
 - grammar, 315, 399
 - language modeling, 142
 - model, 6, 427
 - process, 395
 - system, 113
 - tree-adjoining grammar, 139
- stopword, 508, 510
- storage, 372
- story understanding, 343
- strategic generation, 161
- stress, 191, 192, 198
 - assignment, 500
 - placement, 204
- stroke, 402
 - order, 91
 - reordering, 93
 - width variation, 83
- structural, 508
 - ambiguity, 141
 - description, 406
 - linguistics, 179
 - matchings, 88
 - relations, 212
- structure-based model, 40
- STUF, 116
- style, 266, 271, 292, 500
 - analysis, 271
- stylus, 90, 334
- sub-sentential processing, 111
- sub-word model, 424
- subband, 383
- subject domains, 486
- subjective
 - evaluation scores, 193
 - intelligibility tests, 504
 - measurements, 380
- sublanguage, 287
- subsumption hierarchy, 118
- SUC, 447, 464, 523
- suffix-stripping rules, 207
- summarization, 258
- summary
 - representation, 266
 - text, 266, 267
- summative evaluation, 476
- SUNDIAL, 50, 235, 241, 242, 452, 467, 523
- SUNSTAR, 452, 467, 524
- super-highway, 446
- suprasegmental, 233
- surface
 - cues, 268
 - form, 111
 - variability, 214
 - generators, 176, 178
 - learning, 357
 - parse tree, 41
 - realization constraint, 175
- surveillance task, 349
- SUSY, 290
- SUTRA, 164
- Swedish, 311, 452
- Sybase, 296
- syllable, 72, 196, 199, 495
- symbol, 447, 485
 - recognition, 77
 - representation by, 460
 - sets, 454
- synergetic linear system, 97
- synonyms, 457, 460, 462
- syntax, 49, 55, 109, 118, 271, 272, 316, 395, 398, 399, 407, 450
 - ambiguity, 502
 - analysis, 299
 - approximate analyses, 422
 - bracketing, 190

- Complex, 457
- constraint, 10
- correctness, 276
- coverage, 127
- error detection, 272
- form, 168
- generation, 170, 172, 173
- grammar, 53
- groupings, 207
- parser, 207
- representation, 111
- rules, 87
- shallow, 113
- structure, 16, 55, 122, 213, 399
- variation, 124
- synthesis, 402, 500
 - assessment, 501
 - by-rule, 501
- synthetic
 - face, 359, 360
 - lips, 360
 - speech, 212, 359, 500
 - quality, 194
 - signal, 196
- system
 - development, 475, 479, 491
 - integration, 479
 - performance, 482, 500
- Systemic Linguistics, 173
- SYSTRAN, 289, 305, 486, 487, 524
- tabular algorithms, 132, 139
- tactical generation, 161, 174
- tactile interaction, 339
- tactile transduction, 334
- TAG, *see* tree adjoining grammar
- task, 354
 - adequacy, 493
 - completion, 215
 - complexity, 96
 - domains, 333
 - oriented grammar, 135, 137, 138
- tautology, 127
- TDL, 116, 117
- TECHDOC, 284
- technical
 - documents, 77, 274, 459
 - evaluation by developer, 492
 - evaluation by users, 492, 493
 - translation, 290
 - writers, 461
 - writing, 459, 461
- technology evaluation, 476
- Technology Initiative for Disabled and Elderly People, 451, 524
- TED, *see* Translanguage English Database
- teeth, 356
- TEI, *see* Text Encoding Initiative
- telephone, 18, 376
 - bandwidth, 372
- Telephone Enquiry System, 212, 524
- teleteaching, 375
- TEMAA, 494
- temperament, 356
- template, 118
 - matching, 83
 - vector, 404
- tempo, 192
- temporal
 - anaphora, 346
 - characteristics, 192
 - entities, 345
 - information, 343
 - pattern, 414
 - reasoning in AI, 345
 - signal, 93
 - structure, 346
 - value, 345
 - variability, 25
- tense, 126

- term banks, 493
- term equivalents, 461
- term formation, 461
- terminological
 - analysis, 462
 - entries, 462
 - files, 296
 - knowledge engineering, 463, 524
 - lexicons, 291
 - resources, 462, 463
 - translation, 302
- terminological data base, multilingual,
 - see* multilingual...
- terminologists, 461
- terminology, 292, 441, 443, 459, 475
 - database management program, 461
 - databases, 459, 461
 - interchange format, 462, 463, 524
 - management, 459, 461, 462
 - research, 461
 - science, 459
 - scientific, 462
 - visualization modules, 463
- TERMIUM, 461
- terrorist incidents, 283
- TES, *see* Telephone Enquiry System
- testing, 508
 - databases, 508–510
 - suites, 476, 486
- Text
 - Encoding Initiative, 297, 442, 447, 456, 462, 465, 524
 - TEI A&I-7, 462
 - Retrieval Evaluation Conference, 261, 264, 305, 480, 482–485, 524
- text, 232, 256, 266, 508
 - analysis evaluation, 482
 - analysis technology, 482
 - and images, 348
 - cohesion, 231
 - corpora, 449, 458, 462
 - creation, 270
 - dependent speaker recognition, 46
 - entry, 84
 - extraction, 447, 481
 - generation, 163, 175, 179
 - heuristics, 177
 - independent speaker recognition, 46
 - input, 500
 - interpretation, 230, 263, 265, 500
 - medial adjuncts, 141
 - organization, 175
 - planner, 163
 - planning, 161–163, 168, 175
 - plans, 163, 167
 - processing architectures, 264
 - prompted speaker recognition, 47
 - retrieval, 482, 483, 508
 - retrieval evaluation, 483
 - revision, 271
 - schemata, 175–177
 - spans, 231
 - structure, 168
 - structurer, 163
 - summarization, 130, 137
 - to-Speech, 189, 191, 194, 196, 200, 202, 203, 205–209, 316, 501, 524
 - to-speech synthesis, 168
 - understanding, 482
 - units, 109
 - unrestricted, 141, 448
 - unstructured, 259
- texture analysis, 76
- TFS, *see* typed feature structure
- Thai, 298
- theme, 232
 - development, 177
 - signaling, 165
- theoretical linguistics, 391
- theory-driven, 447

- theory-neutral, 442
- thesaurus, 261, 301, 461
- thesaurus descriptors, 462
- thought
 - units, 460
- TI, 524
- TI-DIGITS, *see* corpora, TI-DIGITS
- TIDE, *see* Technology Initiative for Disabled and Elderly People
- TIF, *see* terminology interchange format
- tilt, 81
- timber, 197
- time, 263
 - alignment, 31
 - as an implicit parameter, 344
 - flies like an arrow, 448
 - frequency analysis, 379
 - maps, 346
 - sequence matching, 393
- timescales, unknown, 424
- timestamps, 354
- TIPSTER, 260, 261, 264
- TKE, *see* terminological knowledge engineering
- TNO Human Factors Research Institute, 504
- token-based encoding, 257
- tokenization, 38, 203
 - into words, 203
 - of the input, 202
- tone/tonal, 454
 - characteristics, 192
 - language, 16, 402
- tongue, 356
- topic, 232
 - changes, 212
 - spotting, 41, 442
- topological map, 413
- TOSCA, 114
- Toshiba, 50
- touch, 334
 - modality, 329
- touching printed characters, 74
- tractable grammatical formalisms, 136
- Trados, 295, 298
- traffic scenes, 348
- training, 352, 423, 426, 508
 - data, 450
 - examples, 412
 - phase, 382, 383
 - set, 397
- trajectory, 90
- transaction success, 243
- transcribed speech data, 208
- transcription, 454, 498
- transducer, 394, 421
- transduction, 17
- transfer approach, 285
- transfer system, 286
- transition probability, 139
- transitional segments, 197
- Translanguage English Database, 453, 524
- translation, 123, 128, 274, 275, 281, 288, 290, 417, 461, 486
 - aids, 494
 - aids for, 281
 - machine, 35, 289–296, 302–304, 477, 479, 486, 487, 490, 523, *see* machine translation
 - machine translation system, 491, 492
 - memories, 445, 493
 - Translator's Workbench, 462, 493
- Translation Workstation Project, 462
- transliteration, 204
- transmission, 17
- travel information, 311
- Traversal, 171
- TREC, *see* Text Retrieval Evaluation Conference

- tree, 88
 - adjoining grammar, 116, 136, 407–409, 524
 - bank, 142, 442, 445, 489
 - hierarchy, 242
 - matching algorithm, 261
 - regression analysis, 193
 - structure, 261
- trellis, 30, 132
- tress, 406
- tri-class model, 40
- trigram, 31, 33, 36, 40, 92, 315, 316, 399
- triphone, 442
- truth
 - conditions, 122, 123
 - maintenance, 126
 - truthfulness, 356
- TtS, *see* Text-to-Speech
- TUG, 117
- Turing, 409
- tutoring system, 210
- TWB, 493
- two-dimensional image, 73
- two-dimensional structure, 93
- two-level recognizer, 112
- two-level rules, 410, 422
- type, *see* font
- type deduction, 117
- Type System, 457
- typed feature structure, 116, 117, 119, 121, 456, 524
- typesetting cues, 82, 85
- typicality, 349
- typographical features, 83
- U.S.
 - Advanced Research Projects Agency, 211, 241, 243, 260, 308, 400, 444, 451, 478, 479, 482, 483, 487, 491, 493, 495–497, 519
 - Defense Advanced Research Projects Agency, 445, 493, 520
 - Department of Defense, 451, 520
 - National Institute of Standards and Technology, 314, 451, 468, 495, 509, 510, 523
 - Postal Service, 468, 524
- UDPCS, 377
- unaccented, 206
- undecidable, 137
- underconstrained context-free grammar, 138
- undergeneration, 141
- underspecified representation, 128
- Unicode, 73
- unification, 116, 118, 164, 170
 - grammar, 116, 117, 391, 394, 408, 409
 - formalisms, 117, 118
- unigram, 36, 39
- UNIPEN, 95
- Unisys, 51
- unit
 - model, 27
 - selection
 - algorithm, 192
 - synthesis, 191
- University (of)
 - Amsterdam, 500
 - College of London, 495
 - East Anglia, 486
 - Edinburgh, 475
 - Geneva, 491
 - Helsinki, 447, 465
 - Karlsruhe, 310, 524
 - Munich, 453
 - Nevada, Las Vegas, 507, 510
 - Umea, 445
 - Washington, 468, 509
- unmodeled events, 442

- usability, 492
- USC/ISI, 164
- user
 - authentication, 339
 - ideal, 491
 - model, 351
 - needs, 493
 - satisfaction, 215, 243
 - state, 354
- users
 - potential, 486
- USPS, *see* U.S. Postal Service
- utility, 503
- utterance situation, 194
- UW, 524

- valency, 119
- validity, 492
- variability, 74, 402, 497
- variable masks, 402
- VC, 524
- vector quantization, 27, 46, 47, 372, 404, 413, 524
- vector space model, 261, 303
- velocity profile, 96
- VERBMOBIL, 232, 286, 312, 452, 467, 524
- verbs of motion, 345
- very large vocabulary dictation, 9
- VEST, 310
- VHS, 331
- video, 256
 - conferencing, 337
 - signals, 330
 - telephony, 376
- VINITI, 303
- virtual reality, 201, 329
- viseme, 356, 359
- visual information, 348
- visual memory, 211
- visually-impaired, 501

- Viterbi, 31, 33, 84, 89
 - algorithm, 424
- VITRA, 348
- VLSI, 378, 524
- vocabulary
 - items, 442
 - selection, 41
 - size, 4, 38
 - special, 274
- vocal
 - apparatus, 199
 - folds, 11
 - tract, 379, 450
 - characteristics, 194
 - lengths, 404
- vocoders, 371, 374
- VODIS, 497
- voice
 - dialing, 2, 8
 - disguise, 48
 - interactive system, 234
 - mail, 376
 - messaging services, 375
 - modification, 402
 - quality, 194
 - storage, 375
- vowel, 356
- Voyager system, 308
- VQ, *see* vector quantization

- Wall Street Journal, 451, 524
 - Cambridge, 467, 524
- waveform, 402
 - coding, 371, 374
- wavelet, 15
- Waxholm, 452, 465, 467
- weak heuristic and statistical methods, 264
- wide-context evidence, 205
- wideband
 - audio, 333

- speech coding, 375
- Wiener filter, 382, 383
- Windows 3, 296
- Windows NT, 296
- Winger, 487
- WinText, 298
- WinTool, 297
- WIP, 169, 350, 351
- wireless
 - channel, 379
 - communication of speech, 379
- within-speaker variabilities, 5
- Wizard of Oz, 243, 524
- word, 72, 196, 199, 504
 - accent, 197
 - accuracy, 508, 510
 - confidence scores, 82
 - error rate, 7, 478, 502
 - for Windows, 445
 - fragments, 498
 - frequency, 508
 - hypothesis, 24
 - isolated, 30
 - lattice, 24, 132
 - model, 27, 40, 75, 424
 - ordering, 214
 - processing, 446
 - processing interface, 447
 - processing program, 270
 - processors, 257
 - recall, 500
 - recognition, 73, 81
 - recognition errors, 241
 - segmentation, 88
 - sense disambiguation, 399, 449
 - sense enumeration, 120
 - sense extensibility, 119, 120
 - senses, 488
 - shape token, 317, 524
 - spotting, 9, 451
 - unknown word boundary position, 424
 - unknown word sequence, 424
 - unknown words, 272
 - use extensibility, 120
- wordiness, 502
- WordNet, 167, 209, 305, 457
- work flow, 258
- work group support system, 258
- world knowledge, 266, 417
- World Wide Web, 259, 464, 465, 467, 501, 524
- WOZ, *see* Wizard of Oz
- writer independent recognition, 91
- Writer's Workbench, 271, 524
- writing
 - by children, 99
- writing style model, 95
- written language, 214
 - generation, 210
 - ID, 316
 - recognition, 71, 402
- written response generation, 211
- WSJ, *see* Wall Street Journal
- WST, *see* word shape token
- WWB, *see* Writer's Workbench
- WWW, *see* World Wide Web
- Xerox, 116, 141
- Xperimental University NETwork, 336, 339, 524
- XUNET, *see* Xperimental University NETwork
- ZIP, 87, 524
 - code recognition, 413
- Zipf's law, 140