

Aniko Hannak

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Northeastern University
Boston, MA 02115

Research Interests

I am interested in the impacts of personalization on various web services. My current research involves measuring the extent and effects of personalization in search engines. I am also interested in data mining and measurements on online social networks and learning new tools for analyzing large data sets.

Education

Ph.D. Candidate, Computer Science	2010 – present	Northeastern University
Advisors: Alan Mislove and David Lazer		
B.S., Applied Math	2005 – 2010	Eotvos Lorand University, Hungary
Advisor: Katalin Vesztergombi Thesis: Crossing Numbers and Related Problems of Unit Distances in the Plane		

Research Projects

Measuring Price Discrimination	2013 – Present	Northeastern University
In this project we are measuring the extent to which online purchasing sites vary the prices and the products they show to their customers. There are many ways in which these websites are able to influence the final purchase of users, and many factors based on which they can personalize the pool of products they offer. Our investigations include measurements on real users as well as simulations of browsing on some of the biggest e-commerce and travel sites.		
Measuring Personalization of Web Search	2011 – 2013	Northeastern University
We investigate the effect of personalization in Web search. The contribution of our work is three-fold; first, we develop a methodology to measure the extent of personalization, second, we apply this methodology to real-life user sessions in Google Web Search, and third, investigate the cause of personalization covering user-provided profile information, Web browser and operating system choice, search history, search-result-click history, and browsing history.		
Predicting mood on Twitter	2010 – 2011	Northeastern University
Understanding the influence of weather and time on aggregated sentiment from Twitter. Using our novel sentiment analysis method shaped specifically to Twitter, we treat the detection of patterns as a machine learning problem, with a goal of trying to predict the aggregate sentiment given input variables such as time of day, season, and weather.		

Teaching Experience

Teaching Assistant	2011 Spring	Northeastern University
Logic and Computation - introduction to formal logic for undergraduate students		

Professional Experience

Research Intern

2013

HP Labs, Social Computing Group

Mentors: Bernardo Huberman, Sitaram Asur

In this project I work on developing data mining methods to measure consumer opinions from micro-blogging data. The final product allows us to analyze tweets in a live manner, detect possible crises and have an overview on the temporal patterns of consumer sentiment.

External Researcher

2011 - 2012

Maven Seven, Budapest, Hungary

Principal Investigator: Albert-Laszlo Barabasi

The goal of the project I was involved in at Maven7 was to map and analyze the community of Hungarians living in Boston. We achieved an extensive understanding over the communities and cultural trends by combining online data collection with the traditional data methods used in sociology and by using various social network analysis and data mining methods on the gathered data.

Skills

Platforms: Mac OS X, Linux

Programming Languages: Python, bash, JavaScript, HTML, PHP

Other Tools: Hadoop, Pig, Latex, Weka

Languages: Hungarian (native), English (fluent), German (fluent), Italian (beginner)

Publications

Conference Papers:

A. Hannak, P. Sapiezynski, A. Molavi Kakhki, B. Krishnamurthy, D. Lazer, A. Mislove, C. Wilson: **Measuring Personalization of Web Search**, Proceedings of the 22nd International World Wide Web Conference (WWW'13), Rio de Janeiro, Brazil, May 2013

A. Hannak, E. Anderson, L. F. Barrett, S. Lehmann, A. Mislove, and M. Riedewald **Tweetin' in the Rain: Exploring societal-scale effects of weather on mood.**
In Proceedings of the 6th International AAAI Conference on Weblogs and Social Media (ICWSM'12), Dublin, Ireland, June 2012

Journal Papers:

A. Hannak, P. Sapiezynski, A. Molavi Kakhki, B. Krishnamurthy, D. Lazer, A. Mislove, C. Wilson: **Measuring Personalization of Web Search**, Transactions on the Web, Under Submission

Posters:

Arash Molavi Kakhki, Aniko Hannak, Alan Mislove, Ravi Sundaram: Mitigating multiple identity attacks on content rating systems, SOSP 2011

A. Hannak, E. Anderson, L. Barrett, S. Lehmann, A. Mislove, M. Riedewald : Measuring and predicting sentiment on Twitter

Presented at: CRA-W Graduate Cohort Workshop, 2012, Affective Science Meeting of the Affective Science Institute, 2011

References

Alan Mislove (advisor)

Assistant Professor, College of Computer and Information Science, Northeastern University

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David Lazer (advisor)

Full Professor, Department of Political Science and College of Computer and Information Science, Northeastern University

Visiting Scholar, John F. Kennedy School of Government, Harvard University

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Christo Wilson

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