

Date: Nov 1, 2009

## **Karl Lieberherr**

I am interested in all aspects of software design. I am directing the Demeter Research Group which has developed Adaptive Programming and was instrumental in the development of Aspect-Oriented Programming.

My secondary area of interest has moved into game design for learning, innovation and dissemination of knowledge in computer science. Our Specker Challenge Game creates a community of scholars (agent-based or human, both on the Web) that propose and oppose hypotheses, trying to maximize their reputation. An interesting game equilibrium is the "truth", but the "truth" is a moving target when the scholars gain new knowledge.

We apply the Specker Challenge Game to a wide variety of computer science topics.

## **Two Descriptive Recent Papers/Website**

1. Bryan Chadwick and Karl Lieberherr, A Type System for Functional Traversal-Based Aspects, FOAL 2009 (workshop).
2. Ahmed Abdelmegeed and Therapon Skotiniotis and Karl Lieberherr, Controlled Evolution of Adaptive Programs, IWPSE-EVOL 2009 (workshop).
3. Specker Challenge Game Home page, <http://www.ccs.neu.edu/home/lieber/evergreen/specker/scg-home.html>.

See <http://www.ccs.neu.edu/research/demeter/papers/publications.html>.

## **Current PhD Students**

1. Therapon Skotiniotis, Modular Adaptive Programming, planned to finish 2009, working at Amazon.
2. Bryan Chadwick, Functional Adaptive Programming, planned to finish 2010.
3. Ahmed Abdelmegeed, working on thesis proposal on Structure-Shy Programming.
4. Pengcheng Wu, Shadow Programming, working at MathWorks.

## **Graduated PhD Students and employment**

See: <http://www.ccs.neu.edu/home/lieber/theses-index.html>.

All PhDs at Northeastern, except the first 3 at Princeton. Jim Finn, 1982 at Princeton. Doug Long, 1983, at Princeton. John Scranton, 1982, at Princeton. Ian Holland, 1992, worked for IBM then became Vice-President at Kronos Inc., then became a minister. Paul Bergstein, 1994, Associate Professor University of Massachusetts, Dartmouth. Ignacio Silva-Lepe, 1994, Researcher, IBM Yorktown Heights. Cun Xiao, 1994, worked for start-up company called Interlace Systems that was sold to Oracle. Walter Huersch, 1995, Managing Partner at Zuehlke, Zurich, Switzerland. Linda Seiter, 1996, Tenured Assistant Professor John Carroll University, Cleveland, Ohio. Crista Lopes, 1997, Associate Professor University of California at Irvine. Johan Ovlinger, 2004, ITA Software Cambridge. Doug Orleans, 2005, Appleseed Software Consulting.