

MARK HOPKINS

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EDUCATION

1. University of California, Los Angeles (Fall 2000 – Spring 2005):

Ph.D. in computer science, co-advised by Prof. Judea Pearl and Prof. Adnan Darwiche.

Dissertation title: *The Actual Cause: From Intuition to Automation*. **GPA: 4.000/4.000.**

2. University of California, Berkeley (Fall 1996 – Spring 2000):

B.A. in computer science, summa cum laude. Recipient of the Computer Science Division Highest Achievement Award, awarded annually to the top graduating computer science major at UC Berkeley. **GPA: 4.000/4.000.**

RESEARCH EXPERIENCE

1. Postdoctoral Researcher, PTOLEMAIOS Project, Saarland University, Germany

(Fall 2005 – present): Currently developing techniques for the induction and validation of shallow grammars from small handcrafted corpora.

2. Research Intern, Natural Language Group, USC Information Sciences Institute

(Summer 2003 and 2005): Assisted an initiative to develop a competitive machine translation system based on exploiting deep syntactic structure. Worked with Professor Kevin Knight and Professor Daniel Marcu.

3. Research Assistant for Professor Judea Pearl, Computer Science Dept., UCLA

(Fall 2000 – Spring 2003, Fall 2003 – Spring 2005): Performed research into issues relating to causality, knowledge representation and reasoning, and machine learning.

4. Research Assistant for Professor Adnan Darwiche, Computer Science Dept., UCLA

(Summer 2000): Developed a new method of heuristic graph triangulation that compared favorably with existing methods.

5. Research Intern, Hewlett-Packard Laboratories, Palo Alto, CA

(Summer 1998 and 1999): Applied the genetic programming paradigm to the task of email filtering. In a separate research effort, assisted research in distributed control. Contributed a database to the UC Irvine Machine Learning Repository. Worked closely with Jaap Suermondt, George Forman, and Jeff Burch.

TEACHING EXPERIENCE

1. Teaching Assistant for CS262Z, Computer Science Department, UCLA

(Spring 2003): Served as teaching assistant for a graduate-level class on formal approaches to causality, taught by Professor Judea Pearl. Occasionally delivered guest lectures.

2. Tutor, Computer Science Self-Paced Center, UC Berkeley

(Fall 1998): Guided students through a variety of self-paced courses offered by UC Berkeley about programming languages.

3. Teaching Assistant for CS61A, Computer Science Department, UC Berkeley

(Spring 1998): Served as teaching assistant for an introductory computer science course on the structure and interpretation of computer programs, co-taught by Professor Richard Fateman and Professor David Forsyth.

SELECTED AWARDS/HONORS

1. Dimitris N. Chorafas Foundation Year 2004 Award (2004)
2. National Science and Engineering Research Council (NSERC) Fellowship (2001, declined)
3. UC Berkeley Computer Science Division Highest Achievement Award (2000): awarded annually to the top graduating computer science major at UC Berkeley
4. Nokia Scholarship (2000): awarded annually to two undergraduate computer science students majoring in electrical engineering or computer science at UC Berkeley
5. UC Berkeley Chancellor's Scholarship (1996-2000)
6. Kraft Scholarship (1997)

RELEVANT COURSEWORK

1. Graduate-level computer science: AI search, Bayesian networks, causality, automated reasoning, randomized algorithms, statistical computing, information theory, approximation algorithms.
2. Undergraduate-level computer science: automata theory, algorithms, randomized algorithms, artificial intelligence, compilers, operating systems, digital logic design, computer architecture.
3. Other: real analysis, abstract algebra, linear algebra, general statistics, causality in epidemiology.

AFFILIATIONS/PROFESSIONAL SERVICE

1. Reviewer, International Joint Conference on Artificial Intelligence (IJCAI 2005)
2. Program Committee, Conference on Uncertainty in Artificial Intelligence (UAI 2004)
3. Association for Computational Linguistics (2003 to present): Member.
4. UCLA Computer Science Department Mentors Program (2001-2004): Served as "mentor" to incoming graduate students. Helped organize department activities.

PUBLICATIONS

1. M. Hopkins and J. Kuhn. **Exploring the Potential of Intractable Parsers.** To appear: ACL/COLING 2006.
2. M. Hopkins and J. Kuhn. **A Framework for Incorporating Alignment Information in Parsing.** Proceedings of the EACL Workshop on Cross-Language Knowledge Induction, 2006.
3. M. Hopkins. **The Actual Cause: From Intuition to Automation.** Ph.D. Dissertation, University of California, Los Angeles, 2005.
4. M. Hopkins and J. Pearl. **Causality and Counterfactuals in the Situation Calculus.** Proceedings of the 7th International Symposium on Logical Formalizations of Commonsense Reasoning, 2005.
5. M. Galley, M. Hopkins, K. Knight, D. Marcu. **What's in a Translation Rule?** HLT/NAACL 2004.
6. M. Hopkins. **LAYERWIDTH: Analysis of a New Metric for Directed Acyclic Graphs.** UAI 2003.
7. M. Hopkins and J. Pearl. **Clarifying the Usage of Structural Models for Commonsense Causal Reasoning.** AAAI Spring Symposium on Logical Formalizations of Commonsense Reasoning, 2003.
8. M. Hopkins. **Strategies for Determining Causes of Events.** AAAI 2002.
9. M. Hopkins and A. Darwiche. **A Practical Relaxation of Constant-Factor Treewidth Approximation Algorithms.** Proceedings of the First European Workshop on Probabilistic Graphical Models, 2002.
10. A. Darwiche and M. Hopkins. **Using Recursive Decomposition to Construct Elimination Orders, Jointrees, and Dtrees.** ESCQARU 2001.
11. G. Forman, M. Hopkins, E. Reeber, J. Suermondt. **Spambase Database.** UCI Repository of Machine Learning Databases. Irvine, CA: University of California, Department of Information and Computer Science.