

Danny Wyatt

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education

- Ph.D., University of Washington** expected 2010
Computer Science and Engineering
Committee: Jeff Bilmes and Tanzeem Choudhury (advisors), Pedro Domingos, Mark Handcock, Steven Goodreau
- M.S., University of Washington** 2005
Computer Science and Engineering
Advisors: Henry Kautz and Tanzeem Choudhury
Qualifying Project: *Unsupervised Activity Recognition using Automatically Mined Common Sense*
- B.A., Columbia University** 1998
English and Comparative Literature, *cum laude*
Honors: George W. Hibbit Memorial Scholar 1996-98, Dean's List all semesters

publications

- Danny Wyatt**, Tanzeem Choudhury, Jeff Bilmes. "Discovering Long Range Social Network Properties with Multi-Valued Time-Inhomogeneous Models." In *Proceedings of AAAI 2010*. Atlanta, GA. July 2010.
- Danny Wyatt**. "Collective Behavior Modeling." In *Proceedings of AAAI Spring Symposium on Human Behavior Modeling*. Palo Alto, CA. March 2009.
- Danny Wyatt**, Tanzeem Choudhury, Jeff Bilmes, and James Kitts. "Towards the Automated Social Analysis of Situated Speech Data." In *Proceedings of UbiComp 2008*. Seoul, Korea. September 2008.
- Danny Wyatt**, Tanzeem Choudhury, and Jeff Bilmes. "Learning Hidden Curved Exponential Random Graph Models to Infer Face-to-Face Interaction Networks from Situated Speech Data." In *Proceedings of AAAI 2008*. Chicago, IL. July 2008.
- Tanzeem Choudhury, Gaetano Borriello, Sunny Consolvo, Dirk Haehnel, Beverly Harrison, Bruce Hemingway, Jeff Hightower, Pedja Klasnja, Karl Koscher, Anthony LaMarca, James Landay, Louis LeGrand, Jonathan Lester, Ali Rahimi, Adam Rea, and **Danny Wyatt**. "The Mobile Sensing Platform: An Embedded System for Activity Recognition." In *IEEE Pervasive Computing*. 7(2):32-41. April-June 2008.
- Danny Wyatt**, Tanzeem Choudhury, and Jeff Bilmes. "Conversation Detection and Speaker Segmentation in Privacy-Sensitive Situated Speech Data." In *Proceedings of Interspeech 2007*. Antwerp, Belgium. August 2007.
- Danny Wyatt**, Tanzeem Choudhury, and Henry Kautz. "Capturing Spontaneous Conversation and Social Dynamics: A Privacy Sensitive Data Collection Effort." In *Proceedings of the 32nd IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP-07)*. Honolulu, HI. April, 2007.
- Danny Wyatt**, Tanzeem Choudhury, Jeff Bilmes, and Henry Kautz. "A Privacy-Sensitive Approach to Modeling Multi-Person Conversations." In *Proceedings of the 20th International Joint Conference on*

Artificial Intelligence (IJCAI-07). Hyderabad, India. January, 2007.

Tanzeem Choudhury, Matthai Philipose, **Danny Wyatt**, Jonathan Lester. "Towards Activity Databases: Using Sensors and Statistical Models to Summarize People's Lives." *IEEE Data Engineering Bulletin*. 29(1):49–56. March 2006.

Danny Wyatt, Matthai Philipose, and Tanzeem Choudhury. "Unsupervised Activity Recognition Using Automatically Mined Common Sense." In *Proceedings of the 20th National Conference on Artificial Intelligence (AAAI-05)*. Pittsburgh, Pennsylvania. July 2005.

Daniel Wilson, **Danny Wyatt**, and Matthai Philipose. "Using Context History for Data Collection in the Home." In *Proceedings of PERVASIVE 2005, Workshops: Exploiting Context Histories in Smart Environments*. Munich, Germany. May 2005.

talks, abstracts, posters

"Methods for Modeling Networks of Social Behavior". PIMS Bayesian Network Modeling Group workshop on Modeling and Computation for Social Networks. June 27, 2010.

Danny Wyatt, Tanzeem Choudhury, Jeff Bilmes. "Dynamic Multi-Valued Network Models for Predicting Face-to-Face Conversations." Poster at NIPS-09 workshop on Analyzing Networks and Learning with Graphs. December 12, 2009.

"Resources for Research on Large-Scale Human Behavior Modeling: Opportunities and Challenges." Panel at AAAI Spring Symposium on Human Behavior Modeling. March 23, 2009.

"Exponential Random Graph Models for Social Networks." Invited tutorial in UW A.I. research seminar. March 6, 2009.

"Exponential Random Graph Models and Markov Logic." UW Machine Learning Lunch. March 4, 2009.

Danny Wyatt, Tanzeem Choudhury, Jeff Bilmes. "Creating Social Network Models from Sensor Data." Poster at NIPS-07 Workshop on Statistical Models of Networks. December 8, 2007.

Danny Wyatt, Tanzeem Choudhury, Henry Kautz, James Kitts. "Creating Dynamic Social Network Models from Sensor Data." Talk and abstract in International Sunbelt Social Network Conference. April 26, 2006.

"Real-World Social Computing." Invited talk for UW Women in CSE. February 14, 2006.

Danny Wyatt, Tanzeem Choudhury, Henry Kautz, Dieter Fox. "Creating Dynamic Social Network Models Using Sensor Data." Poster at NIPS-05 Workshop on Recognition and Discovery of Activities and Interactions. December 10, 2005.

"Unsupervised Activity Recognition Using Automatically Mined Common Sense." Invited talk for UW KnowItAll Group. July 17, 2005.

research experience

Research Assistant
University of Washington

2005–Present

Managed two year-long studies for sensing and modeling human social behavior. Coordinated Human

Subjects Department approval, implemented sensing software with resource-constrained real-time audio processing, instrumented 24 (first year) and 17 (second year) subjects with wearable sensor platforms, collected, cleaned, and processed data. Developed novel statistical and machine learning methods for predicting and interpreting the data. Funded by NSF grant IIS-0433637.

Research Intern **Summer 2006**
Intel Research Seattle

Developed methods for extracting conversations and speakers from privacy-sensitive audio data.

Research Intern **Summer 2004**
Intel Research Seattle

Developed a system to learn models of human activities from text on the web and use those models to recognize real-world activities. The system can find arbitrary activity descriptions, learn the objects used to perform those activities, estimate an object's probability of use during an activity, and automatically customize its models for a specific person or environment.

Research Assistant **2004**
University of Washington

Implemented sentiment classifier for determining whether product reviews are "pro" or "con," explored feature selection for classification and methods for finding product reviews on the web.

Student Project **2003**
Natural Language Processing Group, Columbia University

Explored heuristic methods for: simultaneously merging and de-noising ontologies; determining semantic relations between nouns within a noun phrase; and using general ontologies to disambiguate noun senses in specialist (e.g. medical) corpora.

teaching

Teaching Assistant **Fall 2004**
CSEP573: Master's level introduction to artificial intelligence.

Head Teaching Assistant **Spring 2004**
CSE143: Second of two courses in an undergraduate introduction to programming sequence.

Teaching Assistant **Fall 2003**
CSE143

awards

Modeling and Computation for Social Networks, funded summer school 2010
IJCAI Student Travel Grant 2007

activities, service

Program Committee, AAI 2010
Reviewer, IEEE Transactions on Multimedia 2010
Reviewer, IEEE Pervasive Computing 2009
Program Committee, LOCA (Workshop on Location and Context-Awareness) 2009
Reviewer, Pervasive 2009
Reviewer, UbiComp 2008
Reviewer, AAI Student Abstracts 2008
UW CSE Graduate Admissions Committee 2006–2007
UW CSE Prospective Students Recruiting Committee 2004, 2005

professional organizations

Association for the Advancement of Artificial Intelligence
International Network for Social Network Analysis

industry experience

Lead Technologist 2000–2003
Ericsson Mobility World North America
Developed prototype applications, SDKs, and reference software for emerging wireless and mobile computing technologies. Explained those technologies to the press and gave technical talks to educate developers.

Lead Developer 1999–2000
sputnik7.com
Designed and implemented software for describing, storing, querying, and presenting audio and video; user management; and ecommerce. Coordinated implementation among staff engineers and contractors.

Senior Developer 1996–1999
Siegel and Gale
Designed and implemented web applications for Fortune 500 companies (Kodak, Citibank, Lucent, Toys'R'Us, American Express, and others). Managed projects (and clients) for entire life cycle, from requirements gathering through release and maintenance.

references

Jeff Bilmes
Associate Professor, Dept. of Electrical Engineering, University of Washington
bilmes@ee.washington.edu

Tanzeem Choudhury
Assistant Professor, Dept. of Computer Science, Dartmouth College
tanzeem.choudhury@dartmouth.edu

Pedro Domingos
Associate Professor, Dept. of Computer Science and Engineering, University of Washington
pedrod@cs.washington.edu

James Kitts
Assistant Professor, Graduate School of Business, Columbia University
jak2190@columbia.edu

Matthai Philipose
Research Scientist, Intel Labs Seattle
matthai.philipose@intel.com