

Patrick Adam Wagstrom

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Professional Objective

A challenging position that allows me to use my unique skills to develop novel new methods to solve the world's hardest technical, policy, and social problems by integrating observations of human behavior, raw data, and novel analytics.

Research/Technical Skills

Programming: Java, R, Groovy, Python, JavaScript, Unix Shell Scripting.

Research Methods: Social Network Analysis, Data Mining, Text and Content Analysis, Qualitative Data Analysis, Hierarchical Linear Modeling, Uncertainty Modeling and Simulation, Multi-Attribute Utility Analysis, Graph-based NoSQL Databases, Usability Analysis.

Data Mining: Mining Software Engineering Repositories, Collecting and Linking Unstructured Communications (Forums, Twitter, etc), Scraping Vendor Provided APIs, Hadoop Analysis, Free-Text Sentiment Analysis.

Education

Ph.D. in Engineering and Public Policy and Computation, Organizations, and Society, May 2009

Carnegie Mellon University, Pittsburgh, PA

Dual degree between the Carnegie Institute of Technology (College of Engineering) and School of Computer Science at Carnegie Mellon University. Ph.D. thesis title "Vertical Interaction in Open Software Engineering Communities". Thesis advisors Dr. James Herbsleb and Dr. Kathleen Carley.

MS in Computation, Organizations, and Society, May 2007

Carnegie Mellon University, Pittsburgh, PA

MS in Computer Science, August 2003

Illinois Institute of Technology, Chicago, IL

BS in Computer Science, May 2002

Illinois Institute of Technology, Chicago, IL

BS in Computer Engineering, May 2002

Illinois Institute of Technology, Chicago, IL

BS in Electrical Engineering, May 2002

Illinois Institute of Technology, Chicago, IL

Work Experience

Research Staff Member

IBM TJ Watson Research Center, Yorktown Heights, NY

August 2009–Present

Achievements:

- Developed a robust framework for collecting and analyzing massive amounts of software engineering archival data in a distributed graph database running on a Hadoop cluster
- Led a team to evaluate productivity of new users and small teams using enterprise software engineering tools
- Worked with IBM clients to teach about uncertainty and value elicitation in software development
- Mapped extended stakeholders in enterprise software development and analyzed their relation to technical debt
- Developed novel methods and metrics for understanding extended enterprise software development stakeholder collaboration and coordination
- Managed research on interactions around software development with three different universities through an Open Collaborative Research grant
- Mentored three Ph.D. level student interns on projects related to collaboration in software engineering
- Developed a framework for assessing an individual's personal brand by analyzing connections and contents of their actions through public social networks

Graduate Research Assistant

Carnegie Mellon University, Pittsburgh, PA

August 2003–July 2009

Achievements:

- Explored the complex interactions and motivations involved in Open Source Software development
- Delivered lectures in classes on software engineering and technology policy
- Utilized a variety of qualitative and quantitative research methods: stakeholder interviews, message analysis, natural language processing, data mining, and social network analysis - among others
- Developed a large scale framework for collecting and analyzing socio-technical information surrounding Open Source Software development

Summer Research Intern

IBM TJ Watson Research Center, Hawthorne, NY

June 2007–August 2007

Achievements:

- Expanded the Socio-Technical Congruence metric for enterprise use
- Integrated individualized factors into the Socio-Technical Congruence metric
- Developed a model of successful projects that transitioned from IBM proprietary to Open Source
- Developed novel visualizations of communication congruence in software development teams

Teaching Assistant

Computer Science Department, Illinois Institute of Technology, Chicago, IL

September 2000–August 2003

Achievements:

- Designed and graded homework assignments and tests
- Delivered numerous lectures on a wide variety of related to distributed computer, operating systems, and computer architecture
- Oversaw and helped to design and develop student projects
- Managed a group of twelve undergraduates on an ambitious project around pervasive computing on a college campus

Summer Research Intern

Math and Computer Science Division, Argonne National Laboratory, Argonne, IL

April 2002–September 2002

Achievements:

- Developed the Grid Services Flow Language for specifying dependencies and flow in the GLOBUS Environment.
- Worked with the SciDAC Java CoG Kit Team and the Collaboratory for Multiscale Chemistry to develop a grid services based system for analysis of thermochemical tables.

Senior Developer

LEC, Ltd, Chicago, IL

April 1999–September 2000

Achievements:

- Worked directly with designers and clients to sell and develop usable, novel, and cutting edge web experiences.
- Designed, ordered, installed, and managed a commercial grade data center for advertising agency clients.
- Architected and developed E-Stakes, a multi-million user capable system for tying offline purchases to online activities.
- Designed and managed the technical components of the Chicago Transit Authority's "Take it and Win" promotion that utilized CTA transit cards and a web site to provide prizes to transit riders.

Developer

MyPoints, Schaumburg, IL

April 1998–September 1998

Achievements:

- One of the earliest employees of an innovative marketing company
- Designed and implements a complete customer service system in PL/SQL and Java
- Integrated customer service system to work with multiple advertising campaigns

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