Patrick Wagstrom

Data Science and Artificial Intelligence Leader
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Accelerate data science and artificial intelligence by combining best practices from cloud deployment, devops, and human-computer interaction. Integrate diverse data streams of raw data, observations of human behavior, dynamic visualizations, and innovative tools to drive stakeholder insight. Hands-on leader that builds cohesive distributed teams by bringing together the best people from many backgrounds and creating a shared sense of vision and ownership.

Professional Experience

Director of Emerging Technology

September 2019-Present

Verizon, Basking Ridge, NJ and Hartford, CT

- Define and architect overall enterprise strategy for reproducible machine learning including data management, model training, model serving, and model refit
- Build up a mulit-location innovation lab that brings the best of new technologies to our enterprise teams
- Lead proof-of-concept emerging solutions around blockchain identity and machine learning model development

Senior Director of Data Science for Machine Learning Platforms

January 2019-September 2019

Director of Data Science for Machine Intelligence

November 2016-January 2019

Capital One, New York, NY and McLean, VA

- Architect and overall lead for the Capital One Card Machine Learning Platform - a platform for scalable and personalized real-time reinforcement machine learning models on top of Kubernetes, gRPC, and AWS inside a regulated industry.
- Lead a distributed team of data scientists, data engineers, and product managers to deliver our platform in a complex enterprise environment.
- Led a distributed team to build robust machine learning models that incorporate both unstructured text and structured analytical data to identify customer issues in a large corpus of customer communication.
- Manage, grow, and nurture a team of data scientists across multiple locations and states.
- Built out an academic research partnership with universities to explore implications of fairness in artificial intelligence.

Research Staff Member/Technical Lead

January 2015-November 2016

IBM Watson, Littleton, MA

- Led a globally distributed team that built the IBM Watson Conversation service - an innovative service to create rich interactions using natural language processing, entity recognition, and scripted dialog.
- Global team lead for Watson Developer Cloud Tooling. Created cutting edge applications for creating, training, and maintaining cognitive and machine learning solutions including Watson Engagement Advisor and IBM Watson Natural Language Classifier.
- Conducted research on optimal methods to build and configure cognitive and machine learning systems resulting in a 95% reduction in human time required to train these systems.
- Presented cognitive solutions and technologies to more than a dozen companies in six countries.
- Developed best-of-breed modern web application architecture based on Angular, Node.js, GitHub Enterprise, Slack, UrbanCode Deploy and more.

Research Staff Member

January 2014-January 2015

IBM Watson - Watson Life, Yorktown Heights, NY

- Leadership team member responsible for evaluating promising consumer applications of cognitive computing and guiding teams in lean startup and IBM design thinking processes to explore ideas.
- Organized and led globally distributed teams on how to contextualize solutions to cognitive computing challenges.
- Project lead for the IBM Food Truck at SXSW which demonstrated cognitive computing to more than 4,000 people and resulted in more than 1 billion media impressions.
- Planned and executed international workshops on design thinking methodologies.

Research Staff Member

August 2009-January 2014

IBM TJ Watson Research Center, Yorktown Heights, NY
- Analytics lead for JazzHub, IBM's cloud software development strategy. Designed analytics strategy, implemented metrics driven development, introduced A/B testing, and developed analytics dashboards.
- Technical and strategy contributor to IBM's research and acquisition strategy for software development tools and processes.
- Developed and designed GitMiner - an open source project used by 15 universities to perform graph analysis on large scale software engineering databases such as GitHub and BitBucket.
- Led a research team to evaluate productivity of new users and small teams using IBM's enterprise software engineering and product development environments.
- Published papers on topics around distributed collaboration, technical debt in software, and flow of ideas in software engineering communities.

Graduate Research Assistant

August 2003-July 2009

Carnegie Mellon University, Pittsburgh, PA
- Designed and developed CVSMiner an open source tool to perform social network and technical analysis of software engineering ecosystems such as GNOME and Eclipse.
- Worked with members of the GNOME Foundation and Eclipse Foundation to evaluate and improve the relationships between non-profit foundations that manage open source ecosystems and commercial firms.
- Utilized a variety of qualitative and quantitative research methods: stakeholder interviews, message analysis, natural language processing, data mining, machine learning, and social network analysis to generate insight into largely ad hoc software development processes.

Education

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

Carnegie Mellon University, Pittsburgh, PA

Thesis: "Vertical Interaction in Open Software Engineering Communities". 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

Thesis: "Scarlet: A Framework for Context Aware Computing". Advisor: Dr. Xian-He Sun.

BS in Computer Science / BS in Computer Engineering / BS in Electrical Engineering, May 2002

Illinois Institute of Technology, Chicago, IL

Select Technical Skills

Programming Languages: Python, SQL, Java, JavaScript, Shell

Systems and Technologies: Kubernetes, AWS, CloudFoundry, Docker, Linux, distributed systems architecture, relational databases, document databases, graph databases

Frameworks and Libraries: scikit-learn, TensorFlow, IBM Watson, Express