JOHN WILMES

Machine Learning Researcher

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SUMMARY

- Experienced **algorithms researcher** with Deep Learning and Markov chain Monte Carlo expertise
- **Project management** skills demonstrated by leading team of researchers producing two Ph.D. theses, an NSF grant, and publications in top computer science venues

EXPERIENCE

Assistant Professor of Mathematics

Brandeis University

July 2018 – June 2021   Waltham, MA

- Collaborated across departments and with university administration to win approval for my revision of Applied Mathematics major
- Designed curriculum on communicating and presenting mathematical results, used by 100+ students
- Awarded $175k NSF grant "Guarantees for Training Neural Networks" producing first-in-class training guarantees for convolutional graph neural networks and resulting in two Ph.D. theses

Machine Learning Consultant

February 2018 – August 2018

- Designed and implemented deep learning algorithms for categorizing human activities from motion sensor data using Python, Tensorflow, and AWS, improving accuracy by 20%

Research Scientist

Georgia Institute of Technology

September 2016 – June 2018   Atlanta, GA

- Outstanding Post-Doctoral Research Award for advances in machine learning and Markov chain Monte Carlo algorithms
- NeurIPS "spotlight" talk on provable guarantees for training neural networks, and invited presentations worldwide

SKILLS

Communication

- Taught over a dozen university courses, from introductory to graduate-level
- Over 40 research talks, including cross-disciplinary and non-technical audiences

Collaboration

- Built cross-departmental relationships to revise Applied Mathematics major
- Over a dozen co-authors; led team of five student research assistants

Machine Learning

PyTorch, Tensorflow

- Led research on deep learning guarantees and graph neural networks, published in NeurIPS, COLT, ICLR
- Designed and taught courses to 100+ students on big data, optimization, and machine learning in Python using numpy, pandas, and scikit-learn

Programming

C, Python, R, Lua, SQL

- 15 years experience writing Python scripts for research and teaching, including machine learning experiments
- Refactored user interface for Vim text editor, *keyfactor.nvim*; wrote keyboard firmware in C for efficient chording

EDUCATION

Ph.D. and M.S. in Mathematics

University of Chicago

September 2010 – August 2016

B.A. in Mathematics

Reed College

September 2006 – June 2010