

# JOHN WILMES

## Algorithms Engineer

📍 Chicago, IL

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## SUMMARY

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- 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

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### Assistant Professor of Mathematics

#### Brandeis University

📅 July 2018 – June 2021

📍 Waltham, MA

- Collaborated across departments and with university administration to win approval for my design of revised Applied Mathematics major, and led colleagues in implementation
- Developed curriculum on communication and presentation skills in mathematics, now required for major
- Awarded \$175k NSF grant “Guarantees for Training Neural Networks” resulting in two Ph.D. theses. My students graduated on schedule and achieved their career goals.

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### Machine Learning Consultant

#### Algorithmic Intuition

📅 February 2018 – August 2018

- Designed and implemented deep learning algorithms for categorizing human activities from motion sensor data using Python, Tensorflow, and AWS
- Communicated results and recommendations to senior leadership, and created presentation materials for investors

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### 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

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### Communication

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

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### Collaboration

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

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### Machine Learning

PyTorch, Tensorflow

- Led research on deep learning guarantees and graph neural networks, published in NeurIPS, COLT, ICLR
- Designed and taught courses on Big Data and Optimization, including machine learning in Python using numpy, pandas, and scikit-learn

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### 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

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### Ph.D. and M.S. in Mathematics

#### University of Chicago

📅 September 2010 – August 2016

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### B.A. in Mathematics

#### Reed College

📅 September 2006 – June 2010