

# JOHN WILMES

## Algorithms Engineer

✉ jw@johnwilmes.name

🌐 johnwilmes.name

🌐 linkedin.com/in/john-wilmes

🐙 github.com/johnwilmes

📍 Chicago, IL

## 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 CS venues

## EXPERIENCE

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### Assistant Professor of Mathematics

#### Brandeis University

📅 July 2018 – June 2021

📍 Waltham, MA

- Designed new Applied Mathematics major, built support for adoption across departments, and led colleagues in implementation
- Developed curriculum on communication skills in mathematics, now required for major
- Awarded \$175k NSF grant resulting in two Ph.D. theses in three years. My students graduated on time and achieved their career goals.

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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

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### Ph.D. Researcher

#### University of Chicago

📅 September 2010 – August 2016

📍 Chicago, IL

- Algorithms research published in top CS theory venues (STOC and FOCS) led to most significant breakthroughs in decades on infamous Graph Isomorphism problem
- NSF Graduate Research Fellowship. Invited talks at Shanghai Jiao Tong, Max Planck Institut für Informatik, among others

## SKILLS

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### Communication

- Taught over a dozen university courses
- Over 40 research talks around the world

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### Collaboration

- Built cross-departmental relationships to implement new Applied Mathematics major
- Collaborated with over a dozen researchers on co-authored papers; led team of five student research assistants

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### Machine Learning

PyTorch, Tensorflow

- As ML consultant at Algorithmic Intuition, designed and implemented deep learning algorithms for categorizing human activities from motion sensor data
- Led research on deep learning guarantees, including graph neural networks, published in ICLR, NeurIPS, COLT

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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