

# JANE DU

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## Local Address

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## Permanent Address

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## RESEARCH INTERESTS

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Theory of Machine Learning, Optimization, Online Learning, Fairness, Algorithms, Game Theory

## EDUCATION

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Ph.D. in Computer Science from University of Illinois, Urbana-Champaign **Aug 2021 – present**  
M.S. in Computer Science from Cornell University (GPA 4.08) **May 2021**  
B.S. in Computer Science from Cornell University, Minor in Mathematics (GPA 3.75) **May 2019**

## RESEARCH & PUBLICATIONS

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### Nonconvex Constrained Optimization with 2-Player Games **Spring 2021**

- Supervised by Prof. Karthik Sridharan
- Prove that the 2-player formulation of the constrained optimization works theoretically on nonconvex problems; specifically, those that satisfy the Kurdyka-Lojasiewicz (KL) inequality
- Submitting to ICML 2021

### Randomized Iterative Alternating Direct Implicit (ADI) Method **Fall 2019**

- Supervised by Prof. Alex Townsend, collaborating with Prof. Robert Gower and Nidham Gazagnadou
- Randomize the ADI algorithm using sketch-and-project methods, good for solving Sylvester equations  $AX - XB = C$  with unstructured matrices as input.
- Submitting to SIAM in early 2020

### AcaRank **Spring 2018-Fall 2018**

- Design and implement an application ranking academic institutions based on h-index rather than paper quantity
- Use LSTMs and similarity modelling to recommend researchers for review of a paper given abstract

### Self-Navigating Robots Use BLE, Circuit Cellar **December 2018**

- Design and construct a pair of robots that search for a beacon using Bluetooth RSSI

### ELI Undergraduate Research Award, Cornell University, Ithaca, NY **Oct 2016 – May 2017**

- Supervised by Prof. Eilyan Bitar.
- Design a system that can better harness renewable energy sources in urban environments to dampen fluctuations in energy generated by clean sources using capacity of electric vehicle batteries not in use

## WORK EXPERIENCE

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### Teaching Assistantships at Cornell University, Ithaca, NY **Fall 2016 – Spring 2021**

- Asterisk (\*) for head TAs: CS 2112, Honours Object Oriented Programming; CS 4850: Mathematical Foundations for the Information Age; CS 4700: Foundations of Artificial Intelligence\*; CS 2110: Object Oriented Programming\*; CS 4780: Introduction to Machine Learning\*
- Awards in 2018, 2019, and 2020 for excellence in teaching
- Average 4.8/5 rating on teaching assistantship feedback for spring 2020

### Software Development Internships **Summers 2016, 2017, 2018**

- *Microsoft* – Redmond, WA: Design load-testing system in preparation for holiday demand at the Xbox Store
- *Geotab* – Oakville, ON, Canada: Automate the provisioning of development environments and testing servers

## OUTREACH AND OTHER EXTRACURRICULARS

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**Expand Your Horizons:** Committee Chair at EYH, a workshop for outreach for girls in STEM. **2019-2020**  
**Women in Computing at Cornell:** Mentor for women in CS at Cornell **Spring 2017, Fall 2018**  
**Cornell Mars Rover Project Team:** Electrical Engineering Team member **2015-2019**

## ADDITIONAL SKILLS

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- Natural Languages: advanced Mandarin Chinese and French, familiarity with German.