

# Yuchen Li

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## EDUCATION

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### Carnegie Mellon University

August 2020 - May 2025 (expected)

- Ph.D. student in Machine Learning, advised by Prof. Andrej Risteski Pittsburgh, PA
- Research interests: machine learning, natural language processing, and data mining GPA: 4.25/4.33
- My long-term goals include improving mathematical understanding of empirical phenomena, and developing principled approaches to modern deep learning applications

### University of Illinois at Urbana-Champaign

August 2015 - May 2019

- B.S. Statistics and Computer Science; second major in Mathematics; minor in Electrical Engineering Urbana-Champaign, IL
- Research mentors: Prof. Jiawei Han, Prof. AJ Hildebrand, Prof. Pramod Viswanath GPA: 4.0/4.0
- Summa Cum Laude; Highest Distinction in both majors
- Bronze Tablet Scholar: top 3% in the graduating class
- John R. Pasta Outstanding Undergraduate Award 2018: 2 out of about 400 computer science undergraduate junior students
- Dean's List; James Scholar Honors Program

## WORK

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### Machine Learning Engineer, Quora, Inc.

August 2019 - August 2020

- Improved machine learning algorithms in production to increase the prediction quality and decrease latency Mountain View, CA
- Launched online A/B testing to compare different model variants based on a set of key business metrics
- Directly responsible individual (DRI) in charge of controlling the on-call workload in the Ads Ranking team

### Software Engineer Intern, Facebook, Inc.

May 2018 - August 2018

- Designed and implemented a platform for investigating machine learning feature importance Menlo Park, CA
- Proposed and developed feature perturbation and statistical analysis methods

## PUBLICATIONS

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1. **Yuchen Li** \*, Andrej Risteski \*. *The Limitations of Limited Context for Constituency Parsing*. Association for Computational Linguistics (ACL) 2021.
2. Xinwei He \*, A.J. Hildebrand \*, **Yuchen Li** \*, Yunyi Zhang \*. *Complexity of Leading Digit Sequences*. Journal of Discrete Mathematics & Theoretical Computer Science, vol. 22 no. 1, Automata, Logic and Semantics 2020.
3. Yu Shi \*, Jiaming Shen \*, **Yuchen Li**, Naijing Zhang, Xinwei He, Zhengzhi Lou, Qi Zhu, Matthew Walker, Myunghwan Kim and Jiawei Han. *Discovering Hypernymy in Text-Rich Heterogeneous Information Network by Exploiting Context Granularity*. Conference on Information and Knowledge Management (CIKM) 2019.
4. Hongyu Gong, **Yuchen Li**, Suma Bhat and Pramod Viswanath. *Context-Sensitive Malicious Spelling Error Correction*. The Web Conference (WWW) 2019.
5. **Yuchen Li** \*, Zhengzhi Lou \*, Yu Shi, and Jiawei Han. *Temporal Motifs in Heterogeneous Information Networks*. In Proceedings of the 14<sup>th</sup> International Workshop on Mining and Learning with Graphs (MLG) 2018.

\* indicates equal contribution or alphabetical order

## TALKS

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### *The Limitations of Limited Context for Constituency Parsing*

- Association for Computational Linguistics (ACL) Conference Virtual, August 2021
- NEC Laboratories Europe Virtual, July 2021
- Approximately Correct Machine Intelligence (ACMI) Lab, CMU Virtual, June 2021

## TEACHING

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### *Volunteer Teaching Assistant, Data Science Bootcamp*

May 2019

- Contributed to creating a Python tutorial focusing on NumPy and Matplotlib libraries Urbana, IL
- Helped in the class section for about 20 math graduate students and answered their programming questions

### *Member, Eta Kappa Nu (HKN) Honors Society Alpha Chapter at UIUC*

August 2016 - May 2019

- Contributed to its educational website Weber's Wiki Urbana, IL
- Developed and taught two Analog Signal Processing midterm review sessions, each with about 40 students attending

### *Grader, Introduction to Computing*

January 2016 - May 2016

- Graded homework for around 35 students per week Urbana, IL
- Proctored the final exam for around 150 students in a lecture hall, collaborating with five other course staffs

## SERVICE

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### *Reviewer, Research Conferences*

- Neural Information Processing Systems (NeurIPS) 2021

### *Mentor, CMU Computer Science Graduate Application Support Program*

November 2020

- Connected with potential applicants, particularly those from underrepresented groups Pittsburgh, PA
- Offered feedbacks on their application materials and answered their questions related to graduate school application

## HONORS

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- Conference Travel Grant: for top undergraduate students presenting their research projects College level, 2018
- University of Illinois Undergraduate Math Contest: 4<sup>th</sup> place College level, 2016
- Virginia Tech Regional Math Contest: ranked 17 out of 701 participants all over the USA National level, 2015
- American Invitational Mathematics Examination II (AIME II): 11th Grade 97.59% worldwide International level, 2014
- American Mathematics Competitions 10B (AMC 10B): the 11th place out of 37394 participants globally International level, 2013

## SKILLS

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- Proficient in *Python, PyTorch, TensorFlow, C, SQL, MATLAB, PHP*; intermediate in *C++, R, Haskell*; basic in *Java, JavaScript*