

Connor Mowry

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EDUCATION

UNIVERSITY OF ILLINOIS

PhD in Computer Science

Expected 2030 | Urbana-Champaign, IL

Advisors: Chandra Chekuri, Karthik Chandrasekaran

CARNEGIE MELLON UNIVERSITY

BS in Computer Science

Concentration in Algorithms and Complexity

Graduated May 2025 | Pittsburgh, PA

Cum. QPA: 3.81

RESEARCH INTERESTS

Graph algorithms, network optimization, connectivity problems, combinatorial optimization

PUBLICATIONS

Jason Li, **Connor Mowry**, and Satish Rao.

"Faster Negative-Weight Shortest Paths and Directed Low-Diameter Decompositions" To appear in SODA 2026.

Under Review: Giacomo De Palma, Marco Fanizza, Connor Mowry, Ryan O'Donnell.

"Non-iid hypothesis testing: from classical to quantum." Submitted to QIP 2026.

COURSEWORK

(Asterisk denotes course in progress)

Graduate: Randomized Algorithms*, Computational Complexity*, Spectral Graph Theory, Advanced Algorithms**Undergraduate:** Undergrad Complexity Theory, Undergrad Quantum Computation, Algorithm Design & Analysis, Computational Discrete Math, Probability & Computing

SKILLS

PROGRAMMING LANGUAGES

C/C++ • Python • OCaml • C# • Java
Javascript/Typescript • HTML & CSS

TOOLS & FRAMEWORKS

CUDA • OpenMP • MPI • ISPC • Play
Docker • Flask • React Native • Git
PostgreSQL • Bootstrap • Bash • \LaTeX • Vim

RESEARCH

UNIVERSITY OF ILLINOIS | PhD Researcher

Aug 2025 – Present | Urbana-Champaign, IL

- Studying element connectivity reduction and Gomory-Hu tree construction with Prof. Chandra Chekuri and Prof. Karthik Chandrasekaran.
- Investigating whether recent polylogarithmic max flow algorithms for Gomory-Hu trees can be extended to element connectivity.

CARNEGIE MELLON UNIVERSITY | Undergrad Researcher

Apr 2024 – August 2025 | Pittsburgh, PA

- Worked with Prof. Jason Li on the negative-weight single-source shortest paths problem. Our work was later combined with a new directed low-diameter decomposition result to obtain a nearly log-factor improvement over the state-of-the-art.
- Accepted to SODA 2026, to be presented January 2026.

CARNEGIE MELLON UNIVERSITY | Undergrad Researcher

Sep 2024 – August 2025 | Pittsburgh, PA

- Worked with Prof. Ryan O'Donnell on hypothesis testing in the non-identically distributed setting. Optimally improved sample complexity bounds for uniformity testing in the classical case and extended results to hypothesis testing with known distributions, laying groundwork for extensions to quantum hypothesis testing.
- Paper submitted to QIP 2026.

PROJECTS

PARALLELIZING DINIC'S ALGORITHM

Fall 2024 | 15-418: Parallel Computer Architecture and Programming

- Parallelized Dinic's max-flow algorithm using OpenMP and MPI, achieving significant speedups on large graphs through BFS optimizations and 1D/2D graph decomposition.

EXPERIENCE

MICROSOFT | Software Engineer Intern

May 2019 – Aug 2019 | Cambridge, MA

- Implemented feature using C# and Typescript allowing IT admins to prevent users from removing or wiping corporate managed devices.

CARNEGIE MELLON UNIVERSITY | Teaching Assistant

Jan 2019 – May 2019 | Pittsburgh, PA

- Led weekly recitations and office hours, co-created new labs, and graded for Data Structures and Algorithms (15-210).

SEI (CMU) | Software Engineer Intern

May 2018 – Aug 2018 | Pittsburgh, PA

- Built from scratch a Java Play Framework web application to easily configure and monitor the security state and data of IoT devices.

ACTIVITIES

SCOTTYLABS | Director of Technology

Aug 2018 – May 2019

- Directed technical projects and organized TartanHacks, CMU's largest hackathon with 400+ participants.
- Presented a Git seminar and a back-end development workshop.