

Connor Mowry

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EDUCATION

CARNEGIE MELLON UNIVERSITY

BS in Computer Science

Concentration in Algorithms and Complexity

Expected May 2025 | Pittsburgh, PA

Cum. QPA: 3.83

Major QPA: 3.89

CULINARY LEAVE OF ABSENCE

Fall 2019 – Spring 2023

- Pursued a passion for cooking during a leave of absence from CMU.
- Worked at a local sandwich shop and completed the Culinary Arts program at the Community College of Allegheny County.
- Gained professional experience at the Duquesne Club, advancing from preparatory tasks to line cook.

COURSEWORK

(Asterisk denotes planned for next semester)

Intro to Machine Learning (10-701)*

Spectral Graph Theory (15-754)*

Parallel Comp Architecture and Prog (15-418)

Computational Discrete Mathematics (15-354)

Undergrad Complexity Theory (15-455)

Advanced Algorithms (15-850)

Undergrad Quantum Computation (15-459)

Ethics and Policy Issues in Computing (17-200)

Algorithm Design and Analysis (15-451)

Foundations of PL (15-312)

Probability and Computing (15-259)

Intro to Computer Systems (15-213)

Data Structures and Algos (15-210)

Hype for Types (98-317)

Great Theoretical Ideas in CS (15-251)

More Great Ideas in TCS (15-252)

Intro to Functional Programming (15-150)

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

CARNEGIE MELLON UNIVERSITY | Theory Researcher

Sep 2024 – Present | Pittsburgh, PA

- Improved the bound on the number of samples needed for uniformity testing with Prof. Ryan O'Donnell, leveraging ℓ_2 -norm distance and the Efron-Stein inequality for non-identically distributed samples.

CARNEGIE MELLON UNIVERSITY | Algorithms Researcher

Apr 2024 – Present | Pittsburgh, PA

- Worked with Prof. Jason Li to develop an algorithm for negative-weight single-source shortest paths that matches the state-of-the-art runtime while integrating negative cycle finding with a diameter-based parameter. A draft is available at arXiv:2411.19449.
- Presented findings at the CS Independent Study Poster Session.

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.

SAT SOLVER

Fall 2024 | 15-354: Computational Discrete Mathematics

- Implemented a SAT solver in C++ with DPLL and heuristics (e.g., DSIDS, DLIS, MOMS), evaluating performance across traceable and computationally intensive test cases.

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.

ELLIANCE | Software Engineer Intern

June 2017 – Aug 2017 | Pittsburgh, PA

- Developed Pittsburgh.net mobile application using React Native to help users browse and save local Pittsburgh events.

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.