

Evan Williams

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EDUCATION

Cornell University, College of Engineering

Ithaca, NY

Master of Engineering in Computer Science

January 2024 - May 2024

- **Advisor:** Adrian Sampson | **Project:** Compiling PyTorch Models to Hardware Accelerators

Cornell University, College of Engineering

Ithaca, NY

Bachelor of Science in Computer Science, Electrical and Computer Engineering

August 2021 - December 2023

Purdue University, College of Engineering

West Lafayette, IN

Bachelor of Science in Computer Engineering – Transferred

August 2020 - August 2021

- **Activities and Societies:** Purdue Duality Lab, Purdue Engineering Student Council, ECE Ambassadors

PROFESSIONAL EXPERIENCE

Amazon Web Services

August 2024 – Present

Software Development Engineer, Amazon HealthOmics

Mountain View, CA

- Delivered lazy loading to download outputs from call cache for WDL engine yielding 11% speedup on workflows
- Expanded support for CUDA driver integration and implemented type coercion to enable more customer use cases
- Led knowledge sessions teaching engineers about Rust and wrote onboarding materials for new team members

Amazon Web Services

May 2023 – August 2023

Software Development Engineer Intern, AWS IoT RoboRunner

Sunnyvale, CA

- Developed application to perform deep packet inspection on MQTT network traffic using C++ and Docker
- Integrated with Amazon CloudWatch and AWS DeviceDefender to alert customers of anomalous behavior
- Deployed to AWS SnowDrop container for health monitoring and forwarding of detected anomalies to S3 bucket

Deloitte Consulting LLP

June 2022 – August 2022

Solutions Engineering Summer Scholar

New York, NY

- Produced designs and test plans for mobile app to track power outages and implemented backend and REST APIs

RESEARCH AND LEADERSHIP EXPERIENCE

Cornell Computer Systems Lab

January 2022 – August 2024

Undergraduate Research Assistant, Capra Research Group

Ithaca, NY

- Implemented compiler for a feed-forward neural network in PyTorch directly to FPGA-executable Verilog design
- Added support to Calyx for floating-point arithmetic and wrote optimization passes for MLIR and CIRCT IRs
- Improved Calyx external dependency management by integrating Morty, a SystemVerilog source file picker
- Built a pangenomic graph query accelerator for node-depth algorithm and presented findings to research group

Cornell Bowers College of Computing and Information Science

May 2023 – August 2024

Course Developer

Ithaca, NY

- Created assignments, lesson materials, and infrastructure for re-design of Cornell's core systems course, CS 3410
- Implemented optimized MNIST classifier in C and profiled performance using Intel TopDown for new assignment
- Designed assignments and created tooling for graduate computer architecture and systems course, ECE 5755

Cornell Data Science Project Team

February 2022 – May 2024

President

Ithaca, NY

- Directed team of 70+ members in ideation and implementation of machine-learning applications and research
- Secured over 15k in corporate sponsorships and launched partnership projects with companies in industry
- Led implementation of facial recognition system with distributed inference and federated learning on edge devices

Purdue Duality Lab

September 2020 - May 2021

Undergraduate Research Assistant

West Lafayette, IN

- Analyzed domain-specific regular expressions for DFA complexity, portability, and presence of back references
- Built prototype search-engine over millions of regexes to enable identification and reuse of secure patterns
- Implemented ranking scheme to cluster groups of regexes using metrics such as F-Score and mistake rate

TEACHING EXPERIENCE

CS 3110: Functional Programming and Data Structures

Spring 2022, Spring 2024

Cornell University

Teaching Assistant

ECE 4750/CS 4420: Computer Architecture

Fall 2023

Cornell University

Teaching Assistant

CS 4820: Intro to Analysis of Algorithms

Fall 2022, Spring 2023

Cornell University

Teaching Assistant

CS 159: C Programming

Spring 2021

Purdue University

Teaching Assistant

HONORS, AWARDS, AND FELLOWSHIPS

- NSF CSGrad4US Fellowship (August 2025): **\$159,000** over 3 years to support PhD studies
- Cum Laude, Cornell University (December 2023)
- Outstanding Undergraduate Course Staff, Cornell CIS (May 2022 - December 2023)
- Dean's List, Cornell Engineering (August 2021 - December 2023)
- Undergrad Architecture Mentoring Workshop (uArch) Attendee at ISCA 2022 (June 2022)
- Victor H. and Helen T. Green ECE Scholarship, Purdue ECE (May 2021)