Evan Williams

+1 (571) 377-9544 | @ evanw0405@gmail.com | in evanwilliams02 | ⌂ evanmwilliams

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*

PROFESSIONAL EXPERIENCE

Amazon Web Services — August 2024 – Present
Software Development Engineer, Amazon HealthOmics — *Mountain View, CA*
- Delivered lazy loading to download dependencies from call cache for WDL engine yielding 2x 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 COMMUNITY INVOLVEMENT

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)