

# Evan Williams

✉ [evanwilliams@cmu.edu](mailto:evanwilliams@cmu.edu) | 🌐 [evanwilliams.pl](http://evanwilliams.pl)  
🌐 LinkedIn | 🌐 [evanmwilliams](https://www.linkedin.com/in/evanmwilliams) | 📄 Google Scholar

## EDUCATION

### Carnegie Mellon University

Doctor of Philosophy in Electrical and Computer Engineering

• Advisor: Olivia Hsu

Expected May 2032

Pittsburgh, PA

### Cornell University

Master of Engineering in Computer Science

• Advisor: Adrian Sampson

May 2024

Ithaca, NY

### Cornell University

Bachelor of Science in Computer Science, Electrical and Computer Engineering

December 2023

Ithaca, NY

## RESEARCH EXPERIENCE

### • Carnegie Mellon University

Graduate Student Researcher

May 2026 – Present

Pittsburgh, PA

### • Unaffiliated

Independent Researcher

December 2025 – May 2026

Mountain View, CA

◦ Developing an interactive synthesis system to schedule a compiler from PyTorch to sparse accelerators [2]

### • Cornell Computer Systems Lab

Undergraduate Researcher, Capra Research Group

January 2022 – May 2024

Ithaca, NY

◦ Designed compiler from PyTorch to FPGA-executable Verilog with parallel banking optimizations [3] [4]

◦ Implemented accelerated pangenomic graph queries using Dahlia, a hardware generation language

### • Purdue Duality Lab

Undergraduate Researcher

September 2020 – May 2021

West Lafayette, IN

◦ Analyzed domain-specific regular expressions for DFA complexity, portability, and back references

◦ Implemented ranking scheme to cluster groups of regexes using metrics such as F-Score and mistake rate

## PUBLICATIONS

### Refereed Workshop Papers

- [1] **Evan Williams**, Justin Lubin, Rubens Lacouture, and Olivia Hsu. *Interactive Design Space Exploration for Sparse Accelerators*. Young Architect Workshop (YArch) co-located with ISCA. 2026.
- [2] **Evan Williams**, Justin Lubin, Rubens Lacouture, and Olivia Hsu. *Interactive Compiler Scheduling with Strong Guarantees*. Workshop on Languages, Tools, and Techniques for Accelerator Design (LATTE) co-located with ASPLOS. 2026.
- [3] Jiahan Xie, **Evan Williams**, and Adrian Sampson. *From PyTorch to Cayx: An Open-Source Compiler Toolchain for ML Accelerators*. Workshop on Compilers for Machine Learning (C4ML) co-located with CGO. 2026.
- [4] Jiahan Xie, **Evan Williams**, and Adrian Sampson. *From PyTorch to Cayx: An Open-Source Compiler Toolchain for ML Accelerators*. Workshop on Accelerated Machine Learning (AccML) co-located with HiPEAC. 2026.

## TEACHING EXPERIENCE

### • CS 3410: Computer System Organization and Programming

Course Developer

Summer 2024

Cornell University

### • CS 3110: Data Structures and Functional programming

Teaching Assistant

Spring 2022, Spring 2024

Cornell University

### • ECE 4750/CS 4420: Computer Architecture

Teaching Assistant

Fall 2023

Cornell University

### • ECE 5755: Modern Computer Systems and Architecture

Course Developer

Summer 2023

Cornell Tech

### • CS 4820: Intro to Analysis of Algorithms

Teaching Assistant

Fall 2022, Spring 2023

Cornell University

### • CS 159: C Programming

Teaching Assistant

Spring 2021

Purdue University

## HONORS AND AWARDS

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- **Computer and Information Science and Engineering Graduate Fellowship (CSGrad4US)** 2025  
*National Science Foundation (NSF)*
- **Cum Laude** 2023  
*Cornell University*
- **Dean's List** 2021, 2022, 2023  
*Cornell University*
- **Outstanding Undergraduate Course Staff** 2022, 2023, 2024  
*Cornell University College of Computing and Information Science (CIS)*
- **Victor H. and Helen T. Green ECE Scholarship** 2021  
*Purdue University School of Electrical and Computer Engineering (ECE)*

## WORK EXPERIENCE

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- **Amazon Web Services** August 2024 – April 2026  
*Software Development Engineer, Amazon HealthOmics* Mountain View, CA
  - Led effort to support CUDA driver integration and implemented type coercion to enable new customer workloads
  - Parallelized integration test execution to reduce time for production deployments in CI/CD pipeline by 50%
- **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
- **Deloitte Consulting** June 2022 – August 2022  
*Solutions Engineer Intern* New York, NY
  - Conducted research and drafted design documentation for mobile application to assist crews in electrical outages
  - Composed Python scripts to automate SQL database queries and connected to live front-end using a REST API
- **Commonwealth Associates** May 2021 – August 2021  
*Electrical Engineering Intern* Jackson, MI
  - Designed alarm modules and relay circuits for electrical substations to improve power and energy efficiency
  - Created mobile application for internal employees to express feedback and ideas to upper-level management

## TALKS

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- **Compiler Infrastructures for Hardware Accelerator Design** April 2026  
*Google*
- **Frontend Accelerators for Pangenomic Graph Queries** May 2022  
*NSF PPOs Panorama Meeting for Computational Genomics*