ERNEST NG

ernest@cs.cornell.edu | ngernest.github.io | github.com/ngernest

EDUCATION

Cornell University
PhD in Computer Science — 2024 - Present

University of Pennsylvania
MSE in Computer Science — 2022 - 2023
BA in Computer Science & Mathematics (*summa cum laude*) — 2018 - 2022

RESEARCH EXPERIENCE

Cornell University — August 2024 - Present
Graduate Research Assistant
- Working with Prof. Adrian Sampson & Dr. Kevin Laeufer on DSLs for testing hardware protocols
- Working with Profs. Nate Foster, Alexandra Silva & Dr. Jules Jacobs on extensions to the NetKAT language

Penn PLClub (Programming Languages Group) — December 2022 - August 2024
Graduate Researcher
- Developed Mica, an OCaml compiler extension that automates differential testing of OCaml modules
  - Presented paper at the 2024 OCaml Workshop
  - Received Second Prize at the ICFP 2023 Student Research Competition (poster)
  - Advised by Professor Benjamin Pierce and Dr. Harrison Goldstein

INDUSTRY EXPERIENCE

Amazon Web Services — May 2025 - August 2025
Applied Scientist Intern — *Boston, MA*
- Developed Chamelean, a property-based testing framework for Lean that derives generators, enumerators and checkers based on user-supplied inductive relations
- Advised by Dr. Cody Roux and Professor Mike Hicks

Perpay Inc. — August 2023 - August 2024
Data Engineer — *Philadelphia, PA*
- Constructed ETL pipelines for handling transaction data using Apache Airflow, AWS Redshift and Python

TEACHING

Cornell University
- CS 3410: Computer Systems — Fall 2025

University of Pennsylvania
- CIS 3800: Operating Systems — Fall 2023
- *Software Foundations* Rocq Mini-Course (Penn REPL REU) — Summer 2023
- CIS 1940: Introduction to Haskell — Spring 2023
- CIS 5450: Big Data Analytics (Head TA) — Spring - Fall 2022
- CIS 2400: Computer Systems — Fall 2022
- CIS 5500: Databases — Summer 2022

ACADEMIC ACTIVITIES

- SIGPLAN AV Student Volunteer (ICFP 2023 / 2024, POPL 2024) — 2023 - 2024
- Cornell, Maryland, Max Planck Pre-Doctoral Research School (CMMRS) Travel Award — August 2023
- Oregon Programming Languages Summer School (OPLSS) Fellowship Grant — June 2023

TECHNICAL SKILLS

Languages: OCaml, Haskell, Rust, Rocq, Lean, C, Python, Java, SQL
Technologies: AWS (S3, Redshift), Apache Airflow, Git, LaTeX, Linux