

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 Professors Nate Foster, Alexandra Silva & Adrian Sampson on developing formal semantics for networking & hardware languages

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
- Mechanized type soundness proofs for the Hindley-Milner type system in Coq, advised by Professor Stephanie Weirich ([report](#))

INDUSTRY EXPERIENCE

Perpay Inc.

August 2023 - August 2024

Data Engineer

Philadelphia, PA

- Constructed ETL pipelines for handling transaction data using Apache Airflow, AWS Redshift and Python
- Maintained cloud and CI/CD infrastructure using AWS (EC2, S3, Lambda)

Pricewaterhouse Coopers (PwC)

June 2021 - August 2021

Cybersecurity Intern

Hong Kong

- Conducted manual penetration testing of web applications using Kali Linux and BurpSuite

TEACHING

University of Pennsylvania

2022 - 2023

Computer Science Teaching Assistant

- CIS 3800: Operating Systems Fall 2023
- [Software Foundations](#) Coq 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, Coq, C, Python, Java, SQL

Technologies: AWS (S3, Redshift), Apache Airflow, Git, LaTeX, Linux