

Emmanuel Suárez Acevedo

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Research Interests

Programming languages, type systems, formal verification, functional programming, computer science education

Education

University of Pennsylvania School of Engineering and Applied Science

Philadelphia, PA

Candidate for an MSE in Computer and Information Science

May 2024

University of Pennsylvania School of Engineering and Applied Science

Philadelphia, PA

BSE with Honors in Computer and Information Science

May 2019

Courses: Advanced Topics in Programming Languages, Computer Aided Verification, Compilers and Interpreters, Operating Systems, Computer Graphics, Software Foundations, Analysis of Algorithms, Computer Architecture

Experience

Graduate Researcher

Philadelphia, PA

University of Pennsylvania

August 2022 – Present

- * Studied effects and coeffects in call-by-push-value
- * Wrote a paper on logical relations using literate Agda
- * Developed a tutorial in Agda on normalization by evaluation
- * Formalized a type system and semantics for a functional network programming language

Senior Software Engineer

San Francisco, CA

Strava

August 2019 – July 2022

- * Designed a new core system to model different types of activities
- * Mentored junior engineers in microservice architecture and Scala programming
- * Used Apache Spark to build a geospatial data export tool for Strava Metro customers
- * Built tools to verify and ensure correctness of internal route data
- * Developed a Scala microservice to serve all static maps in product

Undergraduate Researcher

Philadelphia, PA

University of Pennsylvania

January 2017 – May 2017

- * Worked on a proposal for an extension to the Glasgow Haskell Compiler which would allow binding existential type variables to data constructors in patterns, advised by Prof. Stephanie Weirich
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Teaching

Teaching Assistant

Heights Philadelphia

Introduction to Computer Science

July 2023 – August 2023

- * Introduce computer science to middle school students from underrepresented backgrounds in STEM using various in-class exercises

Teaching Assistant

University of Pennsylvania

CIS 5520: Advanced Programming

August 2022 – December 2022

- * Assist with in-class discussion and cooperative exercises centered around functional programming patterns in the Haskell programming language
- * Advise student groups on a final project of their choosing in Haskell showcasing the material covered over the course of the semester

Head Teaching Assistant

University of Pennsylvania

CIS 120: Programming Languages & Techniques I

August 2016 – May 2019

- * Co-lead and prepare a weekly recitation to review course material on core programming languages and techniques, taught in OCaml and then Java
 - * Hire and train new teaching assistants
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Skills

Languages: Agda, Haskell, Scala, OCaml, Java, Coq, Ruby, C/C++, Rust, Swift

General: Git, Rails, Apache Spark, Cassandra, MySQL, iOS, L^AT_EX, React, Fluent in Spanish

Diversity, Equity, and Inclusion

Anti-racism Lead

Tech Brand and Diversity Group, Strava

- * Meet biweekly with a small group in the technology organization to discuss initiatives that could be taken both at large and within the technology organization itself to support diversity, equity, and inclusion, with a focus on anti-racism

San Francisco, CA

September 2020 – June 2022

Director of Finance

The Percentage Project, Inc.

- * Kickstarted financial and accounting systems for nonprofit organization dedicated to helping every person of every background embrace their diversity and feel a sense of belonging in the field that they pursue

San Francisco, CA

November 2019 – June 2020

CIS Diversity Summit Organizer

University of Pennsylvania

- * Collaborate in organizing a summit bringing together all members of the computer and information science community to determine how to work together to create a more diverse, inclusive, and supportive environment

Philadelphia, PA

Aug 2018 – May 2019

VP of Finance

Society of Hispanic Professional Engineers, University of Pennsylvania Chapter

- * Fundraise and organize bringing student members to the SHPE National conference

Philadelphia, PA

May 2016 – May 2019

Chapter Founder and Vice President

Society of Hispanic Professional Engineers Jr., Dorado Academy Chapter

- * Founded and organized a SHPE Jr. chapter, promoting Puerto Rican representation and excellence in STEM

Dorado, Puerto Rico

May 2013 – May 2015
