Emily Herbert

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Education

2021 **MS in Computer Science**, *The University of Massachusetts Amherst*, Amherst, MA.

2018 **BS in Computer Science**, *Trinity University*, San Antonio, TX.

Skills

Languages, Proficient: Rust, Sway, Scala, JavaScript, TypeScript, Python
Familiarity: Solidity, Haskell, OCaml, Idris, C, C#, C++, R, Java, Greenfoot, ScalaFX, JavaFX.

Tools, Cargo, Yarn, Kubernetes, Docker, OpenWhisk, Google Cloud Platform, Unity, Helm, Sbt .

Specialties, Compiler Development, Language Development, Blockchain, Smart Contract Development, Software Design, Systems Design, Algorithms, Serverless Computing.

Relevant Experience

Aug 2021 - present **Fuel Labs**.
Compiler Engineer - Rust
Designed and implemented a compiler for the Sway smart contract programing language, focusing on friendly interactivity with developers. Built tools to integrate with the FuelVM and the Fuel ecosystem.

Talks & Panels.

Blockchain Language Design panel. *Layer 2 Day at EthDenver.* 2023. [recording]

Introduction to Fuel: Let's Get Modular talk. *Celestia's Modular Fellows.* 2022. [slides]

Beyond Monolithic with Fuel: the Fastest Modular Execution Layer talk. *HackMoney.* 2022. [slides]

Scaling Execution: Optimistic panel. *The Modular Summit.* 2022.

Developing Smart Contracts in Sway talk talk. *Layer2Amsterdam.* 2022. [slides]

Sway: A Rust-based Smart Contract Language talk. *EthDenver.* 2022. [slides]

The Rollup Developer Experience panel. *EthDenver.* 2022. [recording]

May 2021 – Aug 2021 **Google**, *Madison, WI*.
Software Engineering Intern
Implemented load balancing in a library meant to interface with the network card and perform RPC-like operations using RMA, achieved by integrating two existing early-development libraries together. Contributed to app design on a Google 2023 project.

June 2018 - May 2021 **Northeastern University, University of Massachusetts Amherst**, *Boston, MA, Amherst, MA.*
Researcher
Researching programming language and systems tools for serverless computing. prl.ccs.neu.edu. plasma-umass.org.

Talks & Publications.

Emily Herbert and Arjun Guha. A Language-based Serverless Function Accelerator. 2021. [preprint, repo]

A Language-based Serverless Function Accelerator talk. *Google PhD Intern Research Conference.* 2021.

A Language-based Serverless Function Accelerator talk. *Cornell CAPRA Lab.* 2020. [slides]

June 2018 - May 2019 **University of Massachusetts Amherst**, *Amherst, MA.*
Researcher
Researching deep learning methods for simulation input modeling. dbgroup.cs.umass.edu

Talks & Publications.

Wang Cen, Emily A. Herbert, and Peter J. Haas. NIM: Modeling and Generation of Simulation Inputs via Generative Neural Networks. *Winter Simulation Conference.* 2020. [paper] **Best Contributed Theoretical Paper Finalist**

Wang Cen, Emily A Herbert, Peter J Haas. Generative Neural Networks for Simulation Input Modeling. *SCS Summer Simulation Conference.* 2019. [extended abstract]

Emily A Herbert, Wang Cen, and Peter J Haas. NIM: Generative Neural Networks for Simulation Input Modeling. *SCS Summer Simulation Conference.* 2019. [short paper, slides]

June 2017 – Aug 2017 **National Aeronautics and Space Administration (NASA)**, *Langley, VA.*
NASA Internships, Fellowships, and Scholarships (NIFS) Intern
Contributed to the NASA Safeguard autonomous drone geofencing project. Designed and implemented system for on-board flight control of GPS devices. Refactored code from previous NASA flight missions to meet current mission standards.