

# Emily Herbert

herbert.emilyanne.jobs@gmail.com • emilyaherbert.com • github.com/emilyaherbert

## Education

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- 2021 **MS in Computer Science**, *The University of Massachusetts Amherst*, Amherst, MA.  
2018 **BS in Computer Science**, *Trinity University*, San Antonio, TX.

## Skills

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**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

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Aug 2021 - **Fuel Labs**.

present Compiler Engineer - Rust

Designed and implemented a compiler for the Sway smart contract programming language, focusing on friendly interactivity with developers. Built tools to integrate with the Fuel modular execution layer ecosystem for Ethereum.

### Talks & Panels.

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

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

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

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

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

May 2021 – **Google, Madison, WI**.

Aug 2021 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.

### Talks.

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

June 2018 - **Northeastern University, University of Massachusetts Amherst, Boston, MA, Amherst, MA**.

May 2021 Researcher

Researching programming language and systems tools for serverless computing. [prl.ccs.neu.edu](http://prl.ccs.neu.edu). [plasma-umass.org](http://plasma-umass.org).

### Talks & Publications.

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

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

June 2018 - **University of Massachusetts Amherst, Amherst, MA**.

May 2019 Researcher

Researching deep learning methods for simulation input modeling. [dbgroupp.cs.umass.edu](http://dbgroupp.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 – **National Aeronautics and Space Administration (NASA), Langley, VA**.

Aug 2017 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.