

Emma Sudo

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Education

Stanford University, BS in Computer Science Sept 2024 – Expected 2027

- GPA: 4.02

Webb Institute, BS in Naval Architecture and Marine Engineering (Transferred) Sept 2023 – June 2024

- GPA: 4.00

Publications & Presentations

- Akshay Srivatsan, Yuhan Deng, Katherine Mohr, **Emma Sudo**, Sebastian Ingino, Francis Chua, and Keith Winstein, "Continuation-Centric Computing with Arca," The 20th USENIX Symposium on Operating Systems Design and Implementation (OSDI '26), Seattle, Washington, 2026.
- **Emma Sudo**, "WasmBounds: Eliminating Memory Bounds Checks in WebAssembly," Poster session presented at The 20th USENIX Symposium on Operating Systems Design and Implementation (OSDI '26), Seattle, Washington, 2026.

Research Experience

Automated Proof Instability Repair in Verus May 2026 – Present
CMU Summer REUSE Program

- Creating a tool to automatically repair unstable Verus proofs by extending *Cazamariposas* (CADE-30) and lifting SMT back to Verus (with Prof. Bryan Parno)

WasmBounds March 2026 – Present

- Built a tool to eliminate memory bounds checks in WebAssembly via abstract interpretation over a strided, sign-agnostic interval domain (with Prof. Keith Winstein)

wBPF Jan 2026 – March 2026

- Developed a memory safety and termination verifier for WebAssembly modules with the goal of replacing eBPF with WebAssembly (with Prof. David Mazières and Prof. Keith Winstein)

FerrOS Jan 2026 – March 2026

- Built a bare metal operating system for the Raspberry Pi from scratch, leveraging Rust's type system to enforce safety features (with Prof. Dawson Engler)

Arca Sept 2025 – Present

- Implemented continuation serialization and a WebAssembly System Interface layer for *Arca*, a functional programming-inspired operating system for serverless-style workloads (with Prof. Keith Winstein)

Codillon June 2025 – August 2025

Stanford Summer CURIS Program

- Built a Rust-based web framework and WebAssembly tooling for *Codillon*, a structured WebAssembly editor that uses typed holes to maintain a syntactically and semantically valid state (with Prof. Keith Winstein)

Teaching Experience

CS106A Section Leader Sept 2025 – Dec 2025

- Lectured sections, graded assignments, and held office hours for Stanford's introductory computer science class

Code in Place Section Leader April 2025 – June 2025

- Taught weekly sections for Code in Place, the world's largest online introductory computer science class

Work Experience

Production Intern at Colonna's Shipyard Jan 2025 – Feb 2025

- Repaired U.S. Navy and Coast Guard vessels through trade shop rotations