Nolan Cutler

503-860-5906 | cutlern@oregonstate.edu | github.com/nolcut | nolcut.github.io

Education

Oregon State University Honors College — Corvallis, OR
Honors B.S. in Computer Science — *Sep 2023 – June 2027*

- **GPA:** 3.82
- **Awards**: NSF CISE REU (award #2450241), WUE (merit scholarship), Honor Roll, Drucilla Shepard Smith Award
- **Research Interests:** Serverless Computing, LLM Agents, Computer Systems
- **Teaching (ULA):** Principles of Computer System Design (CS499/599)

Experience

Computer Science Intern (SULI) — August 2026 – Present
Pacific Northwest National Laboratory – Mentor: Dr. Nathan Tallent — *Richland, WA*

- Investigating locality-aware hybrid execution HPC serverless (Globus Compute) for the PORTUS Genesis Mission project.

Research Assistant (HiPCastor) — January 2025 – Present
Oregon State University – Mentor: Professor Renato Figueiredo — *Corvallis, OR*

- Core contributor to FaaSr, a middleware enabling decentralized workflow coordination across federated serverless endpoints.
- Designed and implemented CURATE, a multi-agent system for the generation, reuse, and deployment of computational workflows.
- Assisted wildlife conservation efforts with the University of Osaka and Aomori University in Japan; ecological forecasting with Virginia Tech; and smart farming with the agriculture department at OSU.

Publications

[1] **N. Cutler**, C.-C. Kuo, N. Velugoti, K. Newhart, and R. J. Figueiredo, "CURATE: Leveraging LLM agents to compose, catalog, and deploy reproducible workflows," in *Proc. SC Workshops '26: Workshop on Workflows in Support of Large-Scale Science (WORKS)*, Chicago, IL, USA, Nov. 2026, to be published.

[2] A. T. Ramrakhiani, **N. Cutler**, C. C. Carey, A. D. Delany, I. Lerman, R. Q. Thomas, O. Wickman, and R. J. Figueiredo, "EphFlow: Cross-platform FaaS workflows with serverless ephemeral VM orchestration," in *Proc. IEEE Int. Conf. e-Science (eScience)*, 2026.

[3] W. Watanakeesuntorn, S. Date, **N. Cutler**, R. J. Figueiredo, A. Okuyama, and S. Shimojo, "A low-power IoT architecture for environmental monitoring in resource-constrained areas," in *Proc. 9th Int. Workshop CENTRA (CENTRA 9)*, 2026.

Talks

CURATE: Leveraging LLM Agents to Compose, Catalog, and Deploy Reproducible Workflows — Nov 15, 2026
SC26 Workshops – WORKS · Full Paper — *Chicago, IL*

Agentic-Ready Data Management Workflow for Material Science — Nov 15, 2026
SC26 Workshops – WORKS · Abstract — *Chicago, IL*

Service

EPICS Kenya — May 2026
Ira A. Fulton Schools of Engineering, Arizona State University — *Western Kenya*

- Helped deliver and install an offline digital library at a rural school and a deaf orphanage in Kenya, providing access to 300+ educational resources in Swahili and English.
- Debugged a makeshift geophone elephant detector in the field by identifying an FFT signal-filtering bug and a discrepancy between the soldered circuit and the circuit specification, enabling the team to present the device to a rural Maasai Mara community as a means of preventing human-wildlife conflict.

Projects

RISC-V Processor and CLI Simulator | *Computer Systems — Python — Docker*

- Designed a single-cycle, RV32I RISC-V processor in SystemVerilog, supporting 33/37 base instructions.
- Developed a visual command-line simulator in Python for running assembly programs, serving as a useful tool for learners to introspect state changes in a single-cycle processor.
- The core and simulator were adopted into Oregon State University curriculum for Fall 2025 Computer Architecture (undergraduate and graduate) to teach students the fundamentals of datapath design.

CURATE (multi-agent system for computational workflows) | *Python — LLM Agents — Claude SDK*

- Designed a novel multi-agent system that uses LLM agents to manage and develop computational workflows across their entire lifecycle, from generation of functions, to reuse, to automated serverless deployment.
- Implemented 6700 line prototype in Python built on LangGraph and the Claude Agent SDK.
- For more details, please refer to the paper.