

Cory Hufford

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ABOUT

Interested in scientific software development roles on multidisciplinary teams, especially at small companies. Open to hybrid or remote work, or in-office if a one-person office is available. Open to relocation.

EXPERIENCE

Radiance Technologies, Software Engineer | Beavercreek, Ohio Sep 2022 – Present (3 yrs, 4 mos)

Modeling and Simulation Operation

- Created new iterative optimization library specialized for long-running algorithm tuning use cases
- Developed Kalman filter and Interacting Multiple Model (IMM) based general-purpose object tracker
- Wrote data fusion library for object tracking use cases

Advanced R&D Operation

- Developed new Kalman filter based object tracker specialized for overhead imagery data
- Implemented automated algorithm tuning workflows using evolutionary optimization algorithms
- Created and maintained new Docker container-based Continuous Integration (CI) infrastructure

Applied Optimization, Computer Engineer | Fairborn, Ohio Jun 2019 – Aug 2022 (3 yrs, 3 mos)

Additive Manufacturing Team

- Maintained the additive manufacturing simulation software [ParaGen](#) and significantly improved programmatic geometry creation
- Implemented workflow for gas flow simulation in software suite [AMP²](#)
- Developed application to simulate vaporization spatter in powder spray manufacturing
- Replaced tool route generation algorithm to improve speed and reliability
- Maintained and created tooling for Slurm-based compute cluster for simulations

Space Science Team

- Maintained and improved software for exploiting unresolved photometry data from objects in geosynchronous and cislunar orbits
- Created pre- and post-processing workflows for simulating unresolved photometry of objects in cislunar orbits
- Created and maintained new Virtual Machine (VM)-based Continuous Integration (CI) infrastructure

PUBLIC WORK

- Advanced Maui Optical and Space Surveillance Technologies (AMOS) conference papers:
 - Co-author, "[Automated Multi-Sensor Data Fusion Using the Unified Data Library](#)", AMOS 2021
 - Co-author, "[Simulated Photometry of Objects in Cislunar Orbits](#)", AMOS 2020
- Contributed file format improvements and corrections to satellite eclipse calculations in the [Electro-Optical Space Situational Awareness \(EOSSA\) File Format Specification](#)

EDUCATION

BS, Computer Engineering | Miami University, Oxford, Ohio May 2019

- GPA 3.54

SELECTED SKILLS

- Rust, C++, Python, Kotlin, Java, Bash
- Rust/Python interoperability with PyO3 and C++/Python interoperability with pybind11 or nanobind
- Cross-platform Windows and Linux development
- Desktop GUIs in Rust with Iced and C++ with Qt Widgets, and mobile GUIs in Kotlin with Jetpack Compose
- Docker and Docker Compose
- Virtual machine (VM)-based (Vagrant with VirtualBox and libvirt) and container-based (Docker) continuous integration infrastructure with GitLab CI
- High Performance Computing (HPC) with Slurm (as a user and administrator) and HTCondor (as a user)
- Technical writing for target audiences of varying skill and technical levels