Christian Ermann

620-417-0442 | christian.ermann@gmail.com | github.com/c2000e

Education

Tufts University — Medford, MA
Master of Science in Computer Science — Sep. 2022 – August 2023

Lewis & Clark College — Portland, OR
Bachelor of Arts in Mathematics, Bachelor of Arts in Physics, Minor in Computer Science
magna cum laude — Aug. 2018 – May 2022

Experience

Staff Research Programmer — Sep. 2023 – Present
Boston Fusion Corp. — Lexington, MA

- Applied best-practice tools, languages and techniques to scientific/research software development, design, and engineering across a broad domain of problem spaces.
- Developed tools to ease development and delivery of software to secure offline computing environments.

Research Programmer Intern — Jun. 2023 – Aug. 2023
Boston Fusion Corp. — Lexington, MA

- Aided development, debugging, and optimization of existing scientific/research software projects through the application of best-practice tools, languages, and techniques.

John S. Rogers Science Research Intern, Summer 2022 — May 2022 – Aug. 2022
Lewis & Clark College — Portland, OR

- Prototyped a secure and dependable temperature sensor by designing and implementing device drivers for the seL4 microkernel.

John S. Rogers Science Research Intern, Summer 2021 — May 2021 – Aug. 2021
Lewis & Clark College — Portland, OR

- Developed convolutional neural networks to probe thermal phase transitions in quantum chromodynamics using the X-Y spin model with discrete symmetry preserving perturbations.

Projects

Procedural Terrain Generator | C, OpenGL — Summer 2021 – Present

- Implemented the Marching Cubes algorithm to render terrain described by gradient fractal noise.

PolyFy | C++, OpenGL — Fall 2020 – Fall 2022

- Engineered an evolutionary algorithm to recreate images from simple polygons, accelerated by compute shaders.

Quantum Leapfrog | Python, NumPy, MatPlotLib — Fall 2020

- Designed a leapfrog integrator for the time-dependent Schrödinger equation to study particle interaction with energy boundaries.

Achievements

Physics Departmental Honors — Spring 2022
Lewis & Clark College — Portland, OR

- Awarded for academic performance and completion of a senior thesis on simulation techniques for quantum chromodynamics.

Eagle Scout Award — Summer 2016
Troop 73 — Liberal, KS

- Planned and led the replacement of an aging local playground with a new custom-themed playground.