

Christian Ermann

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EDUCATION

Tufts University

Master of Science in Computer Science

Medford, MA

Sep. 2022 – Est. August 2023

Lewis & Clark College

Bachelor of Arts in Mathematics, Bachelor of Arts in Physics, Minor in Computer Science
magna cum laude

Portland, OR

Aug. 2018 – May 2022

EXPERIENCE

John S. Rogers Science Research Intern, Summer 2022

Lewis & Clark College

May. 2022 – Aug. 2022

Portland, OR

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

Physics Lab Teaching Assistant

Lewis & Clark College

Sep. 2019 – May. 2022

Portland, OR

- Aided and encouraged students in investigating the fundamentals of physics.
- Reviewed students' lab work to provide meaningful feedback.

John S. Rogers Science Research Intern, Summer 2021

Lewis & Clark College

May. 2021 – Aug. 2021

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 – Present

- 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

Lewis & Clark College

Spring 2022

Portland, OR

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

Men's Varsity Crew, Team Captain

Lewis & Clark College

Fall 2021 - Spring 2022

Portland, OR

- Collaborated on a daily basis with teammates to succeed in stressful situations.
- Balanced time between training, travel, competition, work, and academics.

Eagle Scout Award

Troop 73

Summer 2016

Liberal, KS

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