

Summary: I am a PhD student in Applied Mathematics at the University of California, Santa Cruz. My research interests are in fluid dynamics, computational fluid dynamics, computational physics, and high energy density physics.

Education

- B.S. in Mathematics**, University of California, Santa Cruz June 2021
- Minor in Physics
 - GPA 3.9
 - Member of the NCAA Cross Country and Track teams.
- PhD Student**, University of California, Santa Cruz September 2021 - Present
- My research focuses on using the [FLASH code](#) to model the interaction of collimator materials in fourth generation storage rings with high energy electron beams.
 - Advisor: Professor Dongwook Lee.

Experience

- Graduate Student Intern**, Los Alamos National Laboratory (LANL) Summer 2022
- Ran 1D inertial confinement fusion (ICF) simulations on HPC machines using a Lagrangian hydrodynamics code with the goal of modeling a high yield ICF shot.
 - Produced useful data for code to code verification with other codes capable of ICF simulations.
- Teaching Assistant**, University of California, Santa Cruz September 2021 - June 2022
- Held discussion sections and office hours to support student success. Graded and provided feedback to students' exams and homework assignments.
 - Courses supported: Multivariate Calculus for Engineers (two quarters), Mathematical Methods for Economists II.
- Summer Intern**, [Los Alamos National Laboratory X Computational Physics Division](#) Summer 2021
- Implemented the Rutherford scattering model in a large, C++, Monte Carlo charged particle transport (CPT) code library.
 - Performed code to code verification using two other CPT codes at the laboratory.
- Math and Physics Tutor**, UCSC Learning Support Services 2019 - 2021
- Conducted 3 weekly small group tutoring sessions focused on engagement of students.
 - Prepared weekly planning sheets with detailed activities.
 - Courses tutored for include: Waves and Optics, Real Analysis, Abstract Algebra, Linear Algebra, Vector Calculus, and Discrete Mathematics.
- Undergraduate Researcher**, [Polymath Research Experience for Undergraduates](#) Summer 2020
- Developed a visualization tool for representing convex geometries using circles in the plane.
 - Contributor on a [paper](#) with cohort of 12 students and our mentor Professor Kira Adaricheva.
- Program Mentor**, UCSC Learning Support Services 2019
- Trained and mentored other tutors.
 - Conducted quarterly performance reviews of other tutors.

Skills

Programming: Matlab, Python, Fortran, Git, Bash.

HPC: Experienced in using supercomputers to run code in parallel, particularly large hydrocodes.

L^AT_EX: Proficient in mathematical and scientific document typesetting.

Honors

- Male Scholar Athlete of the Year**, [Coast-To-Coast Athletic Conference](#) 2022 - 2023
- Highest Honors in Major of B.S. in Mathematics**, University of California, Santa Cruz June 2021