Sean Riedel
303-243-2252 | sriedel@ucsc.edu

Summary: I am a graduate student pursuing a research career in scientific computing and applied mathematics. I am interested in how mathematics, physics, and high performance computing can be used to improve existing zero-carbon energy sources and develop new ones. I am especially interested in how physics simulations can be used in fusion energy research. I have research experience in applied and computational physics. I also have substantial teaching and leadership skills from my experience as a tutor and teaching assistant.

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

M.S. in Applied Mathematics and Scientific Computing, University of California, Santa Cruz — June 2022 expected

Experience

Teaching Assistant, University of California, Santa Cruz — Fall 2021
- Held discussion sections and office hours to help students with courseworks. Graded and provided feedback to students on exams.
- Courses supported: Multivariate Calculus for Engineers.

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

ATLAS electronics testing assistant, Santa Cruz Institute for Particle Physics — 2018
- Collected data used to analyze the effects of annealing on silicon strip particle detectors

Honors

Highest GPA of all UCSC male student athletes — 2019
- Awarded for a GPA of 3.98 at the time

CoSIDA Academic All-District — 2020
- Men's Track & Field/Cross Country

Skills

Programming: C++, Matlab, Python, Fortran, Git
LaTeX: Proficient in mathematical and scientific document typesetting