Kevin Corcoran

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EDUCATION

University of California, Santa Cruz (2020-2022)
Masters of Science, Applied Mathematics

University of California, Berkeley (2017-2019)
Bachelor of Arts, Applied Mathematics (Numerical Analysis)

Butte College (2015-2017)
Associates of Arts, Mathematics

TECHNICAL SKILLS

Languages : Python, C++, Java, Julia, MATLAB, Fortran
Familiar : Latex, Bash, Arduino, Raspberry Pi, Fusion 360, Scheme, MySQL, Pyglet

EXPERIENCE

TA: AM 10 - Mathematical Methods for Engineers I **Winter 2022**
Planned and facilitated weekly discussion sections. Emphasized conceptual understanding through carefully chosen practice problems, held office hours and graded exams. Applications-oriented course on complex numbers and linear algebra integrating MATLAB as a computation tool.

TA: CSE 20 - Beginning Programming in Python **Fall 2021**
Planned and facilitated weekly discussion sections. Emphasized conceptual understanding through carefully chosen practice problems, held office hours and graded exams. Introductory programming course in Python.

TA: AM 10 - Mathematical Methods for Engineers I **Spring 2021**
Planned and facilitated weekly discussion sections. Emphasized conceptual understanding through carefully chosen practice problems, held office hours and graded exams. Applications-oriented course on complex numbers and linear algebra integrating MATLAB as a computation tool.

TA: AM 20 - Mathematical Methods for Engineers II **Winter 2021**
Planned and facilitated weekly discussion sections. Emphasized conceptual understanding through carefully chosen practice problems, held office hours and graded exams. Applications-oriented course on ordinary differential equations (ODEs) and systems of ODEs using MATLAB as a computational tool.

TA: AM 11B - Mathematical Methods for Economics II **Fall 2020**
Planned and facilitated weekly discussion sections. Emphasized conceptual understanding through carefully chosen practice problems, held office hours and graded exams. Topics drawn from multivariable differential calculus and single variable integral calculus with applications to economics.

Tutor: SY Academy **Spring 2020 - Summer 2020**
Tutored small weekly groups at the college level. Topics included calculus, linear algebra, and computer science taught in C++ and Java. I prepared short lectures, help with homework, and provided additional practice problems.

Homework Reader: MATH 104 - Real Analysis **Summer 2020**
One of two homework readers for a class of 80 students in UC Berkeley's upper division, proof-based real analysis course.

Tutor: SY Academy **Spring 2020 - Summer 2020**
Tutor for small weekly groups at the college level. Topics include calculus, linear

algebra, and computer science taught in C++ and Java. I prepare short lectures, help with homework, and provide additional practice problems.

Port Captain: Cal Sailing Club **Summer 2019 - Summer 2020**
Club member elected position responsible for hiring, scheduling, training, and management of Dayleaders.

Dayleader: Cal Sailing Club **Summer 2018 - Summer 2021**
In charge of daily operations, club equipment, and general safety of club members for a sailing club serving Bay Area residence.

Homework Reader: MATH 128A - Numerical Analysis **Summer 2019**
Graded weekly homework for 36 students in UC Berkeley's upper division, first semester course in numerical analysis.

STEM Instructor: United Technologies for Kids (UTK) **Summer 2019**
Taught the basics of Arduino and 3D modeling to High School age kids in Chincha, Peru. Developed instructional material, and Arduino code, for a 3D printed electric motor.

Homework Reader: MATH 110 - Linear Algebra **Summer 2018**
Graded weekly homework for 36 students in UC Berkeley's upper division, proof-based linear algebra course.

Academic Intern: CS61A **Spring 2018**
Assisted students in Berkeley's introduction programming course (Structure and Interpretation of Computer Programs) at weekly lab and group office hours with homework, projects and lab assignments.

PROJECTS

Trash Sorting Computer Game **Summer 2018**
Made a Tetris inspired sorting game as an instructional tool for a Waste Management role held in cooperative housing.
Link : https://github.com/kevin-corcoran/WRM_Game

Food Computer **Spring 2018**
Built a version of MIT's open sourced food computer made of out cardboard and hydroponically grew a tomato plant. Done in interest of social issues surrounding winter tomatoes grown in Florida.
Link : https://github.com/kevin-corcoran/cardboardfood

Physics Project **Spring 2017**
Wrote a program in C++ to efficiently find all equivalent resistances, and output the circuit, given some number of resistors of equal resistance.
Link : https://github.com/kevin-corcoran/resistance

Logic Game **Fall 2016**
Wrote a text-based fantasy game for learning the basics of symbolic logic.

AWARDS AND HONORS

- **Outstanding Student of Physics** **Spring 2017**
- **Mathematics Honors (Butte College)** **Spring 2017**

TECHNICAL COURSES

Computer Science and Electrical Engineering: Data Structures, Fourier Analysis, Designing Information Systems and Devices, Optimization, High Performance Computing, Machine Learning
Mathematics: Linear Algebra, Numerical Analysis, Abstract Algebra, Real Analysis, Complex Analysis, Numerical Solutions to Differential Equations, Partial Differential Equations, Numerical Linear Algebra
Physics: Electromagnetism and Optics, Quantum Physics, Quantum Computing,

Computational Fluid Dynamics