Alec Perkins

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PORTFOLIO: alec-perkins.github.io/portfolio

WORK EXPERIENCE

The Coder School Code Coach / Lead Python Camp Instructor Jun. 2021 - Jul. 2022

The Coder School | San Mateo, CA

Responsible for tutoring children ages 8 - 16 in various back-end and front-end programming languages. Additionally responsible for leading and developing curriculum for 14-student summer coding camps.

Macrometa Resilience Team Internship Jun. 2021 - Aug. 2021

Macrometa Corporation | San Mateo, CA

Member of the "Resilience Team" primarily writing a JSON creating and parsing program in Google's Golang aimed at creating JSON files that met clients' size requirements. Participated in meetings with global team members; from LA, India, and Bulgaria; developing skills in Golang, Python, and JSON.

IPMD, Inc. ATMA Project Internship Dec. 2020 - Jun. 2021

IPMD, Inc. | San Mateo, CA

Worked as a Full Stack Intern with the Project ATMA team as well as a web app programmer, contributing to the creation of back-end processes in Python and front-end design. Additionally, managed the EC2 (AWS) systems for the team, created an automated email server, and helped the team move to app development.

PROJECTS

Billiard Ball Collision Simulation - MATLAB Oct. 2023 - Nov. 2023

In order to practice simulating real world physical situations using mathematical analysis in MATLAB, I modeled the collision of two perfectly elastic billiard balls when each was given an initial random velocity, acted upon by gravity, and contained within a box. The solution method used Euler stepping to predict how the balls would rebound off of walls and each other.

Phone to Microscope/Telescope Eyepiece Mount with Two-Axis Linear Actuation Apr. 2023 - June. 2023

This project was created to assist in taking high-quality photos through a microscope or telescope eyepiece with a cellphone. The mount fastens to the eyepiece and cellphone while the x-axis and y-axis positions can be adjusted with a wireless remote to adjust either of the two stepper motor linear rail actuators in order to get the phone lens lined up perfectly with the eyepiece.

Wood and Cable Tensegrity Chair Jan. 2022 - Jun. 2022

Designed, constructed, sanded, and tested a special kind of chair (Tensegrity Chair) that appears to be floating without support but uses illusion and static physics's forces of shear and moment as well as internal force calculations for the center load support to balance each force of compression and tension of a person sitting with only cables and a steel turnbuckle.

Schedule Countdown Web App Dec. 2019 - Jun. 2020

Noticing that my High School peers had been struggling to keep track of a new pilot schedule that the school had implemented with different timed classes, breaks, and lunches on each day of the week, I created a countdown web app. It counted down the time until the next class period, passing period, lunch, the start of school, and end of school, custom-built for each day's differing schedules in JSON. The app also displays a tachometer decreasing and changing color as the current time block gets closer to ending.

EDUCATION

The University of California, Santa Barbara | IP: Bachelor of Science, Mechanical Engineering Expected Jun. 2026

Cumulative GPA: 3.4

SKILLS AND EXPERIENCE

CAD SolidWorks | JavaScript | C++ | HTML | CSS | MATLAB | Machining | CNC | Python | Teaching Children