ALEXANDER KRISTOFFERSEN

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EDUCATION

University of California, Berkeley May 2022
B.S. in Electrical Engineering & Computer Science GPA: 3.925
Relevant Coursework:
Computer Programs, Designing Information Devices and Systems, Data Structures and Algorithms, Multivariable Calculus, Linear Algebra, Electromagnetic Physics, Discrete Mathematics and Probability, Computer Architecture

EXPERIENCE

Space Technologies at Cal (STAC) August 2019 - Present
Software Developer, High Altitude Balloon Team *Berkeley, CA*

- Designing the flight code for HAB-IV, the 4^{th} generation balloon, in order to avoid dangerous or unreachable landing spots through in-flight self-corrections.
- Integrating sensor data, including IMU and GPS, and servo control in C++ on a low-powered system.

Redlands Engineering Club August 2015 - June 2018
President *Redlands, CA*

- Instructed bi-weekly meetings introducing high-school students to a variety of engineering fields, including aerospace, electrical, mechanical, and civil, with monthly projects and lectures.
- Competed and placed 3rd in a county-wide solar-powered canoe competition, leading the electrical design and aerodynamics sub-teams.

PROJECTS

Fourier Series Educational Visualizer December 2018 - February 2019

- Developed a command-line Java program and IPython educational demo for the visualization of the Fourier Series, which approximates a function as a sum of sinusoids.
- Uses a linked-list of circles to draw each circle as it rotates about the other, and outputs to approximate function to an animated continuous graph.

Homemade Electric Unicycle April 2019 - Present

- A self-balancing electric unicycle made with Arduino electronics, a hub-motor, and a unicycle base.
- Built a miniature test model to efficiently debug electronics and code, applying control theory, circuit design, and rapid prototyping in a physical system.

Interactive World-Builder Engine April 2019 - May 2019

- Designed a Java-based pseudo-randomized 2D dungeon maker with distinctive walls, turning hallways, and torches. Allows for saving/loading of previous runs and seeds.
- Added two-player user controls and a dynamic light renderer to create a fun, playable game.

TECHNICAL STRENGTHS

Programming Languages: Java, Python, C, C++ (mostly with Arduino), Scheme (Lisp)
Physical skills: Breadboarding, Soldering, Circuit Design, Prototyping, Public Speaking