

Eugene Brodsky

San Francisco Bay Area • eugenebrod@gmail.com • (510) 359 1246

Education

University of California, Berkeley - 2018 - 2021

Degree: BS in Applied Mathematics

CS Coursework: Structure of Programs, Data Structures, Algorithms, Security, Numerical Analysis, Social Justice in CS

Math Coursework: Discrete Math, Linear Algebra, Abstract Algebra, Real Analysis, Complex Analysis

Associations: Mu Alpha Theta, Cal Tennis

Experience

Kinetic Reality • Software Development Engineering Intern - Dec 2021 - Present

In my time at Kinetic Reality, I owned the development of features between our sensor subsystem of IoT devices and servers. 90% of my time went toward developing our embedded systems, specific accomplishments include:

- Porting sensor-hub code to an ARM based Nordic NRF52 embedded device while maintaining cross platform compatibility among Windows and Mac machines and the Nordic nRF52832 and nRF52840 chipsets.
- Using the Nordic SDK for interfacing with nRF52 hardware to implement an interrupt/event driven sensor-hub design. Designing a mechanism for servicing events with a priority order which enabled the team to meet our 240 fps data rate goal.
- Adding support for UART over USB serial connections between our server and sensor-hub to guarantee performance in highly congested network environments.
- Implementing remote logging and control capability for our embedded device to enable faster development for team members working on other systems.
- Using an SPI connection to interface with accelerometer/gyro/magnetometer peripherals in building hardware test software.
- Developing a PAN (personal area network) protocol based off of Nordic's ESB protocol to meet requirements for our sensor subsystem.
- Performing hardware diagnostics with multimeters and oscilloscopes.
- Writing test frameworks in Python and shell scripts to perform regression tests on our server and embedded systems.

Soft skills development:

- Ample exposure to software best practices including and not limited to – design principles, clean code, regression/unit testing, documentation, git etiquette, etc.
- Active participant in software design sessions, code review, and standup meetings.
- Brainstormed branding and marketing ideas heading into investor demos and GDC (game developers conference).
- Software: C, Java, Python
- Hardware: Nordic nRF52832 pca10040, Nordic nRF52840 pca10056

Personal Projects

Personal Website: <https://eugenebrodsky.me>

cScraper - A Craigslist scraping tool which alerts a user about new posts.

- Uses BS4 Python library to parse Craigslist's HTML for new posts and programmatically sends subscribers email updates for new posts that may interest them.
- Hosted on Google Cloud services, interfaced through a REST API.
- Software: Python, Flask, JSON, React, Axios, Docker, Firebase

YoutubeRatio - A Chrome extension for Youtube. Displays the like to view ratio for the current video.

- Extracted and decoded information from the DOM.
- Monitored DOM for changes to detect dynamic page reloads.
- Software: JavaScript, jQuery, JSON, HTML, CSS,

SkateDice - A random skateboard trick generator app.

- Enforced a constrained UI layout for a consistent look across all devices.
- Developed an interactive GUI- a rotating menu option selector which serves to create a unique user experience.
- Software: Swift, Xcode

Coursework Projects

RaceRunner - 2D tile-based game in Java.

- Designed a pseudo-random world generation algorithm.
- Other contributions – race mode, game architecture, and graphic design.
- Software: Java

File Sharing Client - An interface for an end-to-end secure encrypted file sharing system.

- Devised data structure to solve the enforcement of file ownership and privileges.
- Software: Go

Leadership

Mu Alpha Theta • Club Officer

- Hosted club meetings and promoted math club events. Scheduled with guest speakers to secure lectures. Created incentives with instructors to boost math club turnout.