

# Samir Rashid

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## Education

### University of California San Diego

San Diego, CA

B.S. MATH-COMPUTER SCIENCE, B.S. COGNITIVE SCIENCE, MAJOR GPA: 4.00

Expected Graduation: May 2024

- **Relevant Coursework:** Data Structures & OO Design (*in progress*), Proofs (*in progress*), Linear Algebra, Discrete Math, Differential Equations
- **Extracurriculars:** Triton Robotics, Triton Unmanned Aerial Systems (UAS), Association for Computing Machinery @UCSD (ACM)

## Experience

### Triton Unmanned Aerial Systems

San Diego, CA

SIMULATION ENGINEER

Dec 2020 - Current

- Collaborating with team to design, build, and fly an unmanned aerial vehicle (UAV).
- Working on a **Unity plane sensor simulator** to simulate, test, and train machine learning and computer vision models.
- Learning about ROS, 3D pathfinding, localization, and computer vision pipelines for saliency, segmentation, and classification.

### ACM Attendance Visualizer 🗄️

San Diego, CA

FULLSTACK DEVELOPER

Sept-Dec 2020

- Used by Association for Computing Machinery to display statistics on event attendance, draw trend insights, and make future predictions.
- Developed online dashboard for analyzing the organization's event attendance data, using **D3, Express, React, and PostgreSQL**.
- Defined schema, implemented protected backend data processing routes, and documented APIs using Postman 🗄️.

### Community Coworking Server

Menlo Park, CA

DEVOPS LEAD

2019 - Current

- Founded and maintain public server for video chat, Drive, messaging, and email.
- Manage Linux server's internal and external **Docker** services, maintain wiki, and overhauled backup processes.
- Automate tasks, handle updates, resolve service tickets using **Jira**, handle networking, and ensure security.

### FRC Robotics Team 766 🗄️

Menlo Park, CA

PROGRAMMING TEAM LEAD

2017 - 2020

- Taught programming concepts to highschool students using Java while providing input for lesson plans and project ideas.
- Wrote tutorials and wiki, trained rookies, image processing and object recognition, **LiDAR based Monte-Carlo localization**.
- Implemented a pure pursuit based path following algorithm in Java that can perform **realtime arbitrary path following**.
- Using a map, pathfollowing A\* autocorrects to avoid obstacles. And in the web GUI, users can click on a point and have the robot drive there.

## Projects

### Schtoics 🗄️

Python, Tkinter, Selenium WebDriver

- Python script uses WebDriver and automatically scrapes UCSD course schedule to create an iCal file.
- Designed and created GUI for the program using Python and Tkinter.

Oct 2020

### Music Training App 🗄️

React

- React webapp that helps users learn rhythm and tone with their MIDI keyboard. Created levels that test and teach music topics.
- Designed **modular architecture** allowing for many levels using templates with on-screen piano and live note feedback.
- Designed and implemented UI, used GitHub Flow best practices, and remotely collaborated using ClickUp with Agile principles.

Jun-Sept 2020

### DIY Projects

- Latin poetry reader (prosody) — Python script uses Text-to-Speech API and morphs audio to match dactylic hexameter rhythm.
- Ancient Greek keyboard firmware mod — custom QMK firmware that natively supports Ancient Greek and its accents.
- Researched and built: keyboard, FPV quadcopter, analog turntable — using household parts, trackball (WIP) — design CAD and electronics for ergonomic mouse, air filter — 3D printed and CADed to combat indoor wildfire smoke.

## Awards

### Xerox Award for Innovation and Information Technology

2019

- Nominated by committee of teachers from a pool of **500+ students** and **awarded \$40,000** scholarship by Univ. of Rochester.
- Chosen for a strong interest in innovation, excellence in new technologies, and for leading classmates to new solutions.

## Skills

**Languages** Python, Java, C/C++, JavaScript, Bash,  $\LaTeX$ , MATLAB, Google Apps Script

**Software** React, SQL, AWS, Docker, Linux, Unity, Fusion 360