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 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 **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, and messaging.
- 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 **real-time arbitrary path following**.
- Using a map, pathfollowing 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. — *Oct 2020*
- Designed and created GUI for the program using Python and Tkinter.

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. — *Jun-Sept 2020*
- 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.

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, JavaScript, Bash, LaTeX, MATLAB, Google Apps Script

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