ANMOL RATTAN SINGH SANDHU

anmol.dev | asandhu@olin.edu | LinkedIn | GitHub

EDUCATION

Bachelor of Science in Computer Science, Olin College of Engineering Aug 2021-May 2025

- CGPA: 3.85 / 4.00 Coursework: Data Structures, Advanced Algorithms, Software Systems, Computational Robotics, Neurotechnology and Machine Learning, Data Science, Discrete Math, Collaborative Design, Computer Architecture, Longer Term Software Development

SKILLS

- Python, Go, C, C++, C#, JavaScript, SQL, Java, Dart, R, Bash
- Git, Unity, Linux, Firebase, Ansible, Docker, ROS, MATLAB, React.js, Flutter, Azure

EXPERIENCE

Full Stack Developer Intern, Community Knights *Jun 2023 – Present*

- Developing a ride-sharing services platform with a focus on accessibility and inclusivity for individuals with disabilities in collaboration with the non-profit organization Community Knights.
- Worked on an admin dashboard over the summer, enabling administrators to efficiently match ride requests with volunteer drivers.
- Utilized **ReactJS**, **Firebase**, and **Ant Design** to create a full-stack web application. Added **CRUD** capabilities using the **Firestore NoSQL** database. Integrated Google Maps for mapping, navigation, and location search functionalities.
- Conducted **UX design** interviews with Community Knights' administrators to iteratively improve the usability, functionality, and overall experience of the dashboard.

Researcher, Affordable Design and Entrepreneurship, Olin College *Jun – Aug 2023*

- Building data tools to assist public defenders mitigate possible convictions due to incidents of unlawful traffic stops resulting from racial profiling.
- Automated the generation of statistical PDF reports of traffic stop records using **quarto**. These reports will be added to the new police accountability database of the Strategic Litigation Unit in the Committee for Public Counsel (CPCS).
- Utilized GitHub pull requests to implement streamlined code integration and review processes.
- Conducted data analysis in **Python** using frameworks such as **pandas**, **numpy**, and **Jupyter**.
- Built extensive testing frameworks using **pytest** for sensitive data cleaning functions used in parsing thousands of traffic stop records.

Researcher, Crowdsourcing and Machine Learning Lab, Olin College *Feb 2022 – May 2023*

- Created pipeline to benchmark image matching algorithms on data collected from 50+ co-designers for the Clew app, which is a path retracing app for blind and visually impaired users.
- Added **Protobuf** support for data logging using **Firebase** for the Clew **iOS** application.
- Used **Python** to develop LiDAR based infrastructure to benchmark various algorithms including the SuperGlue neural network and **OpenCV** image matching algorithms.
- Currently working on a Visual Simultaneous Localization and Mapping (**SLAM**) system to allow continuous re-alignment during navigation.

Coding Team Lead, Public Interest Technologies, Olin College *Dec 2021 – Dec 2022*

- Developing 2D exploration role-playing game to teach young kids about gender identities in collaboration with the non-profit Out Maine.
- Onboarded team of students to **C#** and **Unity** game development and project collaboration on GitHub.
- Led coding team design reviews with Out Maine liaisons and mentor professors.
- Learned skills in **prototyping** mechanisms and writing scalable code for different game components.

Intern, DronaMaps *Feb 2021 – June 2021*

- DronaMaps is a Command-and-Control Center solution built on a backend of 3D drone maps.
- Assisted with time-series analysis of hot spots to help the government plan its infrastructure for dealing with Covid-19 using analytical tools like **R** and **ArcGIS**.

EMPLOYMENT, LEADERSHIP AND VOLUNTARY WORK

- **Teaching Assistant** - Agency, Ethics and Biology
- **Resident Assistant** - Guided and supported college residents, fostering community well-being.
- **Technical Mentor** - Public Interest Technologies club, Olin College
- **Student Worker** - Office of Strategic Communication, Olin College
- **Secretary** - Olin South Asian Student Organization
- **Volunteer** - EcoSikh Foundation - Trained more than 120 young volunteers, over a period of three years, for nurturing micro-forests in their schools or backyards.