

ANMOL RATTAN SINGH SANDHU

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EDUCATION

- **Olin College of Engineering / Bachelor of Science in Computer Science** *Needham, MA | May 2025*
 - Relevant Coursework: Software Design, Data Structures and Algorithms, Computer Architecture, Software Systems, Advanced Algorithms, Data Science
- **Additional Courses/ Representations**
 - Azure Cloud Fundamentals, Microsoft AZ-900
 - Summer Program with AwesomeMath, Cornell University
 - Foundational Course on Platforms, The Platform Institute, Singapore
 - National level Workshop on AI (AI•Thon) conducted in collaboration with Intel

SKILLS

- Python, Go, C, C++, C#, JavaScript, SQL, Java, Dart, R
- Git, Unity, Linux, Firebase, MATLAB, React.js, Flutter, SolidWorks
- Fluent in Hindi and Punjabi

EXPERIENCE

- **Full Stack Developer Intern, Community Knights** *Jun – Aug 2023*
 - 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, Olin College Crowdsourcing and Machine Learning Lab** *Feb 2022 - Present*
 - 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 – Present*
 - 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 **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 (medium.com/dronamaps)** *Punjab, India | 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**.
- **STEM Scholar, Jr Academy, NY Academy of Sciences** *Aug 2017 - Present*
 - Collaborated with peers from other countries on global challenges like Big Data, Future of Cities and COVID-19. Our team was adjudged as one of the two global finalists for combating COVID-19.
- **Volunteer, EcoSikh Foundation** *Punjab, India | July 2018 - Present*
 - Trained more than 120 young volunteers, over a period of three years, as a master trainer for "train the trainer" program for nurturing micro-forests in their schools or backyards
 - Assisting the senior team to create technology led solution to identify and categorize the native plants and create their seed bank.