Advait Gunja

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EDUCATION

UNIVERSITY OF MARYLAND, COLLEGE PARK Expected 2026
Bachelor of Science | Psychology
Bachelor of Science | Computer Science | Machine Learning Specialization

EXPERIENCE

UMD Recreation and Wellness
Bike Mechanic 2023 - 2024
- Repaired patrons' bikes, ensuring compliance with safety standards and improving overall customer satisfaction by providing reliable service.
- Cultivated a safe and welcoming bike shop environment, enhancing patron satisfaction and learning experiences.

Centennial Robotics Inc.
Founder, Chairman of the Board 2021 - 2024
- Founded a **501(c)(3) nonprofit** supporting and mentoring high-potential, local robotics teams competing at state and international levels in the *FIRST Tech Challenge*
- Directed mentorship programs, delivering expertise in programming and CAD software to equip teams with industry-relevant skills. (**GitHub, TensorFlow, OpenCV, Solidworks, Fusion360**)

PROJECTS

ColorDetection Model for Abnormal Lighting Conditions 2024
- Developed a real-time color correction+detection system in **Python** that operates accurately under varying lighting conditions, providing assistance for those with Color Vision Deficiency
- Computer vision model implemented **PyTorch** to identify presence of a color correction aid card within camera frame, **OpenCV** for the color correction algorithm, and **SQLite** for real-time color identification within a color database
- Employed Mediapipe for hand tracking, allowing users to conveniently point in order to interact with the color detector
- Utilized **tkinter** to design a user-friendly GUI

Portfolio Website (https://agunj.github.io/portfolio-site/) 2024
- Designed **HTML** website as an interactive portfolio, containing resume, personal projects, and a contact page
- Utilized **CSS** and **JavaScript** to make the site animated, responsive, and interactive

First Tech Challenge Robot 2020 - 2023
- Served as team captain, mentoring new members in technical skills essential for success at a high level robotics competition
- Developed and programmed an **OpenCV** computer vision system to detect and parse game elements, enabling autonomous item manipulation in real-time during competitions
- Designed the robot's drivetrain and intake system using **SolidWorks** (CAD), optimizing for efficiency and performance under competition constraints

Gardening App and Probe 2023
- Developed an **Arduino**-based sensor probe for real-time environmental data collection, utilizing sensors to measure soil temperature, moisture level and light level
- Integrated sensor data with a custom **iOS app** built on **Xcode**, enabling users to monitor and interpret data through a user friendly interface
- Led the project to the county-wide finalist bracket, presenting the solution to a panel of engineers from Northrop Grumman

SKILLS

Languages: Python, Java, C, SQL, x86, JavaScript, HTML, CSS, MATLAB, R, Arduino
Applications: Solidworks, Fusion360, Excel, Office 360, GitHub
Libraries and Tools: OpenCV, PyTorch, SQLite, Unix Shell,, Python tkinter**,** MediaPipe, GCC, GBD, JUnit5