

# Pranav Mehta

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## Education

University of California, San Diego – B.S. Computer Engineering | **IDEA Scholar** | **GPA: 4.00** | **Expected Graduation:** June 2025

- **Organizations:** Yonder Deep, IEEE, Eta Kappa Nu, Engineers for a Sustainable World, TritonAI, Tau Beta Pi
- **Relevant Coursework:** Wireless Embedded Systems, Computer Vision, Advanced Data Structures, Design and Analysis of Algorithms, Computer Organization and Systems Programming, Linear Electronic Systems, Linear Systems Fundamentals

## Work Experience

Industrial Automation Intern | Irvine Ranch Water District

June 2023 - Present

- Configured **Cisco** switches with CLI commands, **Palo Alto** firewalls, and VMs with **Windows Hyper-V** and **RAID5** storage to construct **development** environments on **PowerEdge** servers for testing and upgrading **SCADA** software
- Extracted **IP** addresses from **ARP** packets with **Wireshark** to connect to **PLCs** to modify **PLC programs** and firmware
- Wrote **PowerShell** scripts to automate **server config**, **extract PLC drawings** from vendor docs, and **parse data** from AACFG files into Excel sheets, trained **10** team members on using Octoplat **version control software** for fetching and updating objects

## Extracurricular Experience

Sustainable Robotics Software Lead | Yonder Deep

October 2022 - Present

- Working with **2** researchers at the **WCSNG** lab on researching the development of a **5G base station** to communicate with the AUV
- Leading team of **8** on the development of an **autonomous navigation system** utilizing **path finding algorithms**, **computer vision** for obstacle avoidance, **GPS**, **motor controllers**, and **GUI maps** used to control the AUV as it performs **climate change research**
- Wrote **200+ lines** of **Python** for **GPS sensor**, **serial communication** encoding improvements, **150% faster** bug-free GUI with map

Triton Robocup Embedded Software Lead | IEEE Student Branch at UC San Diego

October 2022 - Present

- Leading team of **19** to write **embedded software** in **C** for **STM32F427** boards used to control soccer playing robots
- Compiled **80 pages** of documentation to guide members on using **UART**, **PWM**, **CAN**, **GPIO**, **I2C**, and **SPI** using the **HAL** library
- Wrote **100+ lines** of **C** on **STM32 microcontroller** for **GPIO** output and motor control using **CAN bus** for foundation of motor control **API** that is being developed for use by the **Software team**

Embedded/IoT Software Developer | VAWT Project, Engineers for a Sustainable World

October 2022 - Present

- Wrote **C++** code for sensor control using **Modbus protocol** and **RS485** on **ESP8266** that will go on the vertical axis wind turbine

## Projects

YouLostIt Project (project from Wireless Embedded Systems class)

September 2023 - Present

- Series of projects to make a **Bluetooth tracker** device by writing **bare-metal** drivers in **C** for peripherals such as **GPIO**, **I2C**, **Timer**, **Accelerometer**, and **Bluetooth** using **registers** and **Memory Mapped I/O**, as well as the embedded application itself on top of the drivers using a **STM32 B-L475E-IOT01A** board, read more here: [https://www.pranavmehta.com/you\\_lost\\_it.html](https://www.pranavmehta.com/you_lost_it.html)

Donnez App

March 2022 - May 2022

- Developed an Android app that allows users to set up accounts with **cloud-based MFA** and send points to each other using **peer-to-peer local wireless communication** to enable purposes such as acts of kindness or volunteering
- Built using **Android Studio (Kotlin)** and **AWS Amplify**, implemented **Amplify Datastore (DynamoDB with GraphQL)**, **Amplify Auth (AWS Cognito)**, **Android Nearby Connections API**, **Android Sharesheet**, and **Android RecyclerView**

## Skills & Certifications

**Programming Languages:** Python, Java, C, C++, Bash, x86 Assembly, ARM Assembly, RISC-V Assembly

**Software Tools:** LTSpice, STM32 Cube IDE (Eclipse), Git, Linux OS, Cisco Packet Tracer, MATLAB, Docker, ROS

**Hardware Tools:** Multimeter, Oscilloscope, Function Generator, Logic Analyzer

**Certifications:** Amazon Web Services Certified Cloud Practitioner Certification, CompTIA Network+ Certification