

# Dhillon Patel

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## Education

### University of Michigan

Ann Arbor, MI

Bachelor of Science in Computer Engineering | GPA: 3.9

August 2020 - May 2024

**Relevant Courses:** Introduction to Embedded Systems, Computer Vision, Data Structures and Algorithms, Embedded Control Systems, Autonomous Robotics Design Experience

**Awards:** William J. Branstrom Freshman Prize, James B. Angell Scholar, Constance B. Mathias Engineering Scholarship Award, Richard Earhart Scholarship Award, Dean's Honor List, University Honors

## Work Experience

### Cisco Meraki

San Francisco, CA

Firmware/Features Software Engineer Intern

September 2023 - December 2023

- Designed and integrated new testing pipelines, accelerating development process for team's codebase using Jenkins and Gerrit
- Added code coverage to native test recipes, improving effectiveness of tests by 30% and delivering higher-quality software through CMake, Makefiles, Autotools, Ruby scripts, and BitBake recipes in Yocto

### Raytheon Intelligence & Space

Fort Wayne, IN

Electrical and Hardware Design Engineer Intern

May 2022 - August 2022

- Collaborated with senior engineers to restructure server rack designs and devise block diagrams of devices illustrating interconnectedness in 5+ server racks, providing customers valuable structural insights
- Developed and delivered presentations about multiple projects surrounding block diagrams, and power and cost budgets, enhancing project visibility and understanding among stakeholders

## Projects

### RGB-D Semantic Segmentation

- Trained multiple semantic segmentation models, demonstrating improved accuracy with NYUv2 dataset after adding a depth channel; presented research paper to faculty
- Programmed project in Python with PyTorch library

### Concussion Detector

- Researched and developed a wearable IMU-based neck/head sensor for better prediction and diagnosis of concussions/whiplash injuries in athletes
- Created a touchscreen watch to provide meaningful data in real time with STM32 microcontrollers, UART, I2C, SPI, and ported drivers in C

### Autonomous Marco Polo Robots

- Implemented pursuit-evasion behaviors for two differential-wheeled robots using Python and C++, integrating LCM and OpenCV for real-time audio and visual tracking
- Configured and optimized robots' firmware and hardware with Raspberry Pi 4, UMA-8 directional microphone, wide-angle camera, and April Tag fiducials, achieving autonomous navigation and target acquisition for dynamic and cluttered environments

## Skills

- C/C++, JavaScript, Python, Groovy, ARM Assembly, CAN, Git, Jenkins, Gerrit, Linux, Docker, Yocto, statistical analysis, project management, communication

## Activities

### M-STARX

U of M, Ann Arbor

Treasurer

January 2022 - May 2024

- Oversaw and trained 10+ members in the programming sub-team, utilizing Raspberry Pi 4, ROS, and C++
- Elected as Treasurer Officer and manage finances required for developing upper and lower body exoskeletons