Aadhya Puttur

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Skills

· **Technical Skills:** Microsoft Azure AI, Python, SQL, Java, React, PyTorch, C++, Javafx, Javascript, Matlab
· **Developer Tools:** Jira, Git, AWS, MongoDB, Docker, Linux, Agile Methodology, Apache

Education

WORCESTER POLYTECHNIC INSTITUTE (WPI) **MAY 2023**
Bachelor of Science, Computer Science
RELEVANT COURSEWORK
Computer Vision (graduate), Algorithms: Design&Analysis (graduate), Machine Learning, Software Engineering

Experience

AUTONOMY ENGINEER INTERN | SKYDIO **JUNE 2023 - SEPTEMBER 2023**
· Implemented an error-sensing system on Skydio X2 drones to communicate with the MAVLink interface (C++)
· Created real-time communication of critical errors to the pilot, ensuring safer/informed piloting decisions
· Developed and validated the 'Max Endurance' feature using Skydio's API to optimize energy efficiency, maintaining a constant 8 m/s velocity in Skydio drones

RESEARCH TECHNICAL INTERN | MIT LINCOLN LABORATORY **JUNE 2022- AUGUST 2022**
· Improved Airborne LiDAR measurements by predicting and filling missing data points using tangent plane of hole boundary points (Python) in dense forest areas, achieving a data completion rate of approximately 61.9%
· Developed an efficient algorithm for point cloud data mesh repair, reducing processing time by 83.7%

RESEARCH TECHNICAL INTERN | MIT LINCOLN LABORATORY **MAY 2021- AUGUST 2021**
· Reduced communication speed of Arduino MKRZero by 20 ms by optimizing serial data transfer (MATLAB) and implemented radar technology capable of motion detection
· Performed extensive troubleshooting, documented daily discoveries, and offered alternative communication protocols, while providing consistent data transfer improvement suggestions to the team

RESEARCH TECHNICAL INTERN | RAYTHEON BBN TECHNOLOGIES **MAY 2020 - AUGUST 2020**
· Developed a communication system between a hierarchical task network (HTN) and a MySQL database, enabling the execution of autogenerated commands for drone swarms within a simulation.
· Integrated communication between a Docker container and a Redis client for effective data exchange

SOFTWARE ENGINEERING INTERN | RAYTHEON BBN TECHNOLOGIES **JUNE 2019 - AUGUST 2019**
· Established a communication network between Skydio's R1 drone and an unidentified drone using TCP connections and multithreading in Java. Acquired proficiency in Skydio's API to transmit specific commands.

Personal Projects

BIPEDAL QUADRUPED ROBOT | WPI MAJOR QUALIFYING PROJECT **AUGUST 2022 - MARCH 2023**
· Constructed a 12 Degrees of Freedom Quadruped Robot by overseeing a team of 4 robotics engineers as the Computer Vision Lead, I implemented obstacle detection and target tracking from scratch
· Implemented computer vision algorithms for precise environment depth using 2 Intel RealSense cameras.

SOFTWARE LEAD | WPI MASS GENERAL BRIGHAM HOSPITAL **MARCH 2022 - APRIL 2022**
· Led the development of a 20,000-line, full-stack Java application as part of a 10-person Agile Scrum team, utilizing critical tools such as Apache Database, Jira, MySQL, JavaFX, and Java over four iterations in six weeks
· Restructuring the team and adopting agile methodologies for a seamless front-end and back-end integration

STRUCTURE FROM MOTION AND NEURAL RADIANCE FIELDS | COMPUTER VISION **NOVEMBER 2022**
· Implemented (SfM) techniques to determine camera poses and performed geometric analyses
· Implement NeRF (deep learning), enabling volumetric scene construction through a 5D coordinate system

HACKATHON WINNER | SPECTRUM (WPI COVID INNOVATION CHALLENGE) **JUNE 2020**
· Prototyped a COVID-19 PPE mask in three days for the challenge that uses UV light to kill germs