ASHWIN PRAKASH

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EDUCATION

University of Texas at Austin – Austin, Texas **May 2026**

Bachelor of Science in Electrical and Computer Engineering

- **Minor:** Entrepreneurship
- **Relevant Coursework:** Discrete Mathematics, Embedded Systems, Introduction to Electrical Engineering, Introduction to Computing, Sequences/Series and Multivariable Calculus

EXPERIENCE

Paradigm Robotics – Austin, Texas **Jan 2024 - Present**

Embedded Systems/Sensor Integration

- Integrating optical and thermal sensors onto Paradigm's primary product, Firebot, and streaming data to ROS nodes self-developed utilizing Python, Pandas, and numPy
- Developing a Flask and React based web interface to organize thermal and optical data as well as statistics regarding robot operation for manual users

Texas Aerial Robotics (TAR) – Austin, Texas **August 2023 - Present**

Software Engineer

- Developing ROS-based quadcopter drone utilizing Jetson Nano in conjunction with PX4 Flight Controller, gyroscope, and web camera
- Implementing SLAM and computer vision algorithms to map out surroundings and locate Aruco markers to follow preset flight path
- Collaborating with hardware team to design carbon fiber framing and appropriately budget costs for the electronic components

Omron Robotics and Safety Technologies – Pleasanton, California **June 2023 - August 2023**

Mobile Robots Engineering Intern

- Developed an AWS-hosted API system to optimize robot management processes via secure password generation, error handling, and background monitoring using the FastAPI framework, Selenium, and other packages
- Collaborated with Mobile Robots SW team on initial phases of project enabling interoperability between ROS Turtlebot and OMRON mobile robots, focusing on publishing odometry data to a fleet manager
- Supported Systems Engineering team with robot maintenance and testing, including mapping and developing a robot fleet route for the MD-650 robot series promotional photoshoot

RESEARCH

Autonomous Mobile Robot Laboratory [AMRL] – Austin, Texas **November 2023 - Present**

Student Researcher

- Designed and implemented research paper finder employing Selenium and SerpAPI, featuring NLP for abstract summarization and a Flask-based web interface, utilizing web scraping, API integration, and data processing
- Utilizing a real-time Lidar data processing system classifying pedestrians, vehicles, and bikes/scooters at a populous UT intersection to organize and display trajectory data on a web application
- Collecting data from above mentioned Lidar data processing system to train lab's social navigation model

SKILLS

- **Proficient in:** Python (OpenCV, Selenium, numPy, pandas), Java, RobotC, ROS, HTML, CSS, JS (Node.js, React) Breadboarding/Wiring and Circuitry, Raspberry Pi, Arduino, Microsoft Office, Google Suites
- **Experienced in:** PCB Design (KiCAD), AWS Hosting/Implementation, C, C++, PostgreSQL, ARM Assembly
- **Work Eligibility:** US Citizen