

# VAMSEE KRISHNA KELLA

## Mechatronics Engineer | Robotics

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vkella

## EXPERIENCE

### Mechatronics Engineer

#### AMBOTS Inc.

Sep 2024 – Present

Fayetteville, AR

- Developed collaborative software solutions for multi-robot systems, integrating robotics arms like Fanuc, Universal Robots, and SCARA robots.
- Programmed and optimized control algorithms for robotic arms, collaborating with cross-functional teams to ensure smooth hardware-software integration, enabling precision tasks in 3D printing.

Python

ROS

Robotics Arm

HW/SW

### Systems Engineer/Product Manager

#### Local Grown Salads

Oct 2023 – May 2024

Tempe, AZ

- Led the mechatronics and IoT team, integrating embedded hardware and firmware for autonomous vertical farming systems. Optimized systems and improved efficiency by 21%.
- Designed mobile robots for efficient product transportation, developed robust IoT systems.

C

Python

JIRA

Testing

### Electrical Engineer

#### Adaptive Concepts LLC

Jun 2023 – Aug 2023

Tempe, AZ

- Developed and implemented a foundational power budget document for the Vacuum Chamber Airship (VCA) project, ensuring efficient allocation and utilization of electrical resources.
- Collaborated with design engineers to ensure selected electrical components remained within the allocated power budget, adjusting as necessary to optimize system performance and safety.

Electrical Design

Research

Documentation

### Software Engineer

#### Accenture

Jan 2019 – Jun 2021

Hyderabad, Telangana

- Managed and contributed to the success of 6 software applications, utilizing Python, SQL, C#, and agile methodologies. This involvement enabled clients to increase 21% revenue.
- Developed algorithms and automated software processes using Python and REST API to generate maps and update applications, significantly enhancing integration and product quality while saving 80 hours monthly.

Python

C#

.Net

Linux

SQL

### Research Assistant

#### CVR College of Engineering

Jan 2016 – Jun 2018

Hyderabad, Telangana

- Utilized programming languages like C++, Python and Linux to implement to integrate with Hardware like Arduino, Raspberry Pi, Motor Controllers, etc.
- Conducted rigorous hardware testing using oscilloscopes and lab test equipment; integrated and tested actuators, sensors, and motors, applying knowledge of the CAN and other communication protocols.

Python

C++

Firmware

Linux

Embedded C

## PROJECTS

### Autonomous Path Following Drone

Jan 2023 – May 2023

- Designed a flight controller algorithm for precise drone navigation.
- Rigorously tested and implemented the algorithm on Parrot Mini drone hardware using MATLAB and Simulink.

MATLAB

Hardware

Image Processing

Navigation

### Indoor 3D reconstruction Using Mobile Robot

Mar 2022 -- Apr 2022

- Engineered a visual SLAM based autonomous system utilizing mobile robots' hardware similar to TurtleBot built on Raspberry Pi, ROS, and equipped with an Intel RealSense D435i camera.
- Conducted camera calibration, implemented computer vision models along with object detection and pose estimation on video frames using Darknet (YOLO v3) and Point cloud library.

Python

ROS

Linux

Computer Vision

## EDUCATION

### M.Sc. Robotics and Autonomous Systems

#### Arizona State University

Aug 2021 – May 2023

### B.Sc. Electrical and Electronics Engineering

#### CVR College of Engineering

Aug 2014 – Jun 2018