Vamsee Krishna Kella

vamsee.kella@gmail.com• +1 732 734 1836 • linkedin.com/in/vkella • vkella.github.io

EDUCATION

Master of Science, Robotics and Autonomous Systems August 2021-May 2023
Arizona State University, Tempe, Arizona **GPA:3.90/4.00**

Bachelor of Technology, Electrical and Electronics Engineering August 2014-June 2018
CVR College of Engineering **GPA:8.33/10.0**

WORK EXPERIENCE

Systems Engineer at Local Grown Salads, USA October 2023 – Present

- Collaborated with Local Grown Salads under Arizona State University's EPICS program, contributing to the development of an autonomous vertical farming system.
- Led mechatronics and IoT team as Product Manager and systems engineer. Integrated embedded IoT solutions using Python, Embedded C, PostgreSQL databases, and AWS IOT.
- Designed and implemented a modular custom firmware system for farm control. Led the development of web tools, mobile apps, and OTA firmware update deployment for real-time farm monitoring.

Research Aide at Arizona State University, Tempe, AZ March 2022 - May 2023

- Engaged in the development and maintenance of four software solutions within a cross-functional team, focusing on design, coding, testing, and debugging.
- Enhanced research efforts by leveraging machine learning and python, resulting in a 15% improvement in research results.
- Conducted thorough data analysis, software performance and regression testing, ensuring the delivery of high-quality products.

Software Engineer at Accenture, Hyderabad January 2019 - June 2021

- Managed and contributed to the success of six software applications, utilizing Python, SQL, C#, and agile methodologies. This involvement enabled clients to increase 21% revenue through improved application development, maintenance, and software testing.
- Automated seven business processes using Python and REST API, significantly improving automation, integration, and product quality while saving 80 hours monthly.
- Delivered technical support for software issues, performed RCA, and executed approved changes through change management for complex system issues. Achieved resolution of customer inquiries, ensuring high levels of customer satisfaction.

Research Assistant at CVR College of Engineering, Hyderabad May 2016 - June 2018

- Collaborated as a research assistant in the Power Electronics & Embedded Research Lab, focusing on a diverse range of embedded systems.
- Engineered firmware for a custom-built solar car, integrating OTA firmware updates and real-time sensor data monitoring for performance analysis, battery status, charging updates, and error logging.
- Enhanced Skills in developing microcontrollers and in communication protocols such as TCP/IP, Serial, I2C, BLE, Wi-Fi, improving testing and validation of electrical & embedded systems.

ACADEMIC PROJECTS

Autonomous Path Following Drone (Image Processing, Hardware, MATLAB)- ASU January 2023 – May 2023

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

3D Object Detection Using Sensor Fusion (Computer Vision, Perception, Python, Pytorch)- ASU August 2022 – December 2022

- Developed a Neural Network algorithm for multi sensor fusion based on resnet-18 and Bird's Eye View (BEV) fusion for autonomous driving.
- Evaluated and fine-tuned the model's performance on the KITTI dataset.

Visual SLAM Using Mobile Robot (Darknet, Python, C++, ROS, Hardware) – ASU March 2022 – April 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) & Point cloud library.

Object Detection of Craters on Mars Surface (Deep Learning, Machine Learning, CUDA, Python) March 2022 – May 2022

- Implemented Faster RCNN in Pytorch to detect craters on Mars surface images.
- Trained more than 100k images on Agave HPC cluster utilizing data parallelization on multiple GPU.
- Significantly reduced the number of parameters required for training with the use of Efficient-net.

TECHNICAL SKILLS

Programming Languages and Databases: Python, C, C++, C#, MATLAB, .NET, PostgreSQL
Cloud Services: AWS (EC2, AWS IOT)
Tools & Frameworks: ROS, Docker, Gazebo, Rviz, Pytorch, TensorFlow, OpenCV, CUDA , NumPy
Other Tools: JIRA, ServiceNow, MS Excel, Linux, Unix, ArcGIS
Hardware: Raspberry Pi, Arduino, NVIDIA Jetson Nano, LiDAR, Intel Realsense Camera, Velodyne LiDAR