VAMSEE KRISHNA KELLA

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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 & Electronics Engineering August 2014-June 2018
Jawaharlal Nehru Technological University, Hyderabad, India **GPA:3.80/4.00**

TECHNICAL SKILLS

Programming: Python and specific libraries(Pytorch, NumPy, pandas, scikit-learn, Keras), SQL MATLAB, C, C++
Tools & Frameworks: Git, Linux, JIRA, Docker, OpenCV, Robot Operating System (ROS), Altium Designer, MySQL, GIS
Hardware: NVIDIA Jetson boards, LiDAR, Camera
Courses: Autonomous Exploration Systems, Machine Learning, Deep Learning and Neural Networks, Remote Sensing and Synthetic Aperture, Electric and Autonomous vehicles, Aerial Robotics, Modeling and Control of Robot

WORK EXPERIENCE

Research Aide at Arizona State University, USA March 2022 – May 2023

- Assisted with various research projects, including data collection, organization, and analysis.
- Conducted literature reviews and summarized findings to support research objectives.
- Contributed to the development and improvement of research protocols and procedures.

Software Engineer at Accenture Private Limited, Hyderabad January 2019 - June 2021

- Developed, tested, and successfully deployed process automation using REST APIs and Python, resulting in significant time savings of approximately 63 hours per month.
- Demonstrated proficiency in root cause analysis and processed 60-plus change requests as a fix for RCA, overseeing the entire change process to ensure smooth transitions and minimal disruptions in a complex technical environment.
- Collaborated with clients to gather and document business requirements, leading to more precise project planning and successful application delivery.

Application Management Delivery Consultant at DXC Technology, Hyderabad August 2018 – January 2019

- Expertly performed complex SQL queries within a Linux environment, extracting valuable insights to drive strategic decision-making and resolving issues.
- Experienced in writing and releasing SOPs (Standard Operating Procedures) and risk assessment documents, ensuring precise and consistent guidelines for team members and stakeholders.

Graduate Research Assistant at Power Electronic Lab, CVR College of Engineering, Hyderabad May 2016 - June 2018

- Assisted in a solar electric car project's research, design, fabrication, and testing phases.
- Analyzed and documented system requirements, designed, and fabricated electromechanical parts to meet project specifications.
- Created and validated electrical schematics using industry-standard software/tools.
- Conducted performance tests, electrical tests, data analysis, and troubleshooting to ensure the efficient functioning of the solar car's components and systems.

PERSONAL EXPERIENCE

Personal Lab/Workspace, Hyderabad January 2017 – June 2021

- Established and maintained a personal workspace equipped with CNC machines, 3D printers, Oscilloscope, and power tools for designing, manufacturing, and troubleshooting hardware designs and electrical circuits.
- Developed and implemented software scripts/codes to integrate hardware components, improving functionality and performance.
- Utilized programming languages: C, Python for Development, Autodesk Eagle, and Altium Designer for PCB layouts.

PROJECTS

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

- Designed and developed a flight controller algorithm using MATLAB & Simulink to enable precise hovering and navigation for a Parrot Minidrone.
- Conducted rigorous testing and validation of the algorithm within a simulated environment to ensure its accuracy and reliability under various conditions.
- Expertly debugged, tested, and seamlessly implemented the flight controller algorithm onto the physical hardware, implementing a fully operational path following drone.

3D Object Detection using Sensor Fusion – ASU *(Computer Vision, Deep Learning, Python)* August 2022 – December 2022

- Created and trained a deep learning approach for computer vision model for 3D object detection using LiDAR and camera sensor fusion, resulting in improved accuracy and efficiency.
- Evaluated the performance of the 3D object detection model on the KITTI dataset, resulting in outstanding results.

Indoor 3D Reconstruct Using Mobile Robot – ASU *(Deep Learning, Python, ROS, Hardware)* *March 2022 – April 2022*

- Developed a visual SLAM system using a mobile robot(Hardware Model) equipped with an Intel Realsense D435i camera and ROS, RTABMap to detect objects and approximate their location in a world frame.
- Implemented YOLO object detection algorithm using Python to recognize objects in the 3D reconstructed environment.
- Utilized a high-performance computer to process camera data collected by the robot and stored in rosbags.

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

- Developed a Faster R-CNN model for detecting craters on the Martian surface using the GeoAI Martian Challenge Coco dataset.
- Trained the model on over 100,000 photos using a high-performance computing cluster and data parallelization across multiple GPUs.

LEADERSHIP EXPERIENCE

Vice President at Electrocruise(Undergraduate Student Association), Hyderabad May 2016 – June 2017

- Orchestrated the development and execution of mandatory training, weekly team meetings, and community service initiatives, resulting in a 5% increase in employee engagement and productivity for a team of 15 individuals.
- Led workshops on PCB design and fabrication and MATLAB coding, mentoring and guiding freshman and sophomore students to enhance their design and coding abilities.

CERTIFICATIONS/ACHIEVEMENTS

- Microsoft Certified Azure Fundamentals.
- Certified in AI/ML by the Defense Institute of Advanced Technology (DIAT), DU, DRDO.
- Awarded ACE(Accenture Celebrates Excellence) Individual Award in the Automation category.