KISHORE REDDY PAGIDI, M.S.

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EXPERIENCE

Northeastern University ~3 months
Graduate Teaching Assistant – Mobile Robotics **Jan 2023 - Present**

- Implemented a 2-D motion planning algorithm, utilizing configuration space and distance transform techniques to generate collision-free trajectories in a robotic system with obstacles.
- Developed a user-friendly docker container with advanced visualization features.

Mercedes-Benz R&D North America ~7 months
Software Engineering Intern – Autonomous Driving **Jun 2022 – Jan 2023**

- Independently created algorithms in C++ to derive standard definition (SD) maps from high-definition (HD) maps in docker.
- Demonstrated expertise in working with diverse map formats such as OpenDrive, Lanelet2, XODR, OSM, and Nvidia's MyRoute to ensure accurate and efficient map generation and conversion.
- Filed 4 utility patents, enhancing road safety in the field of perception and IoT.
- Implemented VectorNet-based GNN for map completion tasks, enhancing SD map generation from HD map.
- Developed a U-Net-based TensorFlow model with 91% accuracy for generating SD maps from HD maps.

Suzuki Motor Corporation ~3 years
Product Design and Development Engineer **Jul 2019 - Aug 2021**

- Optimized ADAS sensor integration, including cameras and radars, with maximal features and cost reduction by 8%.
- Seamlessly integrated sensors into vehicle body with minimal cost impact, reducing expenses by 12% without compromising functionality.
- Optimized over 1000 robotic welding arm spot gun packages through targeted design improvements.
- Achieved 14% cost savings in front underbody through continuous improvement initiatives.

Graduate Engineering Trainee – R&D **Jul 2018 - Jul 2019**

- Built a model-based design tool to predict wear and tear reducing design cycle time by 2 months.
- Won the Best Graduate Engineering Trainee award among 252 new hires.

EDUCATION

Northeastern University (NEU), Boston, MA **Sep 2021 - Expected Jun 2023**
Master of Science in Robotics, Concentration: EECE 3.93/4 CGPA
National Institute of Technology Calicut (NITC), Kozhikode, India **Aug 2014 - May 2018**
Bachelor of Technology, Mechanical Engineering 7.73/10 CGPA

SKILLS

Languages: C++, Python, MATLAB.
Libraries/Frameworks: PyTorch, TensorFlow, OpenCV, ROS, Linux, PostGRES.
Software/Hardware: QGIS, JOSM, CARLA Simulator, PyBullet, Raspberry Pi.
Artificial Intelligence: Computer Vision, Machine Learning, Deep Learning, CNNs, RNNs, GANs, Transformers.

PROJECTS

Graduate Projects, NEU **Sep 2021 – Apr 2023**

- Contributed to the perception stack of SA-Warp research by enhancing robotic manipulation in cluttered environments through fusion of multi view RGBD data processing and zero-shot point cloud segmentation.
- Enhanced and optimized a transformer-based image captioning model employing Vision Transformer and multi-head attention, achieving 77.2 BLEU score when trained on an NVIDIA V100 and P100 GPUs.
- Fused camera data with LIDAR PCD to develop a 3D object detection method from Lyft dataset by voxelization and bird's-eye-view representation, achieving an average precision of 0.87.
- Modified Neural Style Transfer architecture to transfer style from 2 images and used SRGAN to increase image resolution.