LinkedIn
Portfolio

Rakesh Reddy Kondeti (He/His)

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EDUCATION

M.Sc.- Robotics and Autonomous Systems	**University of Lübeck,** Germany	Oct 2020 - Aug 2022
B.Tech - Mechanical Engineering	**Indian Institute of Information Technology Jabalpur**, India	Jul 2015 – Aug 2019

SKILLS

Programming/Script Languages:	Python, MATLAB, C, bash, Java(basic)
DL Frameworks and Libraries:	PyTorch, TensorFlow, Detectron2, MMDetection, OpenCV, Streamlit
Robotics:	ROS Gazebo, Linux, Simulink, Siemens TIA portal

WORK EXPERIENCE

Robert Bosch GmbH — Master Thesis — July '22 – *Present*
Renningen, Germany
Few-Shot Object Detection

- Topic: Investigation of Class Prototyping and Feature Fusion for Dense Meta-Detectors.
- Working with the RetinaNet to improve the performance on few-shot novel dataset (5-10 samples per category).
- One of the first works to focus on computing class prototypes and feature fusion methods – *work in progress.*

Robert Bosch GmbH — Internship — March '22 – June '22
Renningen, Germany
Topic*: Few-Shot Object Detection*

- Literature review of object detection and meta-learning research papers.
- Implemented YoloX in the few-shot setting using the Detectron2 framework.

Institute of Medical Informatics, — Deep Learning Intern — Sep '21 – March' 22
University of Lübeck, Germany
Topic: *Monocular Depth Estimation* Link

- Depth estimation for Bronchoscopy Navigation (navigation inside the lungs).
- Implemented U-net and Pix2Pix GAN network for generating depth images from monocular RGB images.
- Devised a new loss function, the images are being predicted with a SSIM metric of around 95%

University of Lübeck — Hiwi / Student Assistant — Oct '21 – Feb '22

- Worked as a student assistant for Learn2Trust project (designing AI course for medical students).
- Developed a software plugin using streamlit, to upload a medical image and to produce masks automatically once the boundary is drawn around the region of interest.

PROJECTS

Object detection for Autonomous Driving Link

- Implemented state-of-the-art YOLOv3 neural network in TensorFlow for object detection. Achieved a mAP score of 70% without any data augmentation.

Exploration Strategies in Deep Reinforcement Learning

- Conducted literature survey on all the existing exploration strategies involved in deep reinforcement learning.

Camera-based Vehicle Tracking Link

- Used Histogram of Oriented Gradients (HOG) as feature descriptor and linear SVM as the classifier.
- Trained classifier is used to track the preceding vehicles with the traditional sliding window approach.

Medical Device for Dementia (Forgetfulness) Link

- A wearable device which used deep learning to aid human memory to recall the location of day-to-day objects.
- Out of 5049 teams, our team is one among the 70 selected teams to exhibit the prototype.

ADDITIONAL INFORMATION

References	: Available upon request
Languages	: English, German (beginner), Hindi, Telugu
Hobbies	: Reading Novels (avid reader of Agatha Christi books), Gardening, Crafting (Wall decors)
Interests	: Mathematics and Machine Learning, Cricket, Apple products
First & Last Name	: Rakesh Reddy; Kondeti