Contribution Report

Name of the team member : Mohammed Moiz Pasha

Email: 21311A6601@sreenidhi.edu.in

Specific tasks and responsibilities handled:

- Developed the LPRNet model and STN model for OCR recognition
- Trained the YOLO model for License plate recognition, and exported and quantized it for edge device inference.
- Benchmarked all trained models, and integrated models with the insight generation engine.

Code sections written or major contributions to the project:

- Code for model inference, training and benchmarking
- Integrated the entire system with Streamlit, and wrote logging code to link parking spaces and license plates model to insights engine
- Also wrote utility scripts for augmentation, preprocessing and dataset sampling.

Any challenges faced and how they were overcome:

- Challenge of large variety of Indian number plates, in size, color, font and line count
- Overcame the challenge by augmenting the dataset with synthetic images generated through code.
- Faced challenge of speeding up inference for edge devices.
- Overcame the challenge by quantizing the model to INT8, and then exporting it to fast inference formats such as OpenVINO, NCNN and TFLite

Collaboration with other team members:

- As team lead, assigned work to team members according to their strengths and constantly monitored progress.
- Helped my teammates in integration of different code modules
- Worked together to resolve problems in parking dataset generation and low model accuracy