

PROBLEM STATEMENT 08:



Vehicle Cut-in Detection

Category: Artificial Intelligence, Machine Learning, Deep Learning, Autonomous Driving

Participants: 1st-4th Semester Students

Prerequisites:

- Concepts in Machine Learning
- Programming Skills (Python)
- Deep Learning - Train/Validate/Test with Data

Description:

Artificial Intelligence (AI) based machine learning (ML) techniques are widely becoming used and deployed in real-world applications. Autonomous driving is a technology that highly depends on a large volume and variety of data for training and testing. India Driving Dataset (IDD) is an open dataset, publicly available for research, and can be used for tasks like object detection and segmentation.

Download IDD Temporal from <http://idd.insaan.iit.ac.in/> and develop new (or better) machine learning models for:

1. Detection of sudden cut-in of vehicles (two/three/four wheelers, pushcarts etc) into the direction of driving

Outcomes:

- Train a new ML model for detecting cut-in.
 - Use any extra data from other sources to augment training ML models.
 - Calculate the accuracy of performance in detection.
 - Create a 3-page report on the chosen problem, technical approach, and results.
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