



**Ahmedabad
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Report 2

CSE523 Machine Learning Section-1

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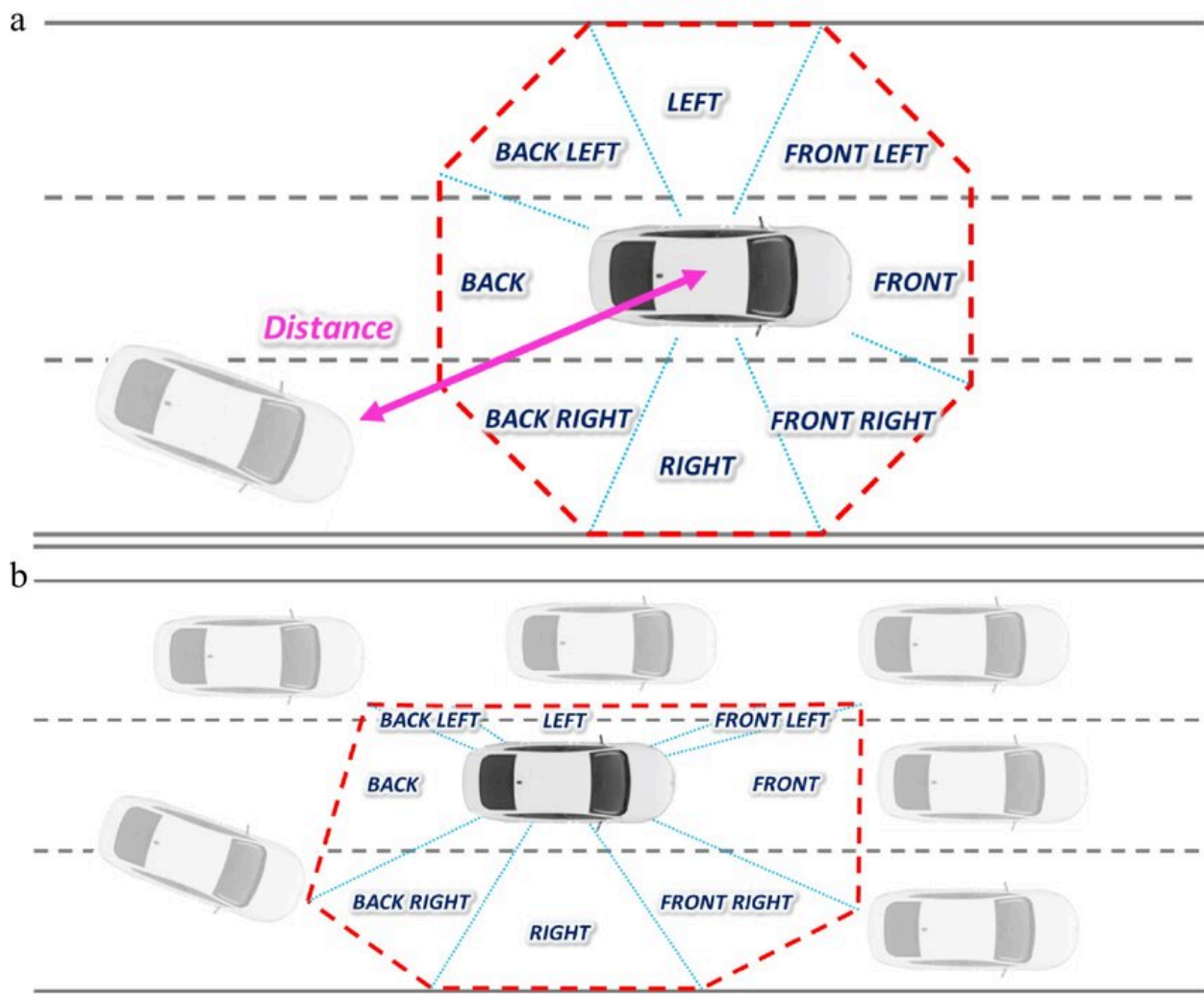
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Dataset Analysis:

Waymo Open Motion Dataset:

Advantages:

- Large dataset specifically focused on autonomous driving scenarios.
- High-resolution sensor data (lidar, radar, cameras) capturing real-world driving conditions.
- Annotations for vehicles, pedestrians, cyclists, and other objects.



The Waymo open motion dataset provides a large dataset with high resolution. Also, provides data from different perceptions and different sensor data. Which will help to provide all possible insights into vehicle trajectory motion.



Goal:

The primary goal of the paper is to propose a robust model named DenseTNT. It predicts the trajectory of a moving vehicle. The proposed model aims to provide the exact estimation without relying on goal anchors.

Methods used:

Different methods are used in the paper. The trajectory detection starts from sparse encoding. Estimating it through a dense probability method is important. The other methods are goal-based, scene context encoding, trajectory completion, and long-term prediction. The proposed DenseTNT model has the required performance in trajectory prediction and also ranks 1st in the Waymo open motion dataset challenge.

References:

<https://waymo.com/open/>

https://www.researchgate.net/figure/Structure-of-the-Waymo-motion-dataset-uncompressed-scenario-validation-validation_fig2_370873799

[\[PDF\] DenseTNT: Waymo Open Dataset Motion Prediction Challenge 1st Place Solution | Semantic Scholar](#)