

Uplyfted

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Abstract

The upcoming revolution in the transportation industry is fixated on self-driving vehicles. Companies such as Lyft and Zoox concentrate on self-driving cars [1], whereas companies such as Embark, Waymo, Daimler, and TuSimple concentrate on trucks [2]. The aim of this project is to work on a framework for developing learning-based solutions to prediction, planning, and simulation problems in self-driving. We experiment with data-driven approaches to plan and simulate problems using real-world driving data provided by Lyft [3].

We use the Lyft Prediction Dataset in conjunction with the L5Kit library to model components of the Autonomous Vehicle (AV) stack using Deep Neural Network architectures such as RESNET-50 and SE-RESNET-50. This helps us predict the future movement of cars around an AV. This, in turn, allows us to plan the behavior of an AV to imitate human driving.

References

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- [2] A. Charlton, “These 8 companies are making the self-driving truck a reality,” Available at <https://www.gearbrain.com/autonomous-truck-startup-companies-2587305809.html>.

- [3] Lyft, “Level 5 open data,” Available at <https://self-driving.lyft.com/level5/data/>.