By interpreting a traffic scene as a graph of interacting vehicles, we gain a flexible abstract representation which allows us to apply Graph Neural Network (GNN) models for traffic prediction. These naturally take interaction between traffic participants into account while being computationally efficient and providing large model capacity. We evaluate two state-of-the-art GNN architectures and introduce several adaptations for our specific scenario. We show that prediction error in scenarios with much interaction decreases by 30% compared to a model that does not take interactions into account. This suggests that interaction is important, and shows that we can model it using graphs. This makes GNNs a worthwhile addition to traffic prediction systems.
from IEEE must be obtained for all other uses, in any current or future media, including reprinting/republishing this material for advertising or promotional purposes, creating new collective works, for resale or redistribution to servers or lists, or reuse of any copyrighted component of this work in other works.

Occurrences:

- Einrichtungen > Fakultäten > Fakultät für Informatik > Lehrstühle der Informatik > Informatik 6 - Lehrstuhl für Echtzeitsysteme und Robotik (Prof. Knoll) > 2019

Entries: