Project Brief

Project Title: Traffic Prediction via Deep Learning

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Problem:

In our daily lives, we frequently encounter the challenge of traffic congestion. In such scenarios, it would be highly advantageous if we could reliably foresee traffic conditions and consequently make informed choices about the most optimal routes for our journeys. With this motivation, this project aims to delve into the realm of traffic prediction using deep learning techniques. Our particular focus is on a specific issue: assuming that an accident has occurred at a certain location, is there a way to accurately anticipate the resulting traffic conditions on the adjacent roads?

Goal:

Develop a model that could predict future traffic conditions of a map, based on historical data and environmental factors. The accuracy is planned to be evaluated. Build a pathfinding program that can use the predicted results to dynamically update route information in real-time.

Scope:

The model is expected to predict both traffic flow and speed using RNN-based method. It needs to respond to both conditions with and without an accident. Weather, time, and temperature may be considered as environmental factors. The pathfinding algorithm is expected to be simple since it is not the main focus. The dataset used would be found on the Internet.