Deep Learning - Motion Detection/Behaviors

Date: 08/26/2019
Name: Hyunil Yoo

Background

In Autonomous driving field, the most important thing to consider is public safety. Therefore, prediction on other cars' and pedestrian's behaviors are one of the key features for public safety. Even though it is an important task to predict the other cars' behaviors, it might be more important to focus more on pedestrian's behaviors because when an accident involves a pedestrian, the probability of a fatal accident is high. If we can predict what a pedestrian's intent on the public road, it will be easier to make a self-driving car maneuver around pedestrians.

Problem Statement

An accident involves a pedestrian tents to have a high probability of fatal event.

Objective

Detect and predict intentions of pedestrians and give an idea of how a self-driving car need to maneuver around pedestrians in certain situations.

Proposal

- Using an open dataset produced by Waymo.
- Find a way to label the data for intentions of pedestrians.
- Training a model and minimize an overfitting.
- Using neural network model to predict the behaviors.

Plan/Approach

- Prepare and preprocess a dataset
- Labeling intentions of pedestrians
- Training and tuning a model.
- Prediction and insights.