NDSU | COMPUTER SCIENCE

Capstone 2023

Automated Detection of Traffic Objects

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Sponsor: Ulteig

Ulteig

Ulteig survey drivers manually record traffic signs and stoplights, which is inefficient. Our task was to create a TensorFlow object detection model to automate recognition and recording.

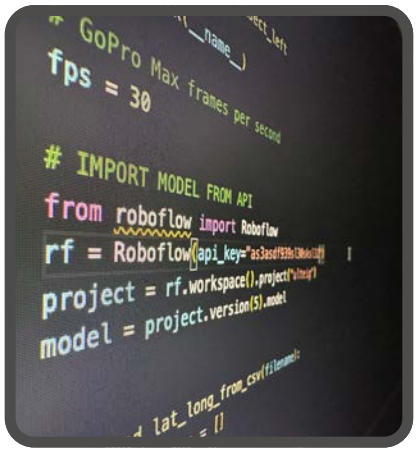
We developed a website where drivers can upload a GoPro video and geo-tracked route, and all traffic objects are inventoried, geotagged, and written to a downloadable csv file.

AI Model

Our AI model was built with TensorFlow, an open-source library for machine learning. It was trained on 10,000 images using Roboflow.

Middleware

Python was used for the frontend framework Flask and the backend of our model, TensorFlow, enabling communication between them.



Web App

Our web app built with Flask allows users to easily upload GoPro video files, view inventory in a table, and download the csv file.