Road Signs Classification Proposal

By Asteway Kebede

- What is the question behind your analysis or model and what practical impact will your work have?

The first step for a first-time driver's license applicant is to pass the driving written test which requires identifying and understanding road signs. To keep our cities safe, all auto operators must recognize and abide by the rules on the road. With the growth of autonomous devices living with us, it is important for these autonomous devices to understand and communicate with humans.

Therefore, I intend to build a deep learning multi-class classification model to classify the class a road sign belongs to such as speed limits, stop signs, turn right or left, etc… This model will help with the interaction of machines and humans to produce a productive society. A classification metric such as accuracy or F-1 will be used to assess the performance of the model.

- What dataset(s) do you plan to use, and how will you obtain the data?

The data is from "The Mapillary Traffic Sign Dataset for Detection and Classification". It contains over 50,000 images with traffic signs with 300 classes from around the world. I plan on using a subset focusing on North American signs.

The data is available for download or API at this link.

- What would a minimum viable product (MVP) look like for this project?

The MVP will contain results from a baseline multiclass logistic regression model.