

## **Abstract**

Our dataset consists of counts of pedestrians, bicyclists, cars, trucks, and buses that passed through five different intersections around the UMD campus between 28 Oct 2019 and 11 Nov 2019. Our team aims to explore this data thoroughly, producing easily understandable representations of the data that answer key questions about traffic patterns in the UMD area. By mapping the data to a geographic overlay, we hope to report the average count of each mode of transportation through an intersection in a way that makes it easy for the user to quickly understand traffic patterns at each of the intersections. As a supplement to this, our team will produce graphs that depict the composition of traffic at each intersection. Additionally, our team will produce a linear regression learning model that can predict the amount of traffic flowing through a sensor given how the other sensors are behaving. This model will use data on all modes of transportation flowing through all but one of the sensors to make a prediction about a single mode of transportation flowing through the remaining sensor. Loose correlations between the counts of modes of transportation drive the need to train our model using all modes of transportation as input. We plan to use this model to recommend the placement of sensors based on how accurate our predictions are. As a further step, our team will incorporate data from the UMD police department into our dataset to make predictions on the relative safety of an intersection based on its traffic pattern and crime occurrences.