

# Paid Undergraduate Summer Research Opportunity in Intelligent Transportation Systems at Vanderbilt University

## Project 1: Traffic Control and Modelling with Autonomous Vehicles

This project will look at using Connected and Autonomous Vehicles (CAVS) to beneficially control the flow of traffic. Topics of research will include Traffic Modeling, Cyber-Physical Systems, Automated Perception, and Control Theory.



## Project 2: Data Science for Micro-Mobility

This project will develop techniques and algorithms for analyzing and efficiently planning for micro-mobility trends. Topics of research include Data Science, Machine Learning, Urban Planning, and Transportation Demand Management.



## Project 3: Computer Vision for Traffic Pattern Analysis

This project will involve the development of fast and efficient methods for analyzing high fidelity video footage of traffic streams. Research topics include Computer Vision, Machine Learning, and Data Science



## Availability

-During the summer of 2020: 40 hours per week

## Required experience (flexible)

- Proficiency in a data-science oriented programming language (Python and Matlab preferred)
- Coursework in Data Science/Machine Learning

## Strong preference for applicants with at least one of

- Experience with Machine Learning or Applied Data Science
- Experience with analysis of transportation systems

This research is being conducted in the lab of Prof. Dan Work in Civil Engineering and the Institute for Software Integrated Systems at Vanderbilt University.

If you are interested, please send a copy of your resume along with any relevant coursework to George Gunter ([gunter.gl@gmail.com](mailto:gunter.gl@gmail.com)).