



**Ahmedabad
University**

CSE523 - Machine Learning

**Project 11: Identify abnormal driving behavior using
spatio-temporal analysis**

Weekly Report till mid sem

Group: Titans

Team Members

Enrollment Number	Name
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Understanding problem:

The goal of this project is to use standard machine learning techniques to create a classification model that can correctly discriminate between normal and abnormal driving behavior. Maintaining a constant speed, changing lanes appropriately, obeying traffic signals and laws, and generally driving safely are all examples of normal driving behavior. However, irregular driving behavior might include partying, abrupt lane changes, irregular speed changes, disobeying traffic signals, and other behaviors that endanger public safety when driving.

The difficulty is in accurately capturing the wide variety of driving patterns and behaviors that make up regular and abnormal driving. In order to do this, feature engineering is needed to extract pertinent data from the data sources. However in this project we are going to use publicly available datasets to fulfill our requirements.

Dataset selection:

The data sources may include external data, such as traffic patterns or road conditions, as well as sensor data from the vehicle itself, such as speed, acceleration, and steering angle. The temporal component of driving behavior must also be taken into account, since some behaviors may only be considered abnormal in particular sequences or settings.

Model selection:

We are considering some models and trying to find the best model by trying them. We are also considering a combined approach of various models in order to find the best set of parameters to do effective classification.

Models in account: Ant colony, Random forest and SVM.

Final model: not yet selected**Finalized dataset link:**

<https://ieee-dataport.org/documents/vehicular-trajectories-jeju-south-korea#files>

Code: Work in progress.