**IE 434 Deep Dive Team 11 - Deep Dive 0**

**Selected Project Title:** NYC Citi Bike Rentals Prediction Model

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**NYC Citi Bike Rentals**

**Data about NYC Citi Bike rentals at:**

<https://ride.citibikenyc.com/system-data>

[Index of bucket "tripdata"](https://s3.amazonaws.com/tripdata/index.html)

Can we predict the most popular Lyft Bike destination stations in NYC? By predicting where the customer will ride their bike, we can determine where exactly more Lyft Bikes should be placed at what times of the day, since oftentimes, the start and end stations differ in location.

**Label(s):**

* End station name

**Features:**

* Start Station name (one hot vector)
* Rideable Type (classic bike, electric bike, docked bike)
* Date
  + Month
  + Day of the week
* Start time
* End time
* Trip Duration (seconds)
* Start latitude/longitude
* End latitude/longitude
* Weather (daily summaries) <https://www.ncdc.noaa.gov/cdo-web/datasets>
* User Type (customer or member)
* Year of Birth
* Gender

Does the network of stations create a spatial graph? Use a graph neural network.