# CE 88 Midterm

**Bike Sharing**



In this midterm you will explore the data and build a forecast for the total number of hourly bike rentals in the bike sharing network of Washington, D.C.

**The data.** The dataset (**bikes\_2011.csv**) provided to you is hourly bike rental data of 2011. The following variables are available:

- date: date string (m/d/y)  
- year: year (0: 2011, 1:2012)   
- month: month (1 to 12)   
- hour: hour (0 to 23)   
- holiday: if the day is a holiday or not   
- weekday: day of the week, 0 (Sunday) to 6 (Saturday)   
- working: 1 if a day is neither weekend nor holiday, 0 otherwise.   
- weather\_type :   
 1: Clear, Few clouds, Partly cloudy  
 2: Mist, Cloudy   
 3: Light Snow, Thunderstorm

4: Heavy Rain, Ice Pallets, Thunderstorm, Mist, Snow, Fog, Apocalypse   
- temp: temperature in Celsius.   
- feels\_like: “feels like” temperature in Celsius (accounting for wind chill and humidity)  
- humidity: humidity   
- windspeed: wind speed

Finally, the dependent variable is:

- count: total count of bikes rented in a given hour

**The Problem.** You will be asked to provide a forecast of the number of hourly bike rentals for a number of days in 2012. The exact days (along with all the variables) will be released to you in 1 week. You will then have 3 days to submit your forecast. Meanwhile, use this time to explore the data and prepare your forecasting tools. Bikeshare.ipynb provides basic functions to get you started.



Good luck!