**Bike-Sharing System Prediction Model**

Bike-sharing systems are a new generation of traditional bike rental, where the entire process from membership to rental to return is automatic. Through these systems, users can easily rent a bike from one location and return it to another. Currently, there are over 500 bike-sharing programs worldwide with more than 500 thousand bikes. Today, there is great interest in these systems as they play an important role in transport, the environment, and health.

Apart from the interesting real-world applications of bike-sharing systems, the characteristics of the data generated by these systems make them attractive for research. Unlike other modes of transportation such as busses or subways, these systems explicitly record the duration of the trip as well as the departure and arrival location. This feature makes the bike-sharing system a virtual sensor network that can be used to record mobility in the city. Therefore, it is expected that most of the important events in the city can be detected by monitoring this data.

You need to predict the total number of bikes that will be rented in each hour of the test period, using only the information that is available before the rental period.

Where do Capital Bikeshare riders go? When do they ride? How far do they go? Which stations are most popular? What days of the week are most rides taken on? We've heard all of these questions since we launched in 2010, and we're glad to provide the data that shows you the answers from our first trip to today.

We invite developers, engineers, statisticians, artists, academics and other interested members of the public to use the data we provide for analysis, development, visualization or whatever else moves you.

This data is provided according to the Capital Bikeshare Data License Agreement.

**Data Fields**

datetime - hourly date + timestamp

season - 1 = spring, 2 = summer, 3 = fall, 4 = winter

holiday - whether the day is considered a holiday

workingday - whether the day is neither a weekend nor holiday

weather - 1: Clear, Few clouds, Partly cloudy, Partly cloudy

2: Mist + Cloudy, Mist + Broken clouds, Mist + Few clouds, Mist

3: Light Snow, Light Rain + Thunderstorm + Scattered clouds, Light Rain + Scattered clouds

4: Heavy Rain + Ice Pallets + Thunderstorm + Mist, Snow + Fog

temp - temperature in Celsius

atemp - "feels like" temperature in Celsius

humidity - relative humidity

windspeed - wind speed

casual - number of non-registered user rentals initiated

registered - number of registered user rentals initiated

count - number of total rentals