Bike Sharing Dataset

Context

Bike-sharing systems are a new generation of traditional bike rentals where the whole process, from membership, rental, and return back, has become automatic. Through these systems, a user can easily rent a bike from a particular position and return back at another position. Currently, there are about over 500 bike-sharing programs around the world which is composed of over 500 thousand bicycles. Today, great interest exists in these systems due to their important role in traffic, environmental, and health issues.

Apart from interesting real-world applications of bike-sharing systems, the characteristics of data generated by these systems make them attractive for research. Unlike other transport services such as buses or subways, the duration of travel, departure, and arrival position is explicitly recorded in these systems. This feature turns the bike-sharing system into a virtual sensor network that can be used for sensing mobility in the city. Hence, it is expected that the most important events in the city could be detected by monitoring these data.

Features

- **dteday:** date
- **season:** season (1: winter, 2: spring, 3: summer, 4: fall)
- **hr:** hour (0 to 23)
- **holiday:** holiday or not
- **temp:** normalized temperature in Celsius. The values are derived via (t-t*min)/(t*max-t*min), t*min=-8, t_max=+39 (only in hourly scale)
- **atemp:** Normalized feeling temperature in Celsius. The values are derived via (t-t*min)/(t*max-t*min), t*min=-16, t_max=+50 (only in hourly scale)
- **hum:** normalized humidity. The values are divided into 100 (max)
- **casual:** count of casual users
- **registered:** count of registered users
- **cnt:** count of total rental bikes including both casual and registered
- **weathersit:**
    - 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

Acknowledgments

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Original Source: http://capitalbikeshare.com/system-data

Weather Information: http://www.freemeteo.com