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Hans Engler. *Capital Bikeshare Station and Ride Analysis.*

As bikesharing systems have grown increasingly popular all over the world, Washington DC opened a bikeshare system called Capital Bikeshare in 2010. Before Citi Bike opened in New York City last summer, Capital Bikeshare was the largest system in the United States. Capital Bikeshare freely publishes all its ride data on its website thus inviting analysis from outside parties. This talk will discuss how the authors mine ride data which includes start and end stations, start and end times, and type of rider. Specifically we will talk about using the Expectation-Maximization algorithm with Poisson count data to introduce a latent variable which clusters the ride data according to different variables. The purpose of the clustering is to identify travel patterns of DC bike commuters and potential station communities. We are also exploring multiple model variations to identify useful new ways of looking at the data. (Received January 28, 2014)