Monday, March 7th
1:00- 2:00 PM

Geospatial Technologies for Ride-Sharing and Delivery Platforms

Ride-sharing and delivery platforms such as Uber require complex geospatial inputs in order to generate their user experiences, match demand with drivers, and calculate fares. For example, route planning for meal deliveries uses predictions of the travel time between any two locations in the road network, and platform efficiency heavily depends on the accuracy of these predictions. I will describe the data-driven geospatial technologies, including those for travel time prediction, route optimization, and map error detection, that form the foundation of such multi-sided platforms. I will detail the challenges, such as data sparsity on parts of the road network, and show that highly accurate predictions need to take into account the granular dynamics of the physical system (traffic patterns in the road network). I will also compare several common approaches for travel time prediction, and provide rigorous theoretical results showing that one class of approaches has higher accuracy than alternatives.

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UPCOMING SEMINARS

April 4th – Jyotishka Datta
Virginia Tech