



## ROLLING HORIZON STRATEGIES FOR A DYNAMIC AND STOCHASTIC RIDESHARING PROBLEM WITH REMATCHES

### Abstract:

Ridesharing companies provide platforms to match rider-to-driver requests. This reduces travel expenses for participants, while also reducing carbon emissions. We introduce a ridesharing problem where transportation requests are matched dynamically and the release of future requests is stochastic. Additionally, these requests can be unmatched for a certain cost, opening up the possibility of rematching them to more profitable rideshares. We propose myopic and stochastic models to generate dynamic match and unmatched decisions in a rolling horizon framework. We evaluate these models on a benchmark set based on data from an industrial partner. Our results show the benefits of using stochastic models and how the performance of models changes under different demand patterns. Moreover, our results show how the ability to unmatched can be useful when good predictions on future requests are not available.

### Zoom link to participate:

<https://uqam.zoom.us/j/82087206832>

**JEUDI / THURSDAY**

**22 Avril 2021, 11h00 – 12h00**

**Ouvert à tous  
Open to all**

**Responsables / Organizers**

**Sanjay Dominik Jena  
& Peyman Kafaei**