A Simulation Tool for Large-Scale Online Ridesharing

Ridesharing is a prominent collective intelligence application producing significant benefits both for individuals (reduced costs) and for the entire community (reduced pollution and traffic). We tackle the online ridesharing (ORS) problem with the objective of forming cost-effective shared rides among commuters that submit requests to be served in a short time period (i.e., in a few minutes). We demonstrate a web-based simulation tool that computes and shows cost-effective shared cars along with the optimal path for each car. Our tool internally employs an online optimisation approach that can tackle large-scale ORS problems originating from real-world data (i.e., with ~400 requests per minute). Specifically, our simulation tool uses data from a real-world dataset, i.e., the New York City taxi dataset.

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