

Real-time Demand Forecasting for an Urban Delivery Platform

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Abstract

Meal delivery platforms like Uber Eats shape the landscape in cities around the world. This paper addresses forecasting demand into the short-term future. We propose an approach incorporating both classical forecasting and machine learning methods. Model evaluation and selection is adapted to demand typical for such a platform (i.e., intermittent with a double-seasonal pattern). The results of an empirical study with a European meal delivery service show that machine learning models become competitive once the average daily demand passes a threshold. As a main contribution, the paper explains how a forecasting system must be set up to enable predictive routing.

Keywords: demand forecasting, intermittent demand, machine learning, urban delivery platform

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