At the Chair of Logistics and Supply Chain Management of TUM School of Management, we are looking for an interested and qualified student to conduct his/her

Master thesis

on the topic

Stochastic vehicle routing with roaming delivery locations with time windows

In recent years, e-commerce has experienced significant growth, particularly after the COVID-19 pandemic. To address the increasing demand and reduce delivery costs, a new concept called trunk delivery was introduced in 2015. This method involves sharing the customer's GPS data with the delivery company, allowing packages to be delivered directly to the trunk of their smart car. This problem is addressed as vehicle routing with roaming delivery locations (VRPDL) with time windows. The goal of this thesis is to study the VRPDL where the locations during each time window are stochastic.

Key project tasks:

- Literature review on relevant fields of study
- Modeling the problem with stochastic programming
- Implementation of the solution approach
- Analysis of results and implications

Requirements:

The thesis is suitable for Master in Management and Technology students with a major in operations and supply chain management. The ability to work independently, as well as analytical skills are required. Experience with programming in Python is required. Knowledge of mathematical programming and optimization is preferred. The thesis should be written in English.

Earliest begin: as soon as possible

Supervisor: Mahsa Nakhost

Application: Email with curriculum vitae and transcript of records to logtheses.log@mgt.tum.de