



Optimization of EV Routing and Charging Cycles

Point of Contact:

Andrea Bastoni
andrea.bastoni@tum.de

Type:

Master

Description:

The large-scale deployment of electrical vehicles (EV) in the service industry poses several challenges, one of these being the charging infrastructure and logistics. In particular the switch to EVs for large organizations requires an accurate planning of charging tower number and utilization based on available statistical data. In this master thesis the candidate will study, evaluate, and develop algorithms to optimize the scheduling and routing (e.g., parcel delivery) of a fleet of EV and optimize their charging cycles.

The charging profiles, battery status information, and vehicle details are provided from real-data gathered from a large-scale experiment.

The evaluation of the developed algorithms will be performed via simulation (see Simulation of EV Charging Cycles thesis) and possibly with the deployment on a real EV fleet in a constrained environment.

Requirements:

Mandatory:

- Good programming skills (C++, Python, C).
- Good algorithmic / math background.
- Knowledge of basic simulation strategies.



Boltzmannstr. 15, 85748 Garching b. München

<https://rtsl.cps.mw.tum.de/theses>