Traffic Light Modelling for Agent-based Traffic Simulation

TUM CREATE

About TUM CREATE
TUM CREATE is a joint research programme between Technische Universität München (TUM) in Germany and Nanyang Technological University (NTU) in Singapore with funding by the National Research Foundation of Singapore. It is investigating innovative technologies, future transportation concepts and the application of electric vehicles (EVs) to match the challenging requirements of fast-growing tropical megacities. This is a highly interdisciplinary international research effort, combining expertise from several institutes from TUM and NTU.

Project Description
TUM CREATE is developing a simulation framework for multi-scale agent-based traffic simulation, integrating various simulation models (e.g., infrastructure models, vehicle models, driver behaviour models, etc…) to conduct large-scale exploratory simulation experiments. The simulation model includes a model of the Singapore road network. In order to perform more realistic simulation experiments, it is also necessary to integrate models of traffic lights. Initial work has explored the possibility of using automatically extracting information about junctions and traffic lights from existing data. The aim of this project is two-fold: (1) (semi-)automated extraction of information from existing data and (2) development and integration of traffic light models into the simulation framework. For this purpose, TUM CREATE is looking for Bachelor students with strong software engineering background who are interested in working with agent-based simulation in a highly multi-disciplinary working environment.

The position is available immediately. Applicants* should send a CV and covering letter by email to Dr. Heiko Aydt (heiko.aydt@tum-create.edu.sg).

Requirements:
- Undergraduate student in Computer Science (preferably with focus on Software Engineering)
- High standard of English (written and spoken)
- Good programming skills in Java are required
- Prior experience with agent-based simulation is beneficial

*Singaporean/PR applicants are preferred.