Relative Reachability Analysis on Multimodal Transportation Networks

Bachelor/Master

Summary
Design and develop algorithms to compute the relative reachability of a given mode of transport in a multimodal transportation network.

Project Phase
Implement an one-to-many label-constrained variant of Dijkstra’s algorithm to compute relative reachability queries for a given course and integrate the algorithm into MoTrIS system for multimodal route planning.

Thesis Phase
Design and develop an efficient on-line algorithm to compute multiple one-to-many label-constrained shortest path queries simultaneously, along with optimizations to support the efficient processing of reachability queries.

Requirements
- Experience in Java programming
- Course on Algorithms and Data Structures (or equivalent)

Preferable Courses (or equivalent)
- Graph Data Management and Analysis
- Efficient Route Planning Techniques

Benefits
- Push state of the art and work with real-world applications
- Drink the best coffee at the University

Contact
Theodoros Chondrogiannis,
theodoros.chondrogiannis@uni.kn