



DATA SCIENCE USE CASE: VEHICLE ROUTING PROBLEM

Optimal Routing Tool for ADAS Validation

MOTIVATION

The target is to achieve a nominal scenario coverage in the most cost-efficient way. The result will require less time, mileage of driving and man-hours, hence reducing the costs for the data collection campaign.

Why use Data Science and Artificial Intelligence?

When planning routes for data collection, experience may drive the creation of such routes, but it is not feasible when many factors or POIs (points of interest) must be considered at once.

With our optimization algorithm it is possible to include many inputs simultaneously, obtaining optimized routes with maximal scenario coverage.

APPROACH

AVL's algorithm includes methods from several domains:

- Clustering techniques, operational research, combinatorial optimization

The intuitive user interface enables easy configuration of the optimization targets and boundaries.

INPUT

- Area of driving (by drawing polygons on map)
- Pre-defined scenarios (dynamic, static)
- Various parameters for the routing (start and end locations, number of vehicles, scenario weights, maximum time allowed, ...)

OUTPUT

- Drivable route with maximal scenario coverage, under the given time and mileage constraints

BENEFITS

- Routes with reduced costs, time and mileage and optimized coverage
- Many scenarios and POIs can be considered in the optimization
- Easy-to-use GUI
- Point of interest database that contains all relevant information from multiple sources

FIND OUT MORE

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