Motion Planning Using Continuous Optimization
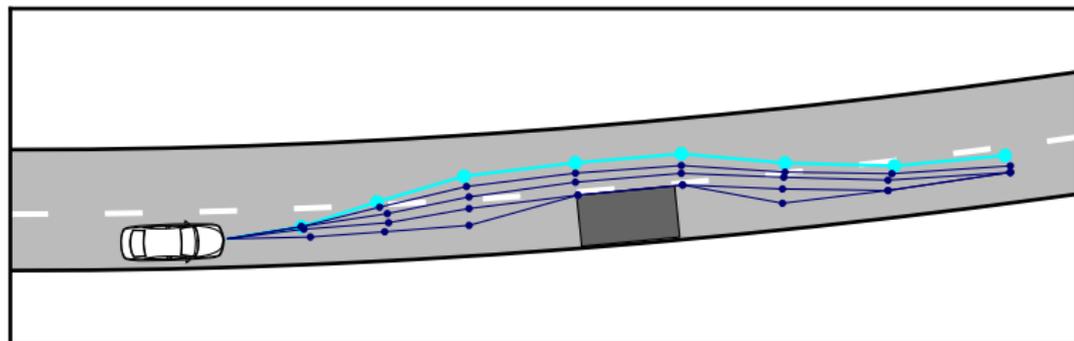
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12. July 2017

Overview

Implementation of a motion planning algorithm for autonomous vehicles using continuous optimization taking into account:

- the dynamic constraints of the vehicle model,
- collision avoidance constraints,
- a cost function, e.g. jerk, acceleration, energy.

- Literature research to optimization-based motion planning algorithms.
- Development of a suitable mathematical description of the environment.
- Implementation of an optimization-based motion planner in Python.
- Generation of test scenarios.
- Evaluation of the algorithm in various scenarios.

Any questions?