

Self-driving vehicle behaviour in complex urban environments

Summary

The main objective of the research is to investigate safe, reliable, and open autonomous vehicle driving algorithms for low-speed application in complex urban environments.

Research field:	Mechanical engineering
Supervisor:	Prof. Dr. Raivo Sell
Availability:	This position is available.
Offered by:	School of Engineering Department of Mechanical and Industrial Engineering
Application deadline:	Applications are accepted between September 01, 2021 00:00 and September 30, 2021 23:59 (Europe/Zurich)

Description

The self-driving cars and other autonomous systems are one of the most paradigm-changing technological developments in today's world. There are many open issues to get fully self-driving vehicles on the road. Safety is one of the most critical concerns as well as dynamic and reliable autonomous driving algorithms. The doctoral research is dealing with advanced driving algorithms in complex urban environment focusing on last-mile shuttle application in smart cities.

The research is focused on the following general topics:

- Development of self-driving last-mile vehicle and implementation in the urban environment
- Higher level mission planning and dynamic route generation in complex situations
- Safety and reliability improvements for autonomous driving

Applicants should fulfil the following requirements:

- Motivation, interest, and experience of computer programming
- General understanding and experience of working with Robot Operating Systems and Autoware
- Good English and communication skills



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