Course paper / final thesis, Internship

Study on sensor fusion to improve target tracking performance and integrated safety

Student Vehicle Technology, Sensor Technology, Mathematics or similar (f/m/x)

Starting date
immediately

Duration of contract
4-6 months

Remuneration
up to German TVöD 5
Ihre Mission:

The Urban Modular Vehicle is being developed by DLR as part of its next-generation automotive project. A specific challenge in vehicle development today is to ensure driving safety with high safety requirements. Various sensors (such as radar, lidar, GNSS) play an essential role in ensuring vehicle’s driving safety. For highly automated vehicles (AVs), sensor technology has to meet high safety requirements as its applications extend to safety-critical systems. In particular, sensor fusion utilizing multiple sensors mounted on autonomous vehicles can provide improved performance. Therefore, it is necessary to study the sensor fusion algorithm and evaluate its performance in terms of various performance indicators such as accuracy, availability (robustness), and integrated safety. In this study, sensor simulation using a driving simulator will be performed, and target tracking performance will be analyzed in terms of accuracy, availability (robustness), and integrated safety.

Content of the work:

- sensor simulation of a highly automated vehicle using Carla simulator for different sensor set scenarios
- develop a sensor fusion algorithm (i.e., Kalman filter) that computes target tracking estimates
- performance evaluation of the sensor set in terms of accuracy, availability (robustness), and integrated safety
- documentation of the work

Your qualifications:

- students from the fields of vehicle technology, sensor technology, mathematics (probability theory) or a comparable engineering or natural science
- interest in automotive engineering
- experience with any driving simulator would be an advantage
- knowledge of a scripting language (e.g. Python) would be an advantage

Your benefits:

Look forward to a fulfilling job with an employer who appreciates your commitment and supports your personal and professional development. Our unique infrastructure offers you a working environment in which you have unparalleled scope to develop your creative ideas and accomplish your professional objectives. Our human resources policy places great value on a healthy family and work-life-balance as well as equal opportunities for persons of all genders (f/m/x). Bewerbungen schwerbehinderter Menschen bevorzugen wir bei fachlicher Eignung.

Apply online now

You can send this job advertisement via e-mail and complete your application on a personal computer or laptop.

Complete application on PC
CAREER OPPORTUNITIES

Internship
Out of the auditorium and straight to the major issues for humanity and the future – ideally before finishing your course!

Course paper / final thesis
Exciting challenges for inquisitive people: write your thesis at DLR!

APPLICATION

Ways to apply
Commencing countdown, engines on: here's how you should apply.