Student Research Assistant (HiWi)

Vehicle Platform\(^1\) (left), Sensor Output (right)

Maintaining and Improving Small Scale Autonomous Vehicles

For the [Cognitive Automobile Lab](#) small scale vehicles are used to experience the challenges of developing algorithms used in autonomous driving. To further improve the lab, the vehicles need to be maintained and new challenges need to be tested. Further, the vehicles are relevant to research as algorithms can be validated on a small scale vehicles first before being deployed on our full-scale autonomous test vehicle.

The proposed position consists of the following parts:

+ Maintaining the cars to make sure they are always working
+ Fixing both hardware and software bugs
+ Improving existing software of the entire autonomous pipeline (perception, localisation, control)
+ Implementing and testing new challenges for future labs
+ Assisting other students using the vehicles

You should have experience in ROS (C++) and be available for at least 20 hours per month and preferably be willing to also assist the next Cognitive Automobile Lab in the summer term of 2022.

I am happy to answer any questions you might have. Feel free to send me an email or give me a call!

\(^{mushr.io}\)

Institute of Measurement and Control Systems (MRT)
Prof. Dr.-Ing. Christoph Stiller

Advisor:
Nick Le Large, M.Sc.

Programming language(s)\(^2\):
- C++ proficient
- Python beginner

System, Framework(s):
- Software: Linux, ROS, OpenCV
- Hardware: MuSHR (vehicle platform)

Required skills:
- Experience with ROS C++
- Experience with embedded systems helpful
- Being able to work independently

Language(s):
- German, English

For more information please contact:

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Room: 233
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Email: nick.lelarge@kit.edu

Or directly send in your application including your current grades as well as our [questionnaire](#).

\(^1\)skill levels:
- beginner ≤ 500 lines of code (LOC)
- advanced 500 – 5000 LOC
- proficient > 5000 LOC