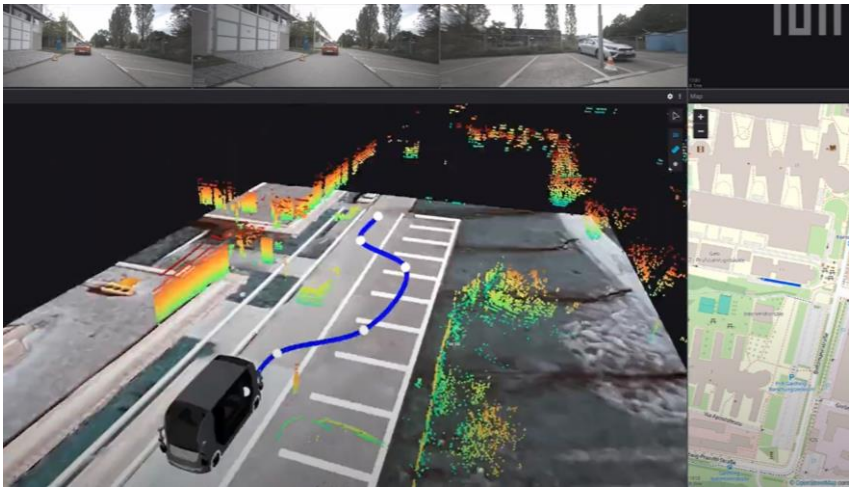
Institute of Automotive Technology
TUM School of Engineering and Design
Technical University of Munich

Bachelor/Semester/Master/IDP

# How to Teleoperate:
# A Skill Graph for an AV Remote-Support-System



Autonomous Driving is one of the megatrends of our time. It offers the possibility to increase the safety on our roads, the fairness of our mobility-system and the time spent driving can be used better. But even though autonomous vehicles promise those incredible advantages, they still are not deployed on public roads, because these systems cannot guarantee safe operation in all traffic situations. This is where Teleoperation comes into play. Teleoperation is a key-technology for autonomous driving. It enables a human operator to connect to a vehicle from any location and to support the vehicle in its decision making. The strengths of the human and the autonomous driving system can be combined an this makes it possible to solve any situation the autonomous vehicle gets stuck.

The goal of this work is to figure out the skills needed to remotely support a vehicle. To achieve this, the first step is to analyze what is needed for the operation of a conventional vehicle. Following, you will take a look at a working remote-support-system for automated vehicles and will decompose this system in its modules and submodules. By combining the findings from these two steps, an assumption can be drawn on who (autonomous driving system or remote operator) is responsible for the execution of which skill necessary for safe operation.

As soon as we know the skills that the remote-support-system is in charge of, we know which system components need to be monitored while using it. This makes teleoperation safer and brings autonomous vehicles one step closer to their usage on public roads.

Enthusiasm for the topic of autonomous driving, an independent way of working and a quick grasp of complex issues are necessary to master this work. The thesis can be written in German or English.

I am looking forward to receiving you application with your CV and your Transcript of Records!

**Contact**

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