



## Thesis

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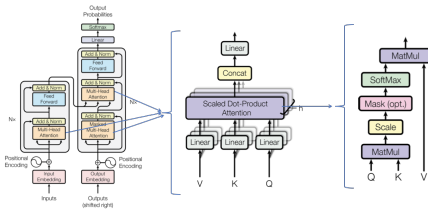


Figure 1: Schematics of self-attention from the ground-breaking paper "Attention is all you need".



Figure 2: Agile-X Scout Mini with LiDAR and CU. [global.agilex.ai]

## Contact

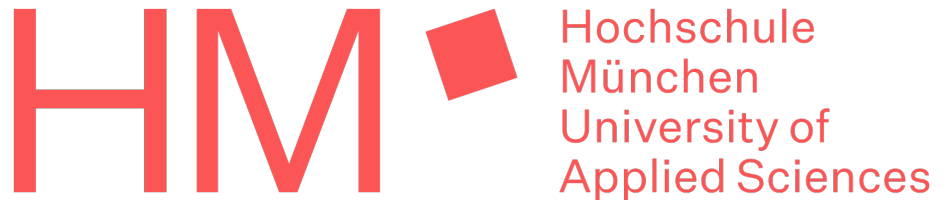
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## Bachelor / Master Thesis - Large Language Model

### Description

- The Intelligent Vehicles (IV)-Lab is looking for a **Bachelor / Master Thesis Student (m/f/d)** to support research in the field of autonomous driving starting in the coming winter semester.
- Large Language Models (LLM), such as GPT, hold promising contributions to the work in research. We would like to **implement our own LLM** in our Laboratory with your help.

### Your Project

- Experiment with different LLM architectures in terms of efficiency and performance (see Figure 1)
- Examine the implications of training an LLM from scratch vs. fine-tuning a pre-trained model
- Prepare the LLM for its use in later research projects, like controlling an AgileX robot with natural language (see Figure 2)
- **Goal:** Create a secure and private LLM that can be used in combination with other research projects

### Your Profile

- Willingness to learn and interest in the topic of autonomous driving
- Ability to work independently, conscientiously, and accurately
- Previous experience with Python is required
- Previous experiences with Linux, Bash, and git are a plus

### What we offer

- Gaining first experiences in one of the most promising technical fields of modern times
- Supervision and close cooperation with a PhD candidate in the corresponding field
- Optional extension to an SHK-position with flat-rate payment

Does this appeal to you? Are you interested in the field of autonomous driving? Then reach out to us via mail and send a short introduction, your current grade report, and a cv with a photo.