Chair of Computational Modeling and Simulation
TUM School of Engineering and Design
Technical University of Munich

Modeling:
Mathematics:
Programming:
Science:

# Software Lab:
# Bus health insights based on autonomous data analytic with LLM agents

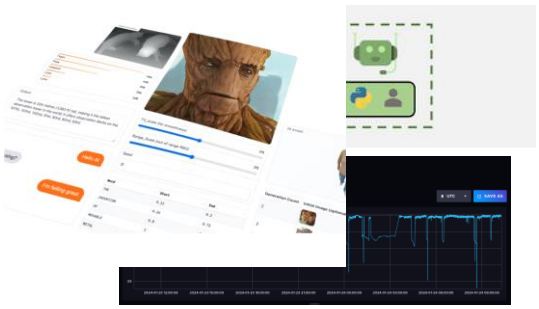
## Description

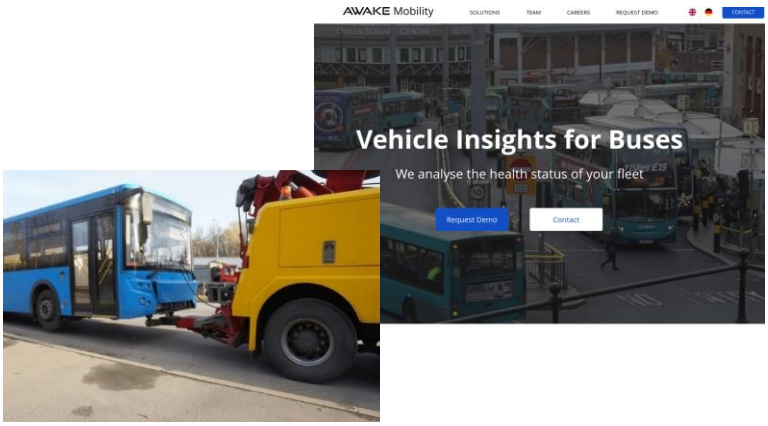
AWAKE Mobility provides bus fleet operators with vehicle health insights, predictive maintenance and more. These insights help operators understand, operate, and maintain their vehicles better. However, generating fleet-wide individual insights from AWAKE's data sources requires data structure understanding, limiting who can generate these insights.

To provide an easily accessible but flexible human interface to these data sources, Large Language Models (LLMs) can be used to generate a very individual, unrestricted query access without the need to understand low level technical data structure. Such an interface can be a powerful analytics tool that provides technical insights with low barrier for all kinds of technical and non-technical users.

## Task

Your task will be to propose ideas how autonomous LLM agents help bus operators to get better insights into their fleet. You will build an interactive prototype to verify and test the ideas viability. Build a user interface for non-technical users to ask questions about their fleet, about statistics, and about specific buses or failures to receive a summary of information gained from AWAKE's data sources.






GENERAL INSTRUCTIONS:

- Identify potential use cases
- Validate availability of data and requirements
- Build an automated AI agent prototype in python.
- Optional: build a web interface for feedback and testing

## Supervisor

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## References

*https://www.awakemobility.de/*
*Wang, Lei et al. "A Survey on Large Language Model based Autonomous Agents." ArXiv abs/2308.11432 (2023): n. pag.*
*Naveed, Humza et al. "A Comprehensive Overview of Large Language Models." ArXiv abs/2307.06435 (2023): n. pag.*