Bachelor Thesis Topic
Microservices, Understanding the Concept

Motivation and Background
The term Microservices is often used but not well defined. [1] So the challenge is to identify useful definitions. As result, the import aspects of Microservices can be given and enable developers to create better software.

Goals
The aim is to analyze actual existing definitions of Microservices and describe them by a the ßMACH method [2,3] to identify differences, to describe possible advantages and give problems of the definitions.

Description of the Task
The specific tasks are:
- SLR [4] to Microservice definitions
- Categorization of Definitions
- Analysis by ßMACH

Research Type
Theoretical Aspects:  *****
Industrial Relevance:  ****
Implementation  ***

Prerequisite
The student should be enrolled in the bachelor of computer science program, and has completed the required course modules to start a bachelor thesis.

Skills required
Literature analysis, very careful documentation of results, working carefully with citations, interest in understanding principles of software development.

Contacts
Marcus Hilbrich (marcus.hilbrich@informatik.hu-berlin.de)
Software Engineering Group, Institut für Informatik, Humboldt-Universität zu Berlin

References
[1] Hilbrich, Marcus; Lehmann, Fabian
Discussing Microservices: Definitions, Pitfalls, and their Relations
In: Accepted for publication on IEEE International Conference on Services Computing (IEEE SCC 2022), Forthcoming.

[2] Hilbrich, Marcus; Lehmann, Fabian
ßMACH — A Software Management Guidance
In: Reichelt, David Georg; Müller, Richard; Becker, Steffen; Hasselbring, Wilhelm; Hoorn, André; Kounov, Samuel; Koziolek, Anne; Reussner, Ralf (Ed.): Symposium on Software Performance 2021, CEUR-WS, Leipzig, Germany, 2022.

[3] Hilbrich, Marcus; Bountris, Vasili
Are Workflows a Language to Solve Software Management Challenges? — A ßMACH Based Analysis
Inproceedings In: 21st Intelligent Software Methodology Tools, and Techniques (SOMET 2022) (accepted), Forthcoming.

Guidelines for performing Systematic Literature Reviews in Softw. Engineering