KASTEL – Institute of Information Security and Dependability
Modelling for Continuous Software Engineering (MCSE),
Prof. Koziolek

Bachelorarbeit (English or German)

Exploring RAG and Prompt Engineering for Trace Link Recovery

Motivation

Retrieval-Augmented Generation (RAG) is a method that integrates large language models (LLMs) with external knowledge sources. Building on this concept, previous work has developed a framework aimed at restoring traceability links between artifacts in software development processes (Traceability Link Recovery).
Trace links connect elements across different artifacts, such as requirements and implementation, and are crucial for ensuring the traceability of software development processes.
A key factor in this process is the design of the prompts used to identify traceability links. The choice of prompt techniques can influence the quality and effectiveness of the results.

Task Description

Your task is:

- to analyze how different prompt techniques impact the performance of traceability link recovery.
- to evaluate how the use of this information affects the quality of the restored trace links.
- to extend the existing framework to effectively incorporate this information.

What We Offer

- Work with cutting-edge and innovative technologies
- Close connection to a current research project
- Contribution to open-source software
- Excellent work environment and intensive support

Wenden Sie sich bei Interesse oder Fragen bitte an: **Dominik Fuchß**
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