

Karlsruher Institut für Technologie Institut für Angewandte Informatik und Formale Beschreibungsverfahren (AIFB) Dr.-Ing. Michael Färber michael.faerber@kit.edu

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Transforming Academic Content Creation: Exploring the Power of Language Models

(in English or German)

We are searching for a student who can explore the potential of Language Models (LMs) in revolutionizing the creation of academic content. If you have a passion for AI and education, this project is ideal for you!

Our objective is to train and optimize language models (LLMs), specifically ChatGPT, to produce text that matches the quality of a scholarly teaching book. We aim to understand the limitations of current language models, improve their capabilities, and examine how different user questions influence their output. Through your research, we will identify the necessary steps to transform a language model into a valuable tool for authors, potentially revolutionizing the way we create educational content.

This project involves practical work in the field of AI, with a strong emphasis on validation and optimization techniques. You will compare text generated by the language model with that of a traditionally written teaching book, with the ultimate goal of enhancing the LM to generate content of superior quality. Additionally, you will analyze the workload, feasibility, and economic aspects of using LMs compared to traditional writing methods.

Besides Deputy Prof. Färber, you will collaborate with Prof. Freyer [1], who is currently writing a textbook in his field.

This research presents an opportunity to make significant contributions to the field of AI and education. Moreover, you will have the chance to author a research paper based on the thesis, in collaboration with the supervisor.

[1] https://boku.ac.at/nas/ifoel/institutsorganisation/mitarbeiterinnen/freyer-bernhard

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