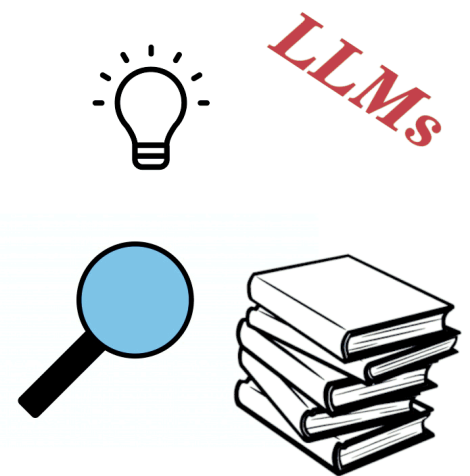




AI Doing Research: Exploring the Growing Field of Automated Science

Master – This thesis investigates the field of automated science, where AI systems autonomously conduct research processes. The focus is on approaches and tools that enable AI to generate hypotheses, design experiments, analyze data, and perform literature reviews by extracting relevant information from scientific publications. Selected methods will be prototypically implemented using Python libraries for natural language processing and data analysis. The effectiveness of these approaches will be evaluated on a representative scientific problem.

Related approach: [AutoRA](#) and [Musslick et al. 2025](#)



Tasks

- Analyze current AI approaches for automated science, including literature review automation.
- Implement selected methods using Python (e.g., NLP for literature review, experiment design, data analysis).
- Evaluate the implemented approaches on a representative scientific problem.

Your Profil

- Solid programming skills in Python.
- Interest in AI, machine learning, or natural language processing.
- Ability to analyze and compare scientific tools and methods.

Interested?

If you are interested or have further questions, please send an email to fschroeder@techfak.uni-bielefeld.de.