

At the University of Bayreuth, Faculty of Mathematics, Physics and Computer Science, at the **Chair of Data Systems** (Prof. Dr. Ruben Mayer), **starting at 01. October 2026**, we offer a

PhD position (m/f/d)
for the research area of **Data Systems for Artificial Intelligence**

in full time.

About us

The Chair of Data Systems at the University of Bayreuth, led by Prof. Ruben Mayer, is dedicated to performing high-quality research in large-scale distributed data systems, especially around artificial intelligence (AI) and machine learning (ML). We aim to solve real-world problems with data at scale.

Requirements

- Master's degree in computer science (or related) with very good results
- Interest in topics around the area of machine learning, distributed systems, and data management
- Basic knowledge in distributed systems and machine learning
- Experience with the development of software systems, very good skills in programming with standard programming languages such as C++, Python or Java
- Experience with fundamental software engineering concepts such as version control, testing and debugging, CI/CD pipelines, etc.
- Hand-on experience with machine learning frameworks (e.g., PyTorch) is a plus
- Excellent command of English
- Very good writing skills
- High engagement, high motivation, pro-active communication skills, and high social skills

Your tasks

Machine learning (ML) has enabled a breakthrough in the development of artificial intelligence in recent years. ML systems collect and process large amounts of data, e.g. from the Internet, and use it to train their models. This poses many challenges on data management. The data needs to have high quality, privacy of data subjects must be preserved, and bias in data and trained models must be prevented. An additional challenge is the heterogeneity of data, as it can come in many different shapes, such as text data, image data, or graph-structured data. With powerful open-weight foundation models becoming available, we also embark on the optimization of LLM inference engines (such as vLLM and LLM-d) and agentic systems. Here, the main challenges are in long-context serving under memory constraints while supporting agentic pipelines.

Your tasks will be centered around one of these research areas. Based on a concrete problem, you will conduct research on data and systems aspects of state-of-the-art AI systems.

We are looking for:

Did we spawn your interest to work in this exciting field and contribute to the progress of science?

To perform this exciting research, we are looking for a highly motivated student who has recently finished / is soon going to finish his/her master's degree in computer science (or similar). The position is fixed-term according to the "Wissenschaftszeitvertragsgesetz" and serves the own scientific qualification (doctorate) with remuneration according to pay group 13 TV-L. In all other respects, the hiring requirements according to the Bavarian University Innovation Act (BayHIG) apply.

We offer:

- Work in a highly innovative environment
- Supervision at one of the leading universities of Germany
- Funds for travel and student assistants (HiWis) are available.
- We will consider all incoming applications until the position is filled.

Application

The University of Bayreuth appreciates the diversity of its employees as an enrichment and is expressly committed to the goal of equal opportunities for all genders. Women are strongly encouraged to apply. Applicants with children are very welcome. The University of Bayreuth is a member of the Best Practice Club "Familie in der Hochschule e.V." and has successfully participated in the HRK audit "Internationalization of the University". Persons with severe disabilities will be given preferential consideration if they are equally qualified. We look forward to receiving your application.

Required documents: Curriculum vitae, a short letter of motivation, if applicable a list of publications (also blog posts and software projects) and complete transcripts of your Bachelor and Master studies.

Please apply online (**keyword "Data-AI"**) via the **online application portal** of the University of Bayreuth. Alternatively, you can also send the required documents combined in a single PDF directly to Prof. Mayer: ruben.mayer@uni-bayreuth.de. The documents will be deleted after the position has been filled in accordance with data protection requirements.

If you have any questions, please feel free to contact Prof. Mayer: ruben.mayer@uni-bayreuth.de