



We are looking to support our rapidly growing team as soon as possible:

- PhD Researcher (f/m/x)

Institute of Biomedical Informatics



TV-L: 38,5 h/week (100%)



limited for 2 years according to WissZeitVG (Third-party funded project)



Your salary will be based on TV-L

Your tasks

The Institute of **Biomedical Informatics** (BI-K) is currently searching for a PhD Researcher focusing on research and development of Large Language Models (LLMs) for biomedical data applications.

The successful candidate will contribute to cutting-edge projects involving LLMs, data analysis, and interdisciplinary collaboration to address key challenges in the biomedical field.

The successful candidate will be responsible for the following tasks:

- **Research on Large Language Models (LLMs):**
Conduct in-depth research into the functioning, capabilities, and limitations of LLMs, with a focus on applications in biomedical data, including training and / or fine tuning
- **Quantitative Data Analysis:** Independently analyse and interpret quantitative data from related data sources, employing statistical and computational techniques
- **ETL Pipeline Development for Data Quality and Findability:** Develop, maintain, and optimise ETL pipelines to improve data quality, findability, and accessibility in line with biomedical data requirements
- **Metadata Standards and Data Integration:** Apply knowledge of biomedical metadata standards to assess data quality and ensure interoperability,

Your future with us

We are one of the leading university hospitals in Germany and network research, teaching and health care at the highest level. That's why many things are a lot bigger for us: the spectrum of exciting development opportunities. The limitless openness with which specialists from all over the world work together here. Or our commitment as an employer to support all employees as best we can in reconciling their job with their goals and life situations.

This is the University Hospital of Cologne: Everything but ordinary.

Your future in detail

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The **Institute of Biomedical Informatics (BI-K)** is a newly founded and dynamic Institute at the Medical Faculty of the University of Cologne. Its mission is to support data-driven transformation in medicine and develop

with an interest in data integration and quality assessment

- Knowledge of FAIR Principles: Ensure all data processes adhere to FAIR (Findable, Accessible, Interoperable, and Reusable) principles, enhancing the transparency, accessibility, and usability of biomedical data
- Interdisciplinary Collaboration: Work closely with biomedical scientists to develop and refine innovative approaches that utilise LLMs to solve biomedical data challenges and facilitate knowledge extraction
- Benchmark Dataset Compilation: Compile, validate, and benchmark datasets to support the evaluation and performance comparison of LLMs within key biomedical use cases, adhering to FAIR data principles

novel artificial intelligence technologies for personalised medicine. You will be part of an agile, innovative and interdisciplinary team that brings together expertise from different disciplines to create synergies. You will have the opportunity to work with realworld data and collaborate with clinicians to solve problems that can have an impact on the lives of many people.

Your profile

- Educational Background: Master's degree (or equivalent) in Biomedical Informatics, Data Science, Computer Science, or a related field
- Technical Skills: Experience in data integration, and proficiency in programming (e.g., Python) and work with NLP (Natural Language Processing)
- Research Skills: Strong analytical abilities, familiarity with FAIR (Findable, Accessible, Interoperable, Reusable) data principles, and experience in interdisciplinary research
- Communication Skills: Excellent written and verbal communication skills, with the ability to present at conferences and collaborate with diverse stakeholders
- Additional: Prior experience with biomedical data or data science competitions is a plus

Our offer

- We offer an excellent technical infrastructure and clinical collaborations to work with real-world healthcare data.
- We promote your professional career development with the opportunity to take part in projects in national as well as European-wide academic, research and industry consortia.
- Our institute promotes diversity and offers a family-friendly and modern working environment.
- Flexible working hours and home office are possible.

Applications from female candidates are expressly welcome and will be given priority in the event of equal suitability, competence and professional performance. People with disabilities are welcome to apply and will be treated preferentially in the event of equal suitability and qualification. The position is suitable for staffing with part-time employees.

Contact

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Universitätsklinikum Köln AöR

Geschäftsbereich Personal

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50937 Köln

[Uniklinik Köln Karriere](#)

Application deadline: March 30, 2025

Job-ID: 6gw5wn8b

[Jetzt bewerben](#)

We look forward to receiving your application and getting to know you!