

12.08.2024



Doctoral Researcher Candidate in AI for Medicine (m/f/d)

Department: Bioinformatics Group, Department of Computer Science, Freiburg University

Project: A04 - Collaborative Research Center 1597 Small Data

The Bioinformatics Group at the Department of Computer Science, University of Freiburg, invites applications for a highly motivated doctoral researcher to join our team. The successful candidate will conduct research **starting as soon as possible** in AI for Medicine under the **A04 project**, *An effective similarity integration multi-modal graph neural network method to facilitate disease gene prioritization*, which is part of the CRC 1597 Small Data.

You can look forward to:

- Research that pushes the boundaries of what can be achieved in small data settings with artificial intelligence and modeling techniques
- An excellent research environment and a vibrant interdisciplinary community
- Structured supervision and courses that will prepare you for excelling within the respective disciplines, but also for crossing borders between them, including transferable skills and career development
- A welcoming and international research campus with a long tradition of interdisciplinary work in the data sciences

We are seeking for highly qualified and motivated candidates with:

- **Strong Knowledge in Machine Learning:** Candidates should have a strong background in machine learning and hands-on experience designing, implementing, and evaluating algorithms for predictive modeling and data analysis.
- **Desirable Experience in Bioinformatics:** While not mandatory, experience in bioinformatics is highly advantageous. Candidates familiar with biological data, computational biology, or related fields will be preferred.
- **Proficiency in English:** Fluency in both written and spoken English is required.
- **Strong Python Programming Skills:** Proficiency in Python is essential. The ideal candidate will be experienced with data processing libraries (e.g., NumPy, Pandas) and machine learning frameworks (e.g., PyTorch, Scikit-learn).

The CRC 1597 Small Data

Our CRC is highly interdisciplinary, integrating data-driven and knowledge-driven modeling approaches from computer science, mathematics, and statistics/systems modeling, to create comprehensive solutions for tackling small data settings, primarily in biomedicine. Biomedical applications, such as in forensic medicine, gene therapy, nephrology, psychiatry, radiology, or rare diseases, will be instrumental for validating the newly developed methods. All doctoral researchers will become members of our integrated research training group SMART, for fostering interdisciplinary exchange and establishing a shared language between disciplines.

Head to our website <https://www.smalldata-initiative.de/> to:

- Learn more about our interdisciplinary scientific approach to small data
- Get an overview of the individual research projects and their requirements

The **University of Freiburg**, beautifully located near the Black Forest, is one of the top research universities in Germany and also internationally, e.g., as reflected in the World University Rankings for the life sciences and computer science. The city itself offers a perfect balance between the urban amenities of a historic university town and closeness to nature for a high quality of life. Our external partner sites in Bochum and Greifswald, Germany, bring additional expertise to our initiative and offer a similarly attractive environment.

Application Submission Process

Applications are accepted only via the online application form <https://zks-redcap.uniklinik-freiburg.de/surveys/?s=A93ALAJRLFLRJXXL> . Please specify *A04 - Rolf Backofen* as your first choice on the form. Applications will be considered continually until the position is filled.

We welcome applications from individuals of all backgrounds and identities, and are committed to creating a diverse and inclusive research environment that supports the growth and development of all team members.

Questions may be addressed to bemb.smalldatacareer@uniklinik-freiburg.de.