

Bielefeld University stands for interdisciplinarity, high quality in research and teaching as well as for the further development of a gender-equitable university culture. A wide variety of subjects, perspectives and people work together to promote innovative and interdisciplinary research and teaching at the highest level. A broad range of study opportunities in the humanities, natural sciences, social sciences, technical sciences and medicine is open to the approximately 25,000 students. In addition to its international orientation, Bielefeld University is well connected to the medium-sized city and the region.

The **Faculty of Technology** at Bielefeld University has a vacancy for a

Professorship (W1 TT W2 or W2) for Sustainable AI Systems (with a particular focus on resource-efficient or secure AI)

to be filled at the earliest opportunity.

The field of sustainable AI systems concerns the question of how AI methods can be realised in a resource-efficient, safe and robust manner throughout their entire life cycle in the context of increasing dissemination in heterogeneous application areas. This addresses the realisation of AI methods beyond a purely mathematical approach, taking into account the unpredictable dynamics that arise in real environments, and in the interaction with human partners.

The specific focus of the professorship should address hardware-related challenges in the field of cognitive interaction and can lie in one of the following areas:

- (i) Tiny ML / Cognitive Edge Computing
- (ii) Safety in AI systems
- (iii) Ubiquitous AI, such as AI in sensor networks or intelligent wearables.

The professorship will be established within the newly established lighthouse project SAIL *Sustainable Lifecycle of Intelligent Socio-Technical Systems* (<https://jaii.eu/sail/>) funded by the Ministry of Culture and Science of the State of North Rhine-Westphalia, which addresses the development of sustainable AI systems in their entire life cycle and taking into account technical, cognitive, and social requirements in an interdisciplinary consortium.

Research experience is required in one of the following or related areas in the field of sustainable AI systems:

- resource-efficient and energy-efficient realisation of machine learning
- data-efficient machine learning
- security of AI systems and cognitive interaction technologies
- distributed AI methods, for example in heterogeneous sensor networks
- in the field of wearables, or embedded robotics.

Requirements for the position are a Ph.D. in computer science or equivalent, an internationally visible research record in the field of sustainable AI systems, and the ability to teach at university level.

The position holder is expected to make an active contribution to the network activities, especially in the design and realisation of sustainable AI components, and to be willing to

conduct collaborative research in an interdisciplinary consortium that complements the existing focus areas at the Faculty of Technology.

The Faculty of Technology offers numerous opportunities for cooperation with researchers in the fields of cognitive interaction systems, robotics and AI, among others, as well as a proven scientific environment within the framework of the Center for Cognitive Interaction Technology (CITEC) and interdisciplinary projects such as the DFG/TRR 318 *Constructing Explainability*. Further opportunities for cooperation are offered by the Faculty of Linguistics and Literary Studies and the Faculty of Business Administration and Economics with a strong focus on data science, as well as the newly established Medical School OWL.

In addition to undergraduate computer science curricula, the Faculty of Technology offers (international) degree programmes with a focus on intelligent systems, bioinformatics and genome research, as well as (together with other faculties) data science and biomechatronics.

The employment is based on the W1 level with tenure track to W2 or can be filled directly as W2. In the case of a W1 professorship, the position is initially limited to three years with the possibility of an extension for a further three years after a positive interim evaluation. In the event of a positive tenure evaluation in the last year, the subsequent transfer to a permanent W2 professorship is planned. The interim/tenure evaluations are regulated in the statutes for the implementation of W1 professorships with tenure track.

W1 tenure track professorships are firmly established at Bielefeld University as an equal appointment option. Tenure track professors are offered a target group-specific personnel development program that offers support during the arrival phase and the preparation of the interim and tenure evaluation.

The teaching load for a W1 position is initially 4 hours of teaching, and after three years it is 5 hours. Initially, teaching can be done in the special field of the post holder. In the long term, active participation in teaching in the Bachelor's and Master's programmes Intelligent Systems, Bioinformatics, and Data Science, including undergraduate teaching (e.g. in the field of Computer Science) is expected. Teaching at the undergraduate level takes place in German. Active participation in the self-administration of the Faculty of Technology is expected.

The requirements for employment are in accordance with § 36 HG NRW.

Applications from suitable severely disabled persons and persons with equivalent disabilities are expressly encouraged.

Bielefeld University has received several awards for its success in promoting equal opportunities and has been certified as a family-friendly university. The University pursues a committed equal opportunities policy with regard to the appointment of professorships and expressly invites suitably qualified female candidates to apply. It handles applications in accordance with the State Equal Opportunities Act. Family leave periods are appropriately considered in the selection decision.

The faculties consider the equality of women and men to be an important goal, which the future holder of the position will help to achieve.

Bielefeld University supports dual-career constellations in designing a common focus of work and life.

Applications should consist of: a cover letter, a curriculum vitae, a list of publications and identification of the two (for W1 TT W2) and five (for W2) most important publications, a 2-page research and teaching concept, a list of courses taught and other teaching qualifications (e.g. current evaluations, if available), a list of research activities and third-party funds raised to date (if available), copies of academic certificates.

Please submit your application in German or English by **April 30, 2023** online via the appointment portal of Bielefeld University:

<https://berufungen.uni-bielefeld.de>

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Please note that risks to confidentiality and unauthorized access by third parties cannot be ruled out when communicating via unencrypted e-mail. Information on the processing of personal data can be found at

https://uni-bielefeld.de/uni/karriere/2019_DS-Hinweise_englisch.pdf