

In a joint appointment procedure, the **German Aerospace Center e.V. (DLR)** and **the Faculty of Computer Science of the Ruhr-Universität Bochum** call for applications for the position of

University Professor (W3) for AI Safety and Security (f/m/x)

The successful candidate will be appointed at the Ruhr-Universität Bochum as soon as possible with reduced teaching obligations (2 semester hours per week) and will be simultaneously granted leave of absence (Jülich model) to take the post of

Director of the Institute for AI Safety and Security (f/m/x)

at the DLR.

DLR conducts research and development activities in the fields of aeronautics, space, energy, transport and their cross-cutting topics of security and digitalization. The challenge of a rapidly growing use of AI technologies is met with an integrative approach across all research fields. AI technologies related to mobility and transport are a main goal for collaboration within DLR and with industry. Ensuring operational and attack security for AI-based solutions is essential for ambitious application classes and technology fields that are particularly security-critical.

The employees at the DLR Institute for AI Safety and Security, newly founded in 2020 at the Sankt Augustin and Ulm sites (www.dlr.de/ki/en), make significant contributions to AI Safety and Security. Their focus is on the following key research areas:

- Trustworthy, operationally safe and secure AI for the automation of engineering systems in close cooperation with DLR's application-oriented institutes
- Organization, storage, exchange as well as the assurance of the integrity of sensitive data in distributed data infrastructures or spaces for AI technologies in close cooperation with the application-oriented institutes, in particular on mobility and transport
- Theories, algorithms, and methods for the design and development of AI-based security-critical sensors, systems, and subsystems
- Robustness, resilience and reliability of AI methods and their development considering the execution environment
- Basic procedures for formally verifying the correctness of AI algorithms (including for policy advice and strengthening our society's trust in AI), as well as the predictability and explainability of AI components or the synthesis of explainable AI methods, especially for human-in-the-loop related to AI processes
- Novel methods for evaluating and testing AI approaches, including assessment of capabilities, limitations, stability, and controllability of distributed AI-based solutions
- Innovative computational approaches and execution environments either in Quantum Machine Learning (QML) or by synthesis of ML structures
- Advancement of existing methods for training and validation on anonymized, pseudonymized and encrypted data as well as hybrid procedures with integration of analytically driven approaches
- Fundamental issues in human-centered AI and relevant ethical, legal, and social aspects

We are looking for a personality with proven management experience, who represents the field comprehensively in research and teaching and is well established in the national and international industrial and academic communities. Profound experience and outstanding scientific achievements in applied research in several of the above-mentioned areas are a prerequisite, preferably also in industry. In addition, willingness to participate in joint research projects of DLR and with other alliances of the university, such as the Research Center Trustworthy Data Science and Security of the University Alliance Ruhr, is expected.

A pertinent university degree with a doctorate and several years of experience in managing larger units is mandatory. Furthermore, the ability to successfully acquire third-party funding and to initiate regional, national and international interdisciplinary cooperation, especially with industry, and technology transfer activities, are required. The aptitude for teaching and didactic skills completes the set of requirements in research and teaching. The place of employment is Sankt Augustin.

Willingness to undergo a security check in accordance with the national security check law (§8 ff SÜG) is a prerequisite for an application. A check in accordance with the SÜG is mandatory for employment at DLR. Furthermore, the hiring requirements according to §36 of the North Rhine-Westphalia Higher Education Act apply.

DLR is the Federal Republic of Germany's research center for aeronautics and space. Its research and development activities in aeronautics, space, energy, transport, security and digitalization are integrated into national and international collaborations. Climate, mobility and technology are changing globally. DLR uses the expertise of its 55 research institutes and facilities to develop solutions to these challenges.

The **Ruhr-Universität Bochum** is one of Germany's leading research universities, addressing the whole range of academic disciplines. A highly dynamic setting enables researchers and students to work across the traditional boundaries of academic subjects and faculties. To create knowledge networks within and beyond the university is Ruhr-Universität Bochum's declared aim.

DLR and the Ruhr-Universität Bochum intend to promote the careers of women in areas in which they are underrepresented and therefore welcome applications from female candidates. Applications from severely disabled applicants who are suitably qualified are also very welcome.

DLR and the Ruhr-Universität Bochum value and promote the diversity of their employees' skills and therefore welcome all applications – regardless of age, gender, nationality, ethnic and social origin, religion, ideology, disability, sexual orientation and identity.

If you have any questions, please contact Prof. Dr. Christian Sattler, DLR-Divisional Board Member for Energy and Transport, Tel. **+49 2203 601-2868**, or the chair of the RUB Appeals Commission, Prof. Dr. Tim Güneysu, Tel. **+49 234 32-24626**.

Applications comprising the usual documents (cover letter, curriculum vitae, lists of publications and courses, certificates of academic examinations and appointments, list of successful third-party funding, as well as a maximum of 5 selected offprints of original works) should be sent by **October 31st, 2022**, in electronic form (as one PDF) to

Dekan der Fakultät für Informatik
Prof. Dr. Alexander May
Wasserstr. 221, 44801 Bochum
informatik-dekanat@rub.de

as well as to

Vorstandsvorsitzende des DLR
Prof. Dr.-Ing. Anke Kaysser-Pyzalla
Linder Höhe, 51147 Köln
berufungen@dlr.de

The processing of your personal data by DLR is regulated by a contract between RUB and DLR in accordance with Article 26 (respectively 28) DSGVO.