



Technische Universität Berlin offers an open position:

### **3 positions - Research Assistant - salary grade E 13 TV-L Berliner Hochschulen**

part-time employment may be possible

The XplaiNLP group in the Quality and Usability Lab, as a department of Faculty IV of the Technical University Berlin, is concerned with various aspects of Large Language Models (LLMs) in intersection with eXplainable AI and Human Computer Interaction (HCI). The group works on various topics ranging from disinformation detection, xAI, intelligent decision-support, to anonymization and synthetic text detection for medical use cases. For the research domains we collaborate with various international partners from research, industry and public institutions.

Our focus is on self-determined work in an interdisciplinary and international team; to this end, we offer open and flexible working conditions that promote scientific and personal exchange and are a prerequisite for very good research results.

#### **Faculty IV - Institute of Software Engineering and Theoretical Computer Science/ Quality and Usability Lab**

**Reference number:** IV-506/24 (starting at the earliest possible / until 31/08/27 / closing date for applications 11/10/24)

#### **Working field:**

For the BMBF project VeraXtract (Verification and Extraction of Disinformation Narratives with Individualized Explanations) we are looking for three research assistants for the applied research of AI-based detection of disinformation narratives.

#### **Each of the three positions has its own focus:**

1. The development of a vector knowledge base for provenance analysis and similarity search of known disinformation narratives
2. Development of approaches in natural language processing (NLP) for disinformation narrative detection - and extraction from text data and, if necessary, multimodal inputs
3. Development of eXplanations (xAI) at different levels of abstraction to explain the AI-generated analyses

A research assistant position will be advertised for each of these focus areas. The work itself is carried out in close cooperation with colleagues in the XplaiNLP team at the Quality & Usability Lab and external partners such as the German Research Center for Artificial Intelligence (DFKI), dpa, DW, Tel Aviv University, and Ubermetrics GmbH. If desired and suitable, a doctorate in the field can be pursued as well as publication and presentation of project and research results in scientific journals, at conferences and workshops.

#### **Specific tasks include, among others:**

- Depending on the focus:
  - o 1) Knowledge Base: Development of a vector-based database consisting of disinformation narratives and provenance analysis/similarity search
  - o 2) Narrative Extraction: Development of LLM-based methods and approaches for disinformation narrative detection and extraction
  - o 3) xAI: Development of AI-based explanations such as Chain-of-Thought Prompting and Mechanistic Interpretability to communicate results to different user groups
- Project communication and reporting
- Publication and presentation of project and research results in scientific journals, at conferences and workshops, as well as in international standardization committees

Professionally experienced members of our team provide support for self-motivated familiarization with the areas of responsibility.

#### **Requirements:**

- Successfully completed university degree (Master, Diplom or equivalent) in (technical) computer science or computational linguistics (or similar technical background)
- Very good programming skills in Python (Huggingface/PyTorch/ Tensorflow)
- Good Machine Learning/NLP knowledge and skills
- Previous experience in the field of natural language processing (NLP), and/or xAI in NLP
- Language skills: Good knowledge of German and/or English required; willingness to acquire the respective missing language skills

#### **Desirable:**

- High level of self-motivation, ability to work independently in a team and good self-organization

- Desire to work in an agile and lively international and interdisciplinary environment

In order to be considered for the selection process, please send the following documents, combined in one PDF file, to Vera Schmitt at **bewerbung@qu.tu-berlin.de**: Letter of application, curriculum vitae, copies of certificates, references.

By submitting your application via email you consent to having your data electronically processed and saved. Please note that we do not provide a guarantee for the protection of your personal data when submitted as unprotected file. Please find our data protection notice acc. DSGVO (General Data Protection Regulation) at the TU staff department homepage: [https://www.abt2-t.tu-berlin.de/menue/themen\\_a\\_z/datenschutzerklaerung/](https://www.abt2-t.tu-berlin.de/menue/themen_a_z/datenschutzerklaerung/) or quick access 214041.

To ensure equal opportunities between women and men, applications by women with the required qualifications are explicitly desired. Qualified individuals with disabilities will be favored. The TU Berlin values the diversity of its members and is committed to the goals of equal opportunities.

Technische Universität Berlin, Fakultät IV, Institut für Softwaretechnik und Theoretische Informatik, FG Quality and Usability Lab, Prof. Dr. Möller, TEL 18, Ernst-Reuter- Platz 7, 10587 Ber

The vacancy is also available on the internet at <https://www.personalabteilung.tu-berlin.de/menue/jobs/>

