



Technische Universität Berlin offers an open position:

Research assistant - salary grade E 13 TV-L Berliner Hochschulen

part-time employment may be possible

The Smart Water Networks research group (<https://www.tu.berlin/en/swn/>) investigates how digital technologies can support urban water management. Our research mission is developing data-in-formed and transferrable algorithms and sensor-based technologies that support sustainable, cost-effective, and just decision making (for utilities and municipalities), and awareness & sustainable behaviors (for citizens).

Your focus will be the project "iOLE: intelligente Online-Leckage-Erkennung" (English: intelligent online leakage detection), coordinated by our team at TU Berlin and developed in partnership with the hydroinformatics group at KWB and German water utilities. iOLE is funded through the Digital GreenTech program (<https://digitalgreentech.de/>) of the Federal Ministry of Education and Research (BMBF) in Germany. The iOLE project aims at minimizing global losses of potable water by rapidly and automatically detecting and locating leaks in water distribution systems. This project builds on previous work developing algorithms for leakage detection with a data-driven as well as a model-based approaches. Our target for this project is to advance the data-driven leakage detection algorithm from the concept proof phase to an industry ready technology, thereby, integrating it into the user-centered framework of iOLE.

This position involves integrating existing leak detection algorithms into a software tool with a user interface for practical use by water utilities.

The software developer will be located with the SWN research group (https://www.swn.tu-berlin.de/menue/smart_water_networks/) at TU Berlin and, with the other members of the iOLE project, will have access to common facilities in the interdisciplinary working environment of the Einstein Center Digital Future. Moreover, most of the activities will be developed as collaborative efforts with all other project partners.

Faculty V - Institute of Fluid Mechanics and Technical Acoustics / Smart Water Networks

Reference number: V-517/24 (starting at the earliest possible / limited until 31/08/25 / closing date for applications 11/10/24)

Working field:

Software Development: develop a user-friendly interface for the leak detection tool, ensuring it meets industry standards and user needs

- Algorithm Integration: Incorporate data-driven and model-based leak detection algorithms into a software tool
- Project Contribution: advance the iOLE project from concept proof to an industry-ready technology within the user-centered framework of iOLE
- Co-design and developments of UI/UX components for the leak detection software tool developed in iOLE
- Contribution to and preparation of project deliverables, meetings, and workshops/conferences
- Participation in workshops with water utilities aimed at defining the requirements for the software tool
- Showcase and validation of the iOLE software tool with selected water utilities and project partners
- Possibility to co-author software publications

Requirements:

- successfully completed an academic university degree (Diplom, Master or equivalent) in Computer Science, Software Engineering, or specializations in software development, UX design, or other relevant disciplines
- good programming skills in at least one among Python, C++, or Java
- experience with version control
- knowledge in user interface and user experience (UI/UX) design
- very good written and oral language skills in English - at least C1 level

Bonus skills:

- excellent communication skills, teamwork skills, proactive behavior, and commitment
- prior experience of working in a multi-disciplinary team
- prior experience in developing graphical user interfaces
- good written and oral language skills in German
- knowledge of critical water infrastructure systems

Please send your written application in English with the **reference number** and the usual documents in one pdf-document (cover letter, CV with final grades, certificate of Master's degree) **by e-mail to Prof. Dr. Cominola (office-k2@fsd.tu-berlin.de)**.

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.

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.

Die Präsidentin - Fakultät V, Institut für Strömungsmechanik und Technische Akustik, Fachgebiet Smart Water Networks, Prof. Dr. Cominola, Sekr. FSD, Straße des 17. Juni 135, 10623 Berlin.

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

