

PREDOCTORAL PROJECT RESEARCHER

(all genders welcome)

Department of Artificial Intelligence and Cybersecurity

University of Klagenfurt, Austria

Scientific Staff | Full-time

Application deadline: *December 30, 2025*, Submission: petra.wiesner@aau.at

Expected starting date: *February 1, 2026* (an earlier start is possible)

We are pleased to announce an open position at the Department of Artificial Intelligence and Cybersecurity, within the Faculty of Technical Sciences. As a project researcher, you will join the research team around Prof. Konstantin Schekotihin and Prof. Martin Gebser, working on the project “Automated Twin for semiconductor manufacturing (ATRIA)” funded by the Austrian Research Promotion Agency in the focus area “EUREKA Austria-Canada Call on AI”. You will work in a multilingual research team with Infineon Technologies Austria, SolidState.ai (Canada), and Research Studios Austria.

YOUR PERSONAL SPHERE OF INFLUENCE

The ATRIA research project will harmonize semiconductor manufacturing by optimizing process flows, which are sequences of Unit Process Instructions (UPIs) describing operations to be performed by tools on developed wafers. The envisaged approach shall employ a hybrid AI architecture that synergizes symbolic methods—specifically ontologies and knowledge graphs to formalize domain knowledge about the planning task, as well as heuristic search and automatic planning to find (optimal) solutions—with subsymbolic approaches such as deep learning and reinforcement learning to reduce the complexity of knowledge acquisition and search for solutions. Therefore, this project is closely connected to the Austrian cluster of excellence “Bilateral Artificial Intelligence,” in which the Department of Artificial Intelligence and Cybersecurity participates. Clusters of excellence are the Austrian flagships of basic research. If you are open to new challenges and value teamwork in a successful research environment, we invite you to join our team!

Employment Level	100% (40 hours/week)
Duration	Limited to 3 years
Start Date	February 1, 2026 (an earlier start is possible)
Salary	€ 52 007.20 per annum (gross); Classification: Uni-KV B1
Application Deadline	December 30, 2025

AREA OF RESPONSIBILITY

- Autonomous scientific work, including the publication of research articles in the field of AI, in particular:
 - Ontologies and knowledge graphs to acquire, store, and maintain knowledge about the planning domain, including actions, their prerequisites, and effects;
 - Applications of modern natural language processing methods, like LLMs, for the construction and maintenance of knowledge graphs;
 - Automated planning, planning domain description language (PDDL) for the computation and verification of process flows;
 - Study combinations of hierarchical planning methods with machine learning methods to reduce computation time by improving the planner's decisions.
- Conduct theoretical and practical (empirical) research, aiming to publish high-quality papers at premium venues, submit a dissertation, and acquire a doctoral degree.
- Collaborate with industry partners to define application scenarios, implement, and evaluate proof-of-concept prototypes.
- Contribution to organizational and administrative tasks.
- Participation in public relations activities.

The successful candidate is expected to pursue a PhD within the thematic doctoral program Informatics at the University of Klagenfurt. This position serves the purposes of the vocational and scientific education of graduates of Master's or Diploma degree programs to complete a doctoral degree in Technical Sciences. Applications by persons who have already completed a subject-specific doctoral degree can, therefore, not be considered.

REQUIREMENTS

Prerequisites for the appointment:

- Master's degree at a domestic or foreign higher education institution in computer science or a related field. This requirement must be fulfilled at the latest two weeks before the starting date; hence, the last possible deadline for meeting this requirement is January 15, 2026.
- Proven background in the following fields: ontologies, knowledge graphs, and natural language processing with deep learning.
- Strong programming skills, preferably in Python, in at least one deep learning framework, like PyTorch or TensorFlow.
- Solid communication and dissemination skills.
- Fluency in English (both written and spoken).

Desired skills:

- Background in automated planning, PDDL, and reinforcement learning.
- Publications in Q1-Q2 journals (Scimago), as well as A*-B conferences (ICORE Conference Portal).
- Ability to work in a diverse team.

- German language skills are not required, but successful applicants will be expected to acquire them during their appointment.

ADDITIONAL INFORMATION

The University of Klagenfurt, located in the Alps-Adriatic region, employs approximately 1,500 staff members and serves over 12,000 students. It consistently ranks highly in various assessments. Our motto, “per aspera ad astra,” reflects our strong commitment to excellence in research, teaching, and university administration. We are grounded in principles of equality, diversity, health, sustainability, and work-life balance.

The University of Klagenfurt offers:

- Personal and professional advanced training courses, management and career coaching, including bespoke training for women in science.
- Numerous attractive additional benefits, see also <https://jobs.aau.at/en/the-university-as-employer/>
- Diversity- and family-friendly university culture.
- The opportunity to live and work in the attractive Alps-Adriatic region with a wide range of leisure activities in the spheres of culture, nature, and sports.

APPLICATION

If you are interested in this position, please apply in English, providing the following documents in *PDF format*:

- Letter of application explaining the motivation and providing a statement of research interests. The letter should address your previous experience in relation to all prerequisites for the appointment, and optionally, your desired skills. Thus, your letter might include references and brief summaries of relevant, qualifying publications, links to code repositories demonstrating your coding skills, and descriptions of relevant courses.
- Curriculum vitae (please do not include a photo).
- Copies of bachelor’s and master’s degree certificates, as well as corresponding transcripts containing the list of all courses and grades.
- A copy of the master’s thesis (if the thesis is not available, the candidate should explain).
- Three references (contact details of persons whom the university may contact by email or telephone for information purposes).

To apply, please send your application to Petra Wiesner (petra.wiesner@aau.at).

In case an applicant has not received the master’s degree by the application deadline. The applicant should provide a declaration, written either by a supervisor or by the candidate themselves, on the feasibility of finishing the master’s degree before January 15, 2026.

Candidates must provide proof that they meet the required qualifications by January 15, 2026, at the latest.

For further information on this specific vacancy, please get in touch with Dr. Konstantin Schekotihin (konstantin.schekotihin@aau.at). General information about the university as an employer can be found at <https://jobs.aau.at/en/the-university-as-employer/>.

The University of Klagenfurt aims to increase the proportion of women and, therefore, explicitly invites qualified women to apply for the position. Where the qualification is equivalent, women will be given preferential consideration. Individuals with disabilities or chronic diseases who meet the requirements are particularly encouraged to apply.

Travel and accommodation costs incurred during the application process will not be refunded. Translations into other languages shall serve informational purposes only.