

The Leibniz Institute for Agricultural Engineering and Bioeconomy is a pioneer and a driver of bioeconomy research. We create the scientific foundation to transform agricultural, food, industrial, and energy systems into a comprehensive bio-based circular economy. We develop and integrate techniques, processes, and management strategies, effectively converging technologies to intelligently crosslink highly diverse bioeconomic production systems and to control them in a knowledge-based, adaptive, and largely automated manner. We conduct research in dialogue with society - knowledge-motivated and application-inspired.

To strengthen the **Department Data Science in Bioeconomy**, we are offering the following positions

Two Postdoc Positions (100 %) in the Field of Artificial Intelligence

Together we develop and apply cutting-edge methods in artificial intelligence (AI) to address urgent societal and environmental challenges such as improving food security, promoting animal welfare, protecting biodiversity, and supporting sustainable agricultural and bioeconomic systems. We are now seeking **two highly motivated postdoctoral researchers** to strengthen our interdisciplinary AI team.

The positions will focus on two core but complementary areas:

- **Computer vision and sensor data analysis**, applied to tasks such as object detection in drone images (e.g., pest or disease detection), object tracking (e.g. leaves or animals), animal pose estimation from video (e.g., cows or horses), and plant phenotyping.
- **Modeling microbial and environmental data**, with a focus on microbial communities in soil and plants, integrating omics, environmental, and chemical data, using machine learning and explainable AI.

Depending on your background, interests, and evolving project needs, your work may focus on one of these areas or bridge both. Ideally, you bring strong technical expertise and the curiosity to work across modalities and domains.

Your responsibilities

- Design and implement machine learning and deep learning pipelines for real-world applications in agriculture, animal welfare, and environmental research.
- Analyze and model diverse data types, including image, time-series, and tabular data.
- Develop and apply methods for explainable AI (XAI) to uncover meaningful patterns and insights.
- Collaborate closely with domain experts from microbiome biotechnology, plant science, and animal science.
- Publish scientific findings in high-impact journals and present at national and international conferences.
- Supervise and mentor Bachelor, Master, and PhD students.
- Support researchers in integrating AI techniques into real-world applications.
- Contribute to project coordination, reporting, and communication with internal and external partners.
- Support the development of new research proposals and funding applications.
- Optionally participate in teaching and curriculum development.

Your qualifications

- PhD in computer science, data science, applied mathematics, physics, or a related field.
- Strong expertise in machine learning and deep learning, including experience with tabular, image, and time-series data.
- Proven hands-on experience with tools such as Python, PyTorch, TensorFlow, NumPy, and scikit-learn.
- Familiarity with version control systems such as Git.
- Expertise in at least one of the following areas:
 - Computer vision (e.g., object detection, segmentation, classification, explainable AI)

- Microbiome data analysis, bioinformatics, or modeling of biological systems (e.g. regression, classification, anomaly detection, fault diagnosis, and interpretable machine learning).
- Basic understanding of environmental science, agriculture, bioeconomy, microbiomes, or biodiversity is an advantage.
- Proven ability to collaborate in interdisciplinary research settings, especially across life sciences, environmental sciences, or agriculture.
- Experience supervising students or junior researchers is a plus.
- Teaching or lecturing experience is beneficial.
- Excellent communication skills in English (written and spoken).
- German language skills are a plus but not required.
- Strong problem-solving skills, creativity, and a collaborative mindset.
- High level of responsibility, reliability, and the ability to work independently in a goal-oriented manner.

We offer

- A vibrant, interdisciplinary research environment working on topics of high societal relevance.
- The opportunity to shape research at the intersection of AI and life/environmental sciences and to publish your results in leading conferences and journals.
- A highly motivated, international, and interdisciplinary team with strong expertise in AI and bioeconomy topics.
- Access to state-of-the-art computing infrastructure and data resources.
- Opportunities for professional development and career growth.
- The position is primarily based on-site at our institute in Potsdam, with the possibility of partial remote work after an initial onboarding and orientation phase.
- Flexible working hours and family-friendly working conditions that promote the compatibility of work and family.
- Participation on the VBB company ticket or Deutschland ticket.
- Company-owned electric bicycles and vehicles for business trips.
- Our institute is located on the edge of a picturesque park-like landscape and is reachable by public transport or by bike.

About the position

The salary depends on your qualifications and professional experience according up to TV-L 14. The position is full-time (100 %) for 3 years with the possibility of a 2 years extension. Part-time is possible.

About the application process

For further information please contact **Tatiana Dierks** (E-Mail: tdierks@atb-potsdam.de) and visit our website www.atb-potsdam.de.

We are looking forward to receive your application including a cover letter, CV, all credentials with grades (A level, Bachelor and Master/Diploma), recommendation letters and at least 3 reference contacts by the following deadline **May 14th, 2025** using ATB's online application form for the job advertisement, **code 2025-DS-PD-15**, at <https://www.atb-potsdam.de/en/career/vacancies>. Applications received after the application deadline cannot be considered.

Equality of opportunity is part of our personnel policy. Disabled applicants with adequate qualifications will be preferentially considered.

By submitting an application, you agree that your job application documents will be stored for a period of six months, even in the case of an unsuccessful application. Further information on the processing, storage and protection of your personal data can be found at:

<https://www.atb-potsdam.de/de/special/datenschutzerklaerung-fuer-den-bewerbungsprozess>.

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