ATB
Leibniz-Institut für
Agrartechnik und Bioökonomie

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.

Subject to funding approval, the following position is to be filled for the three-year main phase of the joint project "Diversification of cropping systems for the one health of soils, plants and humans (DCropS4OneHealth)", which has been applied for within the framework of the BMBF call "Biodiversity and Health"

Scientist for the Doctorate (100 %)
Focus on Artificial Intelligence

The DCropS4OneHealth project aims to identify causal relationships between how the diversification of crop production systems affects biodiversity in the agricultural landscape, health-relevant properties of field produce, and human health. You will be responsible for developing novel AI models. The position is assigned to ATB's Data Science in Bioeconomy Department in close collaboration with the Department of Microbiome Biotechnology and the Department of Technology Assessment. External partners are the Teaching and Research Station for Animal Breeding and Husbandry (LVAT), the University of Potsdam, the Leibniz Institute for Plant Biochemistry (IPB), the European Molecular Biology Laboratory (EMBL) and the Potsdam Institute for Climate Impact Research (PIK).

Your responsibilities

- Development of novel Artificial Intelligence methods
- Scientific processing of projects, especially with a focus on: Regression analysis, image classification, object detection and segmentation, uncertainty estimation and Bayesian learning techniques, explainable Artificial Intelligence
- Analysis of multimodal data, e.g., UAV images, environmental metrics, human health metrics, and sensor-based high-dimensional numerical data on soil, plant, microbiome, and insects
- Communication and transfer of the project findings to the project partners
- Presentation of project findings at conferences and workshops
- Creation of project reports and scientific publications

Your qualification profile

- Successfully completed university degree (master, diploma, or equivalent) in computer science, physics, engineering, mathematics, or comparable field
- Profound knowledge in the field of machine learning, in particular deep neural networks
- Practical experience in the application of machine learning algorithms for both regression and classification problems
- Excellent knowledge of computer vision, especially segmentation and object recognition
- Knowledge in the field of explainable Artificial Intelligence is an advantage
- Knowledge of Bayesian statistics is an advantage
- Basic knowledge of the environment, agriculture, microbiome, and biodiversity is an advantage

Leibniz-Institut für Agrartechnik und Bioökonomie e.V. (ATB)
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- Sound programming skills (especially in Python), experience with ML and linear algebra libraries (PyTorch, Tensorflow, NumPy, scikit-learn, etc.)
- Experience in using versioning tools, e.g. Git
- Experience with Unix-based systems, e.g. Linux
- Excellent written and spoken English skills and willingness to learn the German language
- Experience in scientific work is an advantage
- Flexibility, creativity, willingness to cooperate, and excellent communication skills
- High sense of responsibility, reliability, personal commitment, and goal-oriented and independent work

We offer

- Exciting research tasks in the field of machine learning with highly socially relevant fields of application
- The opportunity to make valuable contributions to cutting-edge AI research
- The opportunity to publish your papers in conference and journal publications
- The possibility of a doctorate (PhD)
- The opportunity to gain interdisciplinary knowledge from experts in diverse research areas
- A highly motivated, international team
- Flexible working hours and excellent equipment
- Supervision by experienced scientists
- Family-friendly working conditions that promote the compatibility of work and family life
- Close cooperation with the Berlin Institute for the Foundations of Learning and Data (BIFOLD), the research group Machine Learning of the HHI and the Institute of Computer Science of the University of Potsdam, the research group UMI lab, and many others
- Participation on the VBB company ticket or Deutschland ticket
- An easily accessible work place (bike, public transport) on the edge of a park-like landscape

Subject to funding approval, the position is expected to be filled from August 1st, 2024, for a limited period of three years in accordance with the project duration. The salary is dependent on your qualifications and professional experience up to pay group 13 TV-L.

For further information please contact **Prof. Dr. Marina Höhne** (E-Mail: mhoehne@atb-potsdam.de) and visit our website **www.atb-potsdam.de**.

If you would like to contribute your expertise to our interdisciplinary research please apply by **June 12, 2024** using ATB's online application form for the job advertisement, reference code **2024-DS-1** at https://www.atb-potsdam.de/en/career/vacancies.

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/en/data-protection-declaration-for-the-application-process

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