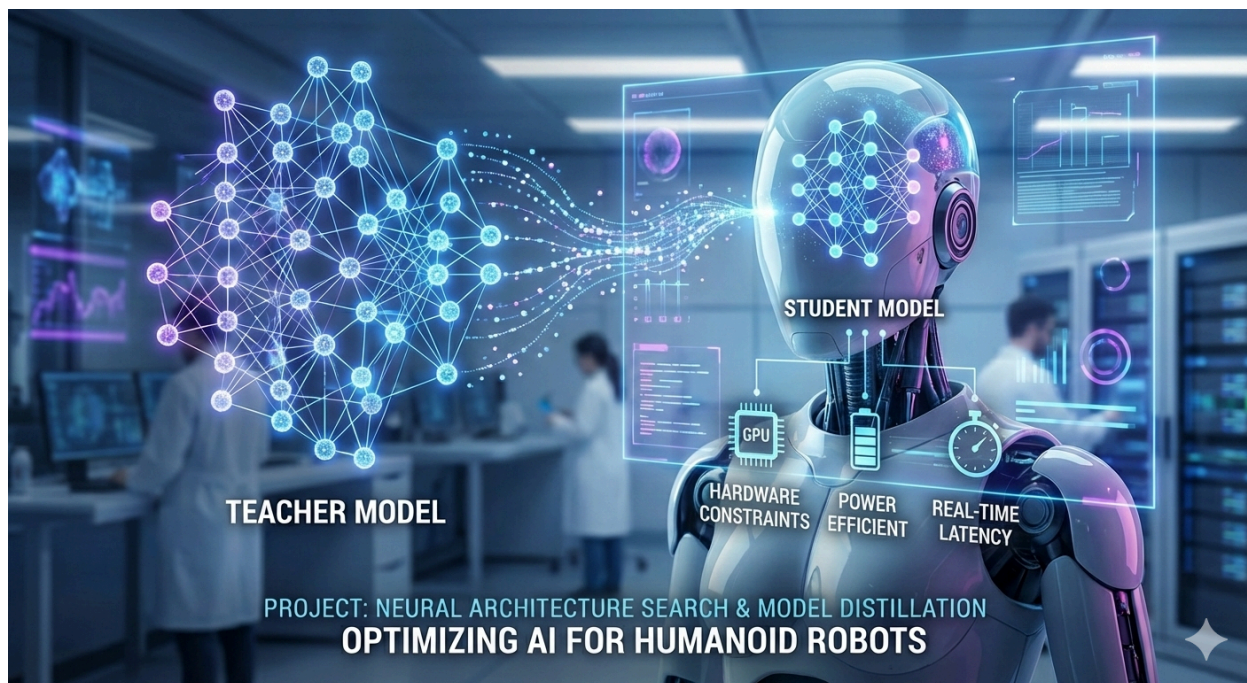




INSTITUTE FOR MACHINE
LEARNING AND ANALYTICS



PostDoc Researcher (m/f/d), Efficient Embedded AI (Project Lab2Device)

Join the "**Lab2Device**" project, funded by the *Carl-Zeiss-Stiftung*. Our goal is to bridge the gap between high-performance prototyping and resource-constrained embedded devices. The project focuses on transferring prototypical AI models into sustainable, energy-efficient products by optimizing for accuracy, energy consumption, memory footprint, robustness, and trustworthiness. We validate these methods in real-world use cases: Humanoid Robotics and Battery Diagnostics.

Your Responsibilities:

- **Method Development:** Research and develop novel methods for Model Compression (Pruning, Quantization, Distillation) and Hardware-Aware Neural Architecture Search (NAS).
- **Benchmarking:** Conduct holistic benchmarking of AI methods regarding their cost-benefit ratio (performance vs. energy/resource usage).
- **Leadership:** Supervise and guide doctoral students (PhDs) within the project team.

- **Transfer & Collaboration:** Coordinate transfer activities with industry partners and organize workshops.
- **Publication:** Publish research results in high-ranking scientific conferences and journals.

Your Profile:

- A completed PhD in Computer Science, Electrical Engineering, or a related field.
- Strong background in Machine Learning/Deep Learning (e.g., PyTorch, TensorFlow).
- Experience with **Embedded Systems** or **Edge AI** (deploying models on constrained hardware).
- Knowledge of **Model Compression** techniques or **Neural Architecture Search** is highly desirable.
- Track record of peer-reviewed publications.
- Fluent in English; German language skills are an asset.

We Offer:

- Fully funded PostDoc position for 3.5 years
- A key role in a cutting-edge research project with significant societal impact (sustainability, energy efficiency).
- Access to state-of-the-art infrastructure, including GPU clusters and humanoid robots.
- Interdisciplinary collaboration between three research institutes (ivESK, IMLA, INES).
- Support for your academic career qualification (mentoring for future professorships, didactic courses).

Contact:

Prof. Dr.-Ing. Janis Keuper,

keuper@imla.ai

<https://www.keuper-labs.org/>