



Paderborn University is a high-performance and internationally oriented university with approximately 20,000 students. Within interdisciplinary teams, we undertake forward-looking research, design innovative teaching concepts and actively transfer knowledge into society. As an important research and cooperation partner, the university also shapes regional development strategies. We offer our more than 2,500 employees in research, teaching, technology and administration a lively, family-friendly, equal opportunity environment, a lean management structure and diverse opportunities.

**Join us to invent the future!**

The **faculty of Computer Science, Electrical Engineering and Mathematics** – the Department of Computer Science / “**Data Science for Engineering**” group – offers three full-time positions within an AI Junior Research group (starting September 1<sup>st</sup>, 2022) as

## Research Assistant (f/m/d)

(according to salary group E 13 TV-L)

The position is limited until August 31<sup>st</sup>, 2025 (subject to the final grant approval). The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG) and corresponds to the anticipated project duration. The position offers the possibility to do a PhD or obtain further academic qualification.

### Your duties and responsibilities:

Deep neural networks are of utmost importance in many areas of application. However, the consideration of multiple training criteria as well as system knowledge requires further investigation and has great potential for further improvements. You will be part of the newly founded AI junior research group “**Multicriteria Machine Learning – Efficiency, Robustness, Interactivity and System Knowledge**” and address the above-mentioned topic, in particular:

- Basic research in the area of deep learning / deep neural networks, in particular
  - The development of efficient optimization algorithms for training neural networks regarding multiple conflicting objective functions
  - Interactive learning / adaptation of deep neural networks
  - Consideration of system knowledge, e.g., in the form of conservation laws or differential equations
- Development and publication of open-source code
- Publication of the results in scientific journals or international conferences

### Your profile:

- Very good degree (M.Sc.) in computer science, mathematics, physics or engineering
- Profound knowledge of theory and numerical methods in one of the following areas: deep learning, optimization, scientific computing
- Programming skills in languages such as Python or Matlab
- Interdisciplinary and analytical thinking, as well as the ability to work in an international team are indispensable for the position

Applications from women are particularly welcome and, in case of equal qualifications and experiences, will receive preferential treatment according to the North Rhine-Westphalian Equal Opportunities Act (LGG), unless there are preponderant reasons to give preference to another applicant. Part-time employment is, in principle, possible. Applications from disabled people with appropriate suitability are explicitly welcome. This also applies to people with equal opportunities in accordance with the German social law SGB IX.

Interested applicants should send their application including the usual documents under **reference number 5341** until **15.07.2022** to: [Sebastian.peitz@upb.de](mailto:Sebastian.peitz@upb.de).

Information regarding the processing of your person data can be located at: <https://www.uni-paderborn.de/zv/personaldatenschutz>.

Jun.-Prof. Dr. Sebastian Peitz  
Faculty of EIM  
University of Paderborn  
Warburger Str. 100  
33098 Paderborn

