Are you an ambitious researcher in computer science, engineering, physics, or math? Do you have experience with deep neural networks and understand the concept of unsupervised training? Are you familiar with working on larger Linux clusters or HPC systems? And are you interested to apply your skills to develop cutting-edge AI solutions for weather and climate applications? Then we might have an attractive job offer for you. Our research group Earth System Data Exploration (ESDE) at the Jülich Supercomputing Center (JSC) is teaming up with leading researchers from other Helmholtz research centers, the European Centre for Medium-Range Weather Forecasting and CERN to develop a cutting-edge foundation model for climate predictions in the Helmholtz Climate Representation Learning (H ClimRep) project. At JSC, we will soon operate Europe’s first exascale computer system, which is well-tailored to train large-scale AI models.

We are looking to recruit a

Postdoc or researcher – Foundation model for climate

Your Job:
In this position, you will be an active part of our ESDE research group and the H ClimRep consortium. You will make substantial contributions to the design and development of the H ClimRep foundation model for climate predictions including the training, testing, and evaluation of this model. The H ClimRep model will extend the proven AtmoRep concept (https://arxiv.org/abs/2308.13280), which is at the forefront of international AI research. We are looking for an enthusiastic researcher who is quick to grasp new concepts and ideas and can solve complex deep learning problems with high-quality software solutions. Experience with large-scale transformer models is beneficial but not required.

You will:
• Familiarize yourself with the AtmoRep model and its training and implementation strategy
• Contribute your expertise to the design and implementation of the new H ClimRep foundation model

The job will be advertised until the position has been successfully filled. You should therefore submit your application as soon as possible. We look forward to receiving your application via our Online-Recruitment-System!

Questions about the vacancy?
Get in touch with us by using our contact form.
Please note that for technical reasons we cannot accept applications via email.
www.fz-juelich.de
• Play a strong role in testing, improving, and optimizing the HClimRep foundation model
• Assist in the management of the HClimRep software repository
• Perform general research into the application of advanced deep learning for climate predictions and weather applications
• Engage in national and international ML/DL communities
• Present research results at scientific meetings, conferences, and as scientific papers
• Contribute to educational events, such as university lectures, JSC courses and hackathons

Your Profile:
• Excellent masters degree and subsequent Ph.D. degree in Computer Science, Mathematics, Physics Engineering or in a similar field. Alternatively an excellent masters degree with professional experience
• Very good knowledge and proven skills with larger deep learning networks and unsupervised training (your experience should be documented in research papers and Open Source code projects)
• Proficiency in software development including the use of version control systems
• Practical experience with High Performance Computing Systems or large-scale cluster computers and parallel programming
• Interest in scientific topics, especially related to weather and climate
• Self-motivated personality, curiosity of working in a multi-disciplinary team environment on scientifically challenging problems
• Very good command of written and spoken English

Our Offer:
We work on the very latest issues that impact our society and are offering you the chance to actively help in shaping the change. Here is what Forschungszentrum Jülich can offer you:
• Work on frontiers of scientific and technological challenges with access to cutting-edge and unique supercomputing systems including the upcoming first Exascale computer in Europe
• Comprehensive training courses and individual opportunities for personal and professional further development
• Extensive company health management
• Ideal conditions for balancing work and private life, as well as a family-friendly corporate policy
• Flexible work (location) arrangements, e.g. remote work
• Flexible working hours in a full-time position with the option of slightly reduced working hours
• 30 days of annual leave and provision for days off between public holidays and weekends (e.g. between Christmas and New Year)

In addition to exciting tasks and a collaborative working atmosphere at Jülich, we have a lot more to offer: https://go.fzj.de/benefits

We offer you an exciting and varied role in an international and interdisciplinary working environment. The position is initially for a fixed term of 3 years, with possible long-term prospects. Salary and social benefits will conform to the provisions of the Collective Agreement for the Public Service (TVöD-Bund) depending on the applicant’s qualifications and the precise nature of the tasks assigned to them.

We welcome applications from people with diverse backgrounds, e.g. in terms of age,
gender, disability, sexual orientation / identity, and social, ethnic and religious origin. A diverse and inclusive working environment with equal opportunities in which everyone can realize their potential is important to us.