



UNIVERSITÄT LEIPZIG

Reference number 326/2021

Postdoc position (m/f/d): Machine learning in global socioeconomic data

Founded in 1409, Leipzig University is one of Germany's largest universities and a leader in research and medical training. With around 30,000 students and more than 5000 members of staff across 14 faculties, it is at the heart of the vibrant and outward-looking city of Leipzig. Leipzig University offers an innovative and international working environment as well as an exciting range of career opportunities in research, teaching, knowledge and technology transfer, infrastructure and administration. Leipzig is a vibrant hotspot for creativity in central Germany, known for its world-class research in biodiversity, meteorology and remote sensing.

The Remote Sensing Centre for Earth System Research (<https://rsc4earth.de/>), Earth System Data Science group (Professor Mahecha et al.) at the Faculty of Physics and Earth Sciences seeks to fill the above project position at the earliest opportunity.

Starting in 2022, the RSC4Earth will be a partner in "coordinating the project COping CAPacity of nations facing systemic crisis – a global intercomparison exploring the SARS-CoV-2 pandemic (COCAP)", funded by the Helmholtz Association's Initiative and Networking Fund for the period from 2022 to 2025. Project lead is the Helmholtz Centre for Environmental Research, and further partners are the Karlsruhe Institute of Technology (KIT), the Helmholtz Center Dresden-Rossendorf (HZDR), and the Center of Economic Studies at Ludwig-Maximilians-Universität at Munich (CESLMU) / ifo Institute. **Leipzig University will focus on methodological advances to quantify high-dimensional dynamics in global socioeconomic data streams.** Specifically, we aim to understand what global socioeconomic signatures and constellations have played a decisive role in the development of the COVID-19 pandemic. Considering spatiotemporal context will only be one of the multiple challenges to address.

About the position

- Initially for 2 years
- 100 % of a full-time position
- Planned remuneration: salary group E 13 TV-L

Duties

Creativity for exploring unexpected avenues at the interface of social sciences, statistics and computer sciences.

Research on adapting novel machine learning approaches to global data streams in particular considering nonlinear dimensionality reduction and causal inference.

Contributing to a highly complex research project in an interdisciplinary setup.

Presenting results at high-level conferences and publishing in high-level scientific journals.

Requirements

Completed university degree in a relevant research field e.g. statistics, applied mathematics, epidemiology, quantitative economics and ideally a completed PhD in one of these areas.

Needless to say, we expect fluency in one or more scientific programming languages such as R, Python or Julia.

Very good communication skills (oral and written) in English.

Ability to work in a highly interdisciplinary group.

What we offer

- A modern workplace and attractive working conditions (mobile working)
- Flexible working hours and work-life balance
- Goal-oriented staff development throughout your working life, with opportunities for continuing professional development
- Pension plan
- Commuter pass for the MDV network.

Specific questions should be addressed to Professor Miguel Mahecha (miguel.mahecha@unileipzig.de). Please send your application, **preferably by email as a single PDF file**, with the usual documents (CV, list

of publications, certificates, motivation letter) quoting reference number 326/2021, **by 14 January 2022** to: dekan@physik.uni-leipzig.de or to Leipzig University, Dean of the Faculty of Physics and Earth Sciences, Professor Christoph Jacobi, Linnéstraße 5, 04103 Leipzig.

Please note that it is not possible to guarantee confidentiality and rule out unauthorised access by third parties when communicating by unencrypted email.

We kindly request that you submit copies only, as we are unable to return application documents. Interview expenses will not be reimbursed.

Leipzig University aims to increase the proportion of women in positions of responsibility and therefore expressly invites qualified women to apply. Severely disabled persons – or persons deemed legally equal to them under Book IX of the German Social Code – are encouraged to apply and will be given preference in the case of equal suitability.

Privacy information

If you choose to apply and send us your documents, you do so voluntarily. Any personal data contained within your application documents, or obtained during an interview, will be processed by Leipzig University – as the advertiser of the position – exclusively for the purposes of the selection process for the position advertised. It will not be passed on to third parties without your consent in the individual case. The legal basis for such data processing is Sect. 11(1) of the Saxon Data Protection Implementation Act (SächsDSDG) in conjunction with the EU General Data Protection Regulation (GDPR). The controller for the application process within the meaning of the GDPR is the addressee of the application, specified in the advertisement. Your personal data will be stored for six months after the end of the recruitment process and then erased or destroyed in accordance with data protection regulations. You may refuse or withdraw your consent with effect for the future without giving reasons. In these cases, Leipzig University will not or no longer be able to process and consider your application. Under the GDPR, subject to the relevant statutory requirements you have the following rights vis-à-vis the addressee of the application with regard to your personal data: right of access (Art. 15 GDPR); right to rectification of inaccurate personal data (Art. 16 GDPR); right to erasure (Art. 17 GDPR); right to restriction of processing (Art. 18 GDPR); and right to object to processing (Art. 21 GDPR). If you have any questions, please contact the Data Protection Officer at Leipzig University (office: Augustusplatz 10, 04109 Leipzig). You also have the right to lodge a complaint with the Saxon Commissioner for Data Protection.