

We are looking to support our rapidly growing team as soon as possible:

- Postdoctoral Researcher (f/m/x) – Computational Modelling for Digital Mental Health and Psychiatry

Klinik für Psychiatrie und Psychotherapie

TV-L: 38,5 h/week (100%)

limited for 5 years according to WissZeitVG within the framework of a third-party funded project

Your salary will be based on TV-L

Your tasks

- Develop and evaluate generative models for longitudinal digital phenotyping data
- Build and refine a simulation framework for synthetic patient trajectories
- Design and analyse virtual perturbation scenarios to investigate resilience and transition dynamics
- Develop and validate resilience metrics and approaches for transition typing
- Contribute to the implementation of a research prototype and reusable open resources
- Work closely with clinical and methodological collaborators within and beyond the University of Cologne
- Contribute to scientific publications, conference presentations, documentation, and open-science activities
- Support the supervision of junior researchers and contribute to the development of the research group

Your profile

- PhD in computational psychiatry, data science, computer science, statistics, neuroscience, psychology, biomedical informatics, or a related

Your future with us

We are one of the leading university hospitals in Germany and network research, teaching and health care at the highest level. That's why many things are a lot bigger for us: the spectrum of exciting development opportunities. The limitless openness with which specialists from all over the world work together here. Or our commitment as an employer to support all employees as best we can in reconciling their job with their goals and life situations.

This is the University Hospital of Cologne: Everything but ordinary.

Your future in detail

We are looking to support a newly established research group as soon as possible.

The position is embedded in the third-party funded research project **SiReD-MH (Tipping Minds: Simulation of Resilience Dynamics in Mental Health)**. The project develops a hybrid in-silico framework to model resilience dynamics and transitions into mental illness in young people at risk. Using longitudinal digital phenotyping data, including ecological momentary assessment,

field
- Strong expertise in at least some of the following areas: machine learning, deep learning, generative modelling, time-series modelling, probabilistic modelling, or simulation
- Very good programming skills, ideally in Python and relevant ML frameworks such as PyTorch
- Experience working with longitudinal, multivariate behavioural data
- Strong interest in mental health research and interdisciplinary collaboration with clinical partners
- A structured, independent, and reliable way of working combined with strong team skills
- Very good written and spoken English; German is welcome but not required
- A solid publication record appropriate to career stage is desirable

actigraphy, and GPS-derived mobility measures, the project combines generative machine learning and simulation to build synthetic patient trajectories and test resilience under virtual perturbation scenarios.

The postdoctoral researcher will play a central role in shaping the methodological core of the project and in helping build a new interdisciplinary research environment at the interface of psychiatry, machine learning, dynamic systems theory, and simulation.

Our offer

- **Everything but ordinary:** You can expect a secure job in a challenging, innovative environment – including company pension schemes and regular working hours without business trips.
- **Team spirit in R(h)ine culture:** You will be warmly welcomed by an interdisciplinary team that values mutual respect and helpfulness.
- **Strong perspectives:** We offer extensive training opportunities – so you can continuously grow and set new goals.

Applications from female candidates are expressly welcome and will be given priority in the event of equal suitability, competence and professional performance. People with disabilities are welcome to apply and will be treated preferentially in the event of equal suitability and qualification. The position is suitable for staffing with part-time employees.

Contact

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No application deadline

Job-ID: e2wm4h0d

apply now

We look forward to receiving your application and getting to know you!