

Postdoc or Junior Group Leader: “Machine Learning in [Bio]Medicine”

We are recruiting an ambitious scientist who wants to advance their career in machine learning and establish a cutting-edge research program in machine learning applied to precision medicine or high-throughput biology. The successful candidate will join the Institute of Artificial Intelligence at the Medical University of Vienna, with ample opportunities to integrate into the European research landscape, including the European Lab for Learning and Intelligent Systems (ELLIS). This call is open to early-stage researchers who want to pursue cutting-edge research, and to more senior candidates seeking to establish an independent research group. A tenure-track option is available for exceptional candidates.



The Goal

Machine learning is transforming medicine, for example enabling physicians to incorporate vast amounts of data and knowledge into each of their clinical decisions. Machine learning also advances our understanding of the biology that underlies human diseases, with the future perspectives of identifying the key molecular mechanisms in each individual patient and devising personalized therapies. Researchers at the Medical University of Vienna, together with the CeMM Research Center for Molecular Medicine and the Austrian Academy of Sciences, are working to establish an ambitious research program focusing on “Machine Learning in [Bio]Medicine”, with three pillars: (i) methodological research in machine learning, focusing on interpretable deep learning, causal modeling, federated machine learning, and time series analysis; (ii) proof-of-concept applications in biology and medicine, including personalized medicine and systems biology; (iii) dissemination and impact through sustainable clinical applications, contribution to international consortia, creation of startup companies, and a commitment to research-centric teaching and public outreach. The successful candidate will contribute creatively and proactively to one or more of these directions.

The Candidate

We are looking for candidates who want to pursue cutting-edge research in the wider field of “Machine Learning in [Bio]Medicine”. A typical background would be a PhD in machine learning, computer science, statistics, bioinformatics or in another quantitative field, ideally combining methodologically and applied research (in any field). We are open to early-stage candidates who have recently completed their PhD or will do so within the next year – but also to candidates who have already collected initial postdoctoral research experience and are eager to proceed with their scientific career. The position includes ample opportunities for advancing a research career, developing academic leadership skills, engaging in international collaborations, and contributing to the advancement of medicine through computational research. The university provides an excellent employee benefits package. The expected starting salary is EUR 60,000 to EUR 65,000 per year (gross). Through the ELLIS network or other consortia, there is the option for a research stay abroad in a leading machine learning lab with complementary expertise.

The Host Institution

The Medical University of Vienna is Europe’s largest medical school and one of the oldest in the world. It was founded in 1365 as the medical faculty of the University of Vienna, and it operates as an autonomous university since 2004. Physicians at the Medical University treat ~95,000 patients per year as inpatients and ~500,000 as outpatients, creating major opportunities for data-driven research. The Medical University has a dedicated data science department (CeMSIIS), with research in statistics, medical informatics, complexity sciences, and other areas. In this department, the Institute of Artificial Intelligence (AI Institute) seeks to advance biomedical research and clinical practice through methods development, applications, and teaching in machine learning and artificial intelligence. The AI Institute is directed by Christoph Bock (<https://tinyurl.com/chrbock>), who is Professor of [Bio]Medical Informatics at the Medical University of Vienna and Principal Investigator at the CeMM Research Center for Molecular Medicine of the Austrian Academy of Sciences. He is a member of the Human Cell Atlas, fellow of ELLIS, and recipient of important research awards (Otto Hahn Medal, ERC Starting Grant, ERC Consolidator Grant, Overton Prize, Erwin Schrödinger Prize). The AI Institute currently hosts two additional group leaders and their research groups: Georg Dorffner (<https://tinyurl.com/gdorffner>), who is the vice president of the Austrian Society for Artificial Intelligence, and Matthias Samwald (<https://tinyurl.com/samwald>), who coordinates a major EU project that implements computational methods in clinical practice. Moreover, the Medical University comprises a rapidly growing cluster of machine learning researchers in areas spanning radiology, dermatology, bioinformatics, and synthetic biology.

Please send your application to sec-ai@meduniwien.ac.at. The application e-mail should include a cover letter, CV, and academic transcripts, ideally combined into a single PDF document. All applications received by 5 February 2023 will be considered. Start dates are very flexible.