

PhD Position in Deep Learning for Retinal Image Analysis

The [AI Institute / Center for Medical Data Science](#) is offering a PhD position in the domain of Machine Learning for Medical Imaging with applications in eye care. As part of our initiative on *Artificial Intelligence (AI) in Retina*, the focus of the research is on building robust, reliable, and interpretable models to characterize retinal pathology from 3D optical coherence tomography (OCT) images of the human eye to enable Trustworthy AI-based clinical decision support tools for retinal experts.

Research topics will be in one of the following areas: *Self-supervised learning and foundation models*, *Uncertainty quantification and Bayesian deep learning*, and *Domain adaptation*. The successful candidate will be immersed in an interdisciplinary environment working closely with a team of computer scientists, software engineers, and medical doctors in the fascinating and interdisciplinary field of AI in Retina. The output will have a real-world impact on the clinical management of patients suffering from retinal diseases, a leading cause of blindness today.

The position is with **Bogunovic Lab**, a world-leading group in AI/ML for retinal image analysis, based at the Medical University of Vienna, which is one of Europe's premier institutions for biomedical and clinical research. The lab is located at the heart of historic Vienna, which has been named the *World's Most Liveable City* numerous times in a row.

Representative examples of our prior work:

<https://arxiv.org/abs/2307.03008>, <https://arxiv.org/abs/2207.00458>,
<https://arxiv.org/abs/2308.09331v2>, <https://arxiv.org/abs/2211.04234>

Your profile

- MSc degree or equivalent in AI, computer science, biomedical engineering, physics or similar.
- Excellent analytical, interpersonal, as well as written and oral communication skills in English.
- Strong programming (Python, PyTorch, JAX, TensorFlow, etc.) and applied math skills.
- Experience in machine/deep learning and statistics. Experience in computer vision, (bio)medical imaging is desirable but not a requirement.
- Enthusiasm about the applications of AI in medicine, and a collaborative and interdisciplinary mindset.

We offer

- Opportunity to work and do cutting-edge research in deep learning for medicine and healthcare.
- Immersion into an interdisciplinary and international research environment, and a multi-cultural lab.
- Access to extremely large multi-modal, curated, and annotated medical imaging datasets.
- Access to a dedicated high-performance computing (HPC) cluster containing the latest generation GPUs.
- Collaboration with several renowned academic institutions, as well as partnership with imaging device and pharmaceutical companies.

Apply by Sep 15th:

Applicants interested in machine learning for healthcare should send applications (ideally as a single PDF document) containing a *CV*, a *cover letter*, *academic transcripts*, and *contact details of two references* to: hrvoje.bogunovic@meduniwien.ac.at

PhD salary is prescribed by the university wage agreement.