
Workshop on Artificial Intelligence in Medicine

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Abstract

AI is revolutionizing diagnostic and therapeutic practices, driving significant innovations across the entire medical domain, from disease identification and early intervention to surgical procedures and clinical workflows. The AI in Medicine workshop aims to create a forum that brings together interdisciplinary groups to present and discuss novel contributions, works in progress, emerging trends, and future challenges of AI applications in healthcare. Our goal is to strengthen the local network, foster collaboration and provide a supportive environment for students and early-career researchers.

1 Workshop overview

The first edition of the AI in Medicine workshop featured a keynote by Prof. Spiros Denaxas (IT:U Linz, UCL) on “Using data and AI to improve human health and healthcare,” followed by a selection of eight oral presentations covering diverse topics from medical image analysis and drug discovery to time-series forecasting.

In the keynote, Prof. Denaxas discussed the limitations of traditional cohort studies, including high costs, selection bias, and limited scalability, and presented electronic health records as a data-driven alternative, reframing humans as the model organism and hospitals as large-scale phenotyping centers. He demonstrated recent methods for analyzing structured and unstructured clinical data across millions of patients, from retinal imaging to clinical text processing, while emphasizing the critical importance of external validation and clinical effectiveness assessment through randomized clinical trials. Looking forward, the keynote outlined a shift from disease-specific risk calculators toward generative foundation models capable of dynamic, longitudinal patient simulations that can generalize across populations and healthcare systems.

The oral presentations covered topics from medical image analysis to time-series forecasting. Contributions addressed OCT test-time adaptation, sycophancy in LLMs, MRI reconstruction, cross-modality image synthesis, drug discovery frameworks, clinical time-series forecasting, anatomical priors for cardiac segmentation, and evidential deep learning for boundary detection.

The Third Austrian Symposium on AI and Vision (AIROV26).

2 Oral presentations

2.1 Block I:

- **Thomas Pinetz**, Veit Hucke, Hrvoje Bogunović
“Exploiting Intermediate Reconstructions in Optical Coherence Tomography for Test-Time Adaption of Medical Image Segmentation”
- **Nathanya Satriani**
“Quantifying and Mitigating Sycophantic Bias in Medical Diagnostic LLM”
- **Antonio Ortiz Gonzalez**, Erich Kobler, Lukas Schletter, Alexander Effland
“MotionDPS: Motion-Compensated 3D MRI Reconstruction”

2.2 Block II:

- **Arnela Hadzic**, Simon Johannes Joham, Martin Urschler
“Flow Matching for Conditional MRI-CT and CBCT-CT Image Synthesis”
- **Michael Hetmann**
“CavitOmiX: A Proteome-Wide AI Framework for Structure-Based Off-Target Prediction, Drug Repurposing, and Antiviral Discovery”
- **Laura Legat**, Erich Kobler
“xLSTM for Irregular Multivariate Clinical Time-Series Forecasting”
- **Michael Hudler**, Franz Thaler, Martin Urschler
“Evaluation of Anatomical Shape Priors in Deep Learning-Based Cardiac Multi-Compartment Segmentation”
- **Botond Fazekas**, Hrvoje Bogunović
“Evidential Deep Learning for Missing Boundary Detection in Topologically Constrained OCT Layer Segmentation”

3 Program Committee

We thank the Program Committee members for their valuable contributions in reviewing the submitted papers and providing constructive feedback to the authors:

Alexander Maletzky (RISC Software GmbH), Angus Nicolson (University of Oxford), Antonio Ortiz Gonzalez (University of Bonn), Bahareh Etaati (Johannes Kepler University), Bertram Sabrowsky-Hirsch (RISC Software GmbH), Botond Fazekas (Medical University of Vienna), Fabian Greifeneder (RISC Software GmbH), Jan Peter (University of Bonn), Laura Legat (Johannes Kepler University), Martin Urschler (Medical University of Graz), Marzieh Oghbaie (Medical University of Vienna), Matteo Cesari (Medical University of Innsbruck), Matthias Perkonigg (Medical University of Innsbruck), Matthias Schwab (Medical University of Innsbruck), Paul Luger (Johannes Kepler University), Ronald Fecso (Medical University of Vienna), Soma Hansel (University of Bonn), Spiros Denaxas (IT:U Linz, University College London), Taha Emre (Medical University of Vienna), Thomas Pinetz (Medical University of Vienna), and Verena Praher (RISC Software GmbH).