



# AI for Doctors: Medical Imaging

- ▶ Workshop 3: Medical Decision Support
- ▶ Friday, 24th June 2022 & Saturday 25th June 2022
- ▶ TranslaTUM, Munich & online

The field of Artificial Intelligence has evolved significantly over the last decade and many potentially significant applications for medical imaging have come up.

Communication between medical professionals and computer scientists is essential for the successful application of AI-based software tools in clinical practice. To promote this interdisciplinary exchange, medical professionals need to obtain a basic understanding of the underlying principles of AI in medical imaging.

This website and our workshops have exactly this goal:

**Fostering the responsible use of medical imaging AI in clinical practice through educational programs.**

We will offer three workshops on medical imaging AI in the first half of 2022, based on the three topics:

**Workshop 1:** Basics of AI & Medical Image Segmentation,

**Workshop 2:** Image Enhancement and Reconstruction

**Workshop 3:** Medical Decision Support

Our workshops are led by an interdisciplinary team of experts from the Technical University of Munich and are specifically tailored to the needs of medical professionals.



We invite you to explore our website <https://ai-for-doctors.com/>, register for AI-for-Doctors workshops or reach out via mail: [contact@ai-for-doctors.com](mailto:contact@ai-for-doctors.com).

**Professor Daniel Rückert, PhD  
and PD Dr. med. Dennis M. Hedderich**



# Medical Decision Support

## Learning goals:

**After the workshop, participants will be able to:**

- ▶ Discuss differences between supervised and unsupervised learning
- ▶ Evaluate main steps for designing and building an AI algorithm in order to assess algorithmic bias
- ▶ Identify uncertainty in the medical decision process
- ▶ Discuss potentials and current limitations of AI for medical decision support in clinical practice.

**Dates: Friday, 24th June 2022 & Saturday 25th June 2022**

**Location: TranslaTUM, Munich & online**

## Friday, 24 June 2022

**13:00 – 13:15**

**Welcome & Introduction**

**13:15 – 14:00**

**AI-based classification in Medical Imaging**

Daniel Truhn

**14:00 – 14:45**

**Using AI on Clinical Data: Best Practice and Important Pitfalls**

Florian Hinterwimmer

**Break**

**15:15 – 16:00**

**Explainable AI**

Mauricio Reyes

**16:00 – 16:45**

**AI-based Medical Decision Support in Pathology**

Peter Schöffler

**16:45 – 17:30**

**Anomaly Detection in Neuroradiology**

Benedikt Wiestler

**Break**

**18:00 – 18:45**

**Keynote: Safety nets for clinical deployment of medical imaging AI**

Ben Glocker

**18:45 – 20:00**

**Social Event @ TranslaTUM**

## Saturday, 25 June 2022

**09:00 – 09:45**

**Algorithmic Bias: what it is and why it is important**

Christoph Haarbuerger

**09:45 – 10:30**

**Clinical evaluation of Medical Decision Support in Neuroradiology**

Dennis Hedderich

**Break**

**11:00 – 11:45**

**AI in Ophthalmology**

Hrvoje Bogunovic

**11:45 – 12:30**

**Privacy-preserving and federated learning approaches**

Georgios Kaissis

**Break**

**13:30 – 14:15**

**AI in Dermatology**

Alexander Zink

**14:15 – 15:00**

**AI in Lung Imaging**

Johannes Rückel



# Lecturers

**PD Dr. med. Dipl.-Phys. Daniel Truhn**

Group Leader  
Machine Learning and Musculoskeletal Imaging  
Department of Radiology  
University of Aachen

**Florian Hinterwimmer, MSc**

Institute for Artificial Intelligence in Healthcare and Medicine &  
Department of Orthopaedics and Sports Orthopaedics  
Technical University of Munich

**Prof. Dr. Mauricio Reyes**

ARTORG Center for Biomedical Engineering Research  
Center for AI in Medicine  
University of Bern

**Prof. Dr. Peter Schöffler**

Head Computational Pathology  
Department of Pathology  
Technical University of Munich

**PD Dr. med. Benedikt Wiestler**

Department of Neuroradiology  
Technical University of Munich

**Prof. Dr. Ben Glocker**

Biomedical Image Analysis Group  
Imperial College London

**Christoph Haarbuerger, MSc**

Co-Founder and CTO  
CheckupPoint

**PD Dr. med. Dennis M. Hedderich**

Department of Neuroradiology  
Technical University of Munich

**Ap.Prof. Dr. Hrvoje Bogunovic**

Director of Christian Doppler Lab for Artificial Intelligence in Retina  
Department of Ophthalmology and Optometry  
Medical University of Vienna

**PD Dr. med. Georgios Kaissis**

Senior Postdoctoral Researcher  
Institute for Artificial Intelligence in Healthcare and Medicine  
Department of Radiology  
Technical University of Munich

**PD Dr. Dr. Alexander Zink, MPH**

Department of Dermatology  
Technical University of Munich

**Dr. Johannes Rückel, BSc**

Department of Radiology &  
Institute of Neuroradiology  
Ludwig Maximilian University of Munich





# Registration

We will offer three workshops on medical imaging AI in the first half of 2022, based on the three topics: **① Basics of AI & Medical Image Segmentation**, **② Image Enhancement and Reconstruction** and **③ Medical Decision Support**.

All workshops will be held in a hybrid format both on-site in Munich and online. If you are a clinician working with medical imaging (e.g. in the field of radiology, nuclear medicine, pathology, cardiology, but also dermatology and ophthalmology), please check out our program, reach out and join us in Munich or online!

## Workshop dates 2022:

**Workshop ① :** 25 & 26 March 2022  
**Workshop ② :** 13 & 14 May 2022  
**Workshop ③ :** 24 & 25 June 2022

## Registration fees

	regular rate	reduced rate
<b>Workshop 1:</b> Basics of AI & Medical Image Segmentation	250€	220€ *
<b>Workshop 2:</b> Image Enhancement and Reconstruction	250€	220€ **
<b>Workshop 3:</b> Medical Decision Support	250€	220€ ***
<b>Package workshops 1-3</b>	650€	600€ *

\* until 06/03/2022 and/or for medical residents (before board certification);

\*\* until 01/05/2022 and/or for medical residents (before board certification);

\*\*\* until 10/06/2022 and/or for medical residents (before board certification)

A cancellation fee of 50% will apply until two weeks prior to the event. After this, no refund is possible.

## More Information and Registration



CME credits will be awarded by the Bavarian Medical Association

For more information and registration please visit our website.

<https://ai-for-doctors.com/registration/>