Felix Wagner

133 Woodstock Road, Farndon Court, Oxford, OX2 6HW, UK | +44 7519 724347

felix.wagner@eng.ox.ac.uk | www.linkedin.com/in/wagner-felix | www.github.com/FelixWag

SUMMARY

Final-year PhD student at the University of Oxford, specializing in advancing algorithms for computer vision in the medical domain. I have extensively worked on federated learning, domain adaptation and generalization, multi-modal data, segmentation, and out-of-distribution detection. I am passionate about applying novel research to develop solutions for complex, real-world challenges. I am seeking a research scientist or engineer position in computer vision or (general) deep learning.

EDUCATION

University of Oxford   Oxford, UK
PhD, CDT Health Data Science; <u>Supervisor</u>: Prof. Konstantinos Kamnitsas   Oct 2021 - Oct 2025
PhD Thesis: Advancing Federated Learning for Computer Vision in Medical Imaging

Vienna University of Technology   Vienna, Austria
Master of Science, Data Science; Final Grade: *Pass with Distinction; GPA: 1.0 (highest poss. score)*   Nov 2021
Master's Thesis: Recursive Rule Injection in Knowledge Graphs: Exploiting Logical Knowledge in Machine Learning
Bachelor of Science, Software & Information Engineering   Apr 2019
Bachelor's Thesis: Empirical Investigation of Meta-Interpretive Learning

University of Illinois at Urbana-Champaign   Illinois, USA
Education Abroad, Joint Study Scholarship   Aug 2018 – Dec 2018

TECHNICAL SKILLS

Programming Languages: Python, Java, C#, R, Prolog
Technologies & Tools: PyTorch, Microsoft Azure, LaTex, Oracle/PostgreSQL Database, Git, SQL

SELECTED PAPERS & CONFERENCES

[1] <u>Felix Wagner</u>, Wentian Xu, Pramit Saha, Ziyun Liang, Daniel Whitehouse, David Menon, Virgina Newcombe, Natalie Voets, J. Alison Noble, Konstantinos Kamnitsas; "*Feasibility of Federated Learning from Client Databases with Different Brain Diseases and MRI Modalities*", accepted at **WACV 2025**

[2] <u>Felix Wagner</u>, Zeju Li, Pramit Saha, Konstantinos Kamnitsas; "*Post-Deployment Adaptation with Access to Source Data via Federated Learning and Source-Target Remote Gradient Alignment*", accepted for an **oral** presentation at the **MLMI** workshop at **MICCAI 2023**

[3] Pramit Saha, Divyanshu Mishra, <u>Felix Wagner</u>, Konstantinos Kamnitsas, J Alison Noble; "*FedPIA--Permuting and Integrating Adapters leveraging Wasserstein Barycenters for Finetuning Foundation Models in Multi-Modal Federated Learning*", accepted at **AAAI 2025**

[4] Pramit Saha, Divyanshu Mishra, <u>Felix Wagner</u>, Konstantinos Kamnitsas, J. Alison Noble; "*Examining Modality Incongruity in Multimodal Federated Learning for Medical Vision and Language-based Disease Detection*", accepted at **AAAI 2025**

[5] Ziyun Liang, Harry Anthony, <u>Felix Wagner</u>, Konstantinos Kamnitsas; "*Modality cycles with masked conditional diffusion for unsupervised anomaly segmentation in MRI*", accepted for an **oral** presentation at the **MMMI** workshop at **MICCAI 2023**

Vienna University of Technology, Vienna, Austria Apr 2020 – July 2021
Master's Thesis

- Conducted in-depth research on the combination of Logical Knowledge and Statistical Machine Learning methods in cooperation with the University of Oxford
- Developed an algorithm to inject recursive logical rules into Knowledge Graph Embeddings in **PyTorch**
- Investigated advantages of using non-Euclidean geometry for my proposed Embedding approach

SERVICE & TEACHING

- **Reviewer** for **MICCAI 2024**; recognized with an honourable mention as an **outstanding reviewer**
- **Teaching Assistant,** Optimization, 2023, University of Oxford
- **Teaching Assistant,** Databases, 2022, University of Oxford
- **Teaching Assistant,** Advanced Databases, Distributed Systems, 2019 & 2020, Vienna University of Technology

WORK EXPERIENCE

Medical University of Vienna, Vienna, Austria Nov 2020 – Apr 2021
Interdisciplinary Research Project

- Statistically analysed sleeping disorder data, gathered from a representative sample of the Austrian adult population (supervised by Professor Eva Schernhammer)
- Identified predictors of chronic insomnia using machine learning models

Association for Protection of Creditors, Vienna, Austria June 2020 – July 2021
Freelance Software Engineer

- Developed a software in **Python** to convert different input file formats into one unified format
- Reduced the time to process loan default data from 1 hour to 10 minutes

Knorr-Bremse, Mödling, Austria July 2019 – Aug 2019
Software Engineer Intern

- Implemented software features in **C#** for a public transportation system, which are used by public transportation companies throughout Austria
- Increased maintainability of the software by reducing the time of changing complex build configuration files from hours to minutes by creating CI/CD-Pipelines in Azure DevOps
- Designed and implemented a custom concurrent data structure
- Implemented software patterns to maintain a good software design

Erste Bank, Vienna, Austria July 2017; Oct 2017 – Dec 2017
Project Manager Assistant

- Collaborated with 10 team members in the Process Management Department on a large project for integrating a new software solution for the Erste Group throughout Austria
- Conducted Data Analysis of the software development progress over a 1-year period

AWARDS & HONORS

Fully funded PhD via:

- **Angela-Krosik scholarship,** Anglo-Austrian Society
- **Oxford-Reuben scholarship,** Reuben Foundation, University of Oxford
- **Health Data Science CDT scholarship,** EPSRC UK

Joint-Study Scholarship, Vienna University of Technology: Selected among top-performing students university-wide for an exchange programme at the University of Illinois at Urbana-Champaign, based on academic success

VOLUTEERING & SKILLS

Languages: German (native speaker), English (fluent)
Interests & Engagements: Elected president of the Oxford Austrian Society. Passionate guitar and bass guitar player in a band (Penguins In Suits), enthusiastic about composing new songs, passion for snowboarding