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Google Scholar Edinburgh, UK 2000	Speak to me in    !

## EDUCATION

'23-now PhD, School of Engineering, University of Edinburgh

- **Focus:** Designing deep learning algorithms for solving real-world inverse imaging problems where we rarely have ground truth, such as accelerating medical imaging or higher resolution Earth observation. Supervised by [Prof. Mike Davies](#).
- **Interests:** Computer vision, deep learning, inverse problems, medical imaging, Earth observation

'18-'22 MEng Information & Computer Engineering, University of Cambridge Distinction (first class)

## PROFESSIONAL EXPERIENCE

Chief Technical Officer at Stealth Startup	<i>incubated at Inria Startup Studio, Paris (07/25-now)</i>
Data Scientist / AI Engineer	<i>Kainos, Birmingham (07/22-09/23)</i>
· Client Workday   Security analysis tool using graph data science	<b>Skills</b> <code>networkx</code> , Neo4j
· Client DVSA   Geospatial network recommendation tool	<b>Skills</b> PostGIS, QGIS, OS MasterMap
· Client Internal   Curated internal MLOps & CI/CD best practices	<b>Skills</b> Azure ML, Azure DevOps
· Client Internal   Gov.uk web intelligent search bar	<b>Skills</b> OpenAI API, web-dev
Data Science Consultant Intern <a href="#">[blog]</a>	<i>Data Reply UK, London (05-07/21)</i>

## RESEARCH PUBLICATIONS

[paper] **Preprint.** J. Tachella, M. Terris, S. Hurault, A. Wang et al., "DeepInverse: A Python package for solving imaging inverse problems with deep learning", on arXiv, 2025.

[paper] **Preprint.** A. Wang, S. McDonagh, M. Davies, "Benchmarking Self-Supervised Learning Methods for Accelerated MRI Reconstruction", on arXiv, 2025. [\[website\]](#)

[paper] **Conference paper.** A. Wang, M. Davies, "Fully Unsupervised Dynamic MRI Reconstruction via Diffeo-Temporal Equivariance", IEEE International Symposium on Biomedical Imaging, 2025. [Oral: top 18% of papers] [\[blog\]](#)

[paper] **Conference paper.** A. Wang, M. Davies, "Perspective-Equivariance for Unsupervised Imaging with Camera Geometry", European Conference on Computer Vision (ECCV) TradiCV Workshop (Oral), Milan, 2024. [\[blog\]](#)

[thesis] **Master's thesis in physics-informed ML.** "Dynamic latent spaces with statistical finite elements", 2022.

[paper] **With Alan Turing Institute.** J. Walsh, O. Kesa, A. Wang et al., "Near Real-Time Social Distance Estimation in London", The Computer Journal, 2023. Winner of OUP Wilkes Award 2024. [\[press\]](#) [\[press2\]](#) [\[blog\]](#)

[paper] **With CentraleSupélec.** P. Houdouin, A. Wang et al., "Robust Classification with Flexible Discriminant Analysis in Heterogeneous Data", IEEE International Conference on Acoustics, Speech and Signal Processing, 2022. [\[blog\]](#)

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## SPEAKING

*also see conference oral presentations above*

- [website] **Tutorial.** "*DeepInverse: a PyTorch library for imaging with deep learning*", ISBI, Houston, Apr 2025.
- [web, vid] **Seminar.** "*Learning to solve imaging inverse problems without ground truth*", IFML, UT Austin, Apr 2025.
- [video] **Seminar.** "*Equivariant imaging with groups of real-world transforms*", Maxwell Inst., Edinburgh, Feb 2025.
- [poster] **Workshop.** "*Learning to reconstruct accelerated dynamic MRI without ground truth*", International Workshop on Mathematical Imaging and AI Algorithms, IPTA 2024, University of Strathclyde, Glasgow, Dec 2024.
- [poster] **Workshop.** "*Perspective-Equivariant Imaging: an Unsupervised Framework for Pansharpening*", Maths4DL Geometric Deep Learning workshop, University of Cambridge, June 2024.

## OTHER RESEARCH ACTIVITIES

- [website] **Open-source.** J. Tachella, M. Terris, S. Hurault, A. Wang, "*DeepInverse: a PyTorch library for imaging inverse problems with deep learning*". Lead developer, 2024-current. Contributions include [GANs](#), [advanced MRI](#), [satellite imaging for remote sensing](#), [equivariant imaging](#). 7000 monthly downloads. [\[blog\]](#)
- [course] **Teaching assistant.** *Machine Learning Practical* Year 4 course at the School of Informatics at Edinburgh.

## OTHER WORK

**Freelance:** Please see my [website](#) for previous projects including data analysis, geospatial data, web dev & ML. I'm open to freelance work!

**Non-profit advocacy:** I am a director on the board of a [national charity](#), founded and run a national grassroots activism community, and regularly write and speak at national festivals. [\[about\]](#)

## SKILLS

**Languages:** English (native), French (CEFR C2 – fluent), Mandarin (native), German (CEFR B2)

**Certifications:** certified on AWS, certified Azure and Azure AI, SQL for Data Science, Neo4j Graph Data Scientist, Green Software Practitioner

**Software:** Agile dev, GitHub CI/CD, Docker, Unix, MLFlow, [wandb](#), Tableau, TypeScript, MATLAB, C++

**Python:** [pandas](#), [matplotlib](#), OpenCV, PyTorch, [scikit-learn](#), [tensorflow](#) basics, [seaborn](#), [plotly](#), [nltk](#), [jupyter](#), [networkx](#), [streamlit](#). Clean code, functional programming and test-driven dev.

**Geospatial:** QGIS, PostGIS, OpenStreetMap API, OS MasterMap, Google Maps API, [geopandas](#), [folium](#)