

Imperial College London

UKRI Centre for Doctoral Training in Artificial Intelligence for Healthcare

AIhealth

UKRI AI CDTs in Healthcare Conference 2024

The 3rd edition of the UKRI AI CDTs in Healthcare Conference, hosted by Edinburgh University at the John McIntyre Centre, was a collaborative effort with:

- CDT in AI-enabled Healthcare Systems at University College London
- CDT in AI for Medical Diagnosis and Care at Leeds University
- CDT in Biomedical AI at Edinburgh University
- CDT AI for Healthcare at Imperial College London

Taking place on 20th and 21st May 2024, this conference provided a platform for learning and networking, featuring engaging presentations and opportunities for PhD researchers to showcase their work through oral talks and poster sessions.

A sincere thank you to our speakers, as well as the students and academics who contributed to the success of the conference.



Conference Sessions

Guest Speakers:

Fairness and Accountability Challenges in ML for Health Shannon Vallor

Director of the Centre for Technomoral Futures and Baillie Gifford Chair in Ethics of Data and Artificial Intelligence at the Edinburgh Futures Institute (EFI)
University of Edinburgh

Patient engagement talk Carol Porteous

Patient Public Involvement Lead and PhD Student University of Edinburgh
and NHS Research Scotland PPI Lead



Shannon Vallor

PhD Researchers - Oral Presentations

Barry Ryan, University of Edinburgh
An Integrative Network Approach for Longitudinal Stratification in Parkinson's Disease

Quang Nguyen, University College London
Advancing Medical Question-Answering with Retrieval-Augmented Generation: A Case Study in Ophthalmology

Jack Breen, University of Leeds
AI for Histological Subtyping of Ovarian Cancer

Asem Alaa, Imperial College London
Challenges to Learn Early Prediction Tasks with Interventions History: Kidney Injury as an Example

Aleksandra Sobieska, University of Edinburgh
Modelling large-scale 3D genome organisation using ML-informed polymer simulations



Asem Alaa



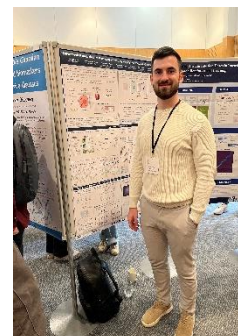
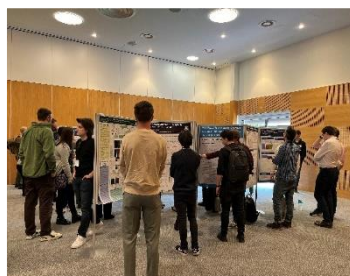
Sarah Cechnicka

Jamie Norris, University College London
Localising the Seizure Onset Zone from responses to brain stimulation with a CNN Transformer

Mary Paterson, University of Leeds
AI Analysis of Voice to Aid Laryngeal Cancer Diagnosis

Sarah Cechnicka, Imperial College London
Ultra-Resolution Cascaded Diffusion Model for Gigapixel Image Synthesis in Histopathology

PhD Researchers - Poster Sessions





Conference Programme

20th and 21st May 2024

John McIntyre Centre Edinburgh

Welcome

On behalf of the participating UKRI CDTs, we would like to welcome you all to the UKRI AI CDTs in Healthcare Conference 2024, 20-21 May 2024 at the [John McIntyre Centre](#), Pollock Halls, Edinburgh.

This is our third joint meeting following the inaugural conference in Milton Keynes, which took place in May 2022, and last year's conference in York 2023.

To encourage scientific exchange and facilitate collaborative research in artificial intelligence (AI) in healthcare, we have again brought together the future generation of innovators from:

- [CDT in Biomedical AI at the University of Edinburgh](#)
- [CDT in AI for Healthcare at Imperial College London](#)
- [CDT in AI for Medical Diagnosis and Care at the University of Leeds](#)
- [CDT in AI-enabled Healthcare Systems at University College London](#)

The event offers an opportunity for learning and networking. We have an exciting programme with PhD researchers showcasing their research and ideas through oral talks and poster sessions.

Thank you all for your contribution and participation.

The Programme Committee

Participating Centres



UKRI CDT in Biomedical Artificial Intelligence
University of Edinburgh

Director – Ian Simpson

The UKRI Centre for Doctoral Training in Biomedical Artificial Intelligence grows from the realisation that AI technologies will play a central role leveraging data to transform our understanding and practice of biomedicine. Delivering such a step change will require training a new cadre of scientists operating at the intersection of computer science and biomedicine, building AI systems which are effective, ethical and empowering to scientists and users alike. Building on the tradition of world-leading research and innovation at the University of Edinburgh, our Centre is training a new generation of interdisciplinary scientists who will shape the development of AI within biomedical research over the next decades. Our students will gain the skills, knowledge and acumen to realise biomedical breakthroughs using AI while anticipating and addressing the social issues connected with their research. The Centre has launched in 2019 and currently has 47 doctoral students whose research spans a wide variety of areas, such as image analysis, computational psychiatry, population health and drug discovery. CDT website: <https://web.inf.ed.ac.uk/cdt/biomedical-ai>



UKRI CDT in Artificial Intelligence for Healthcare
Imperial College London

Director – Aldo Faisal

The UKRI Centre for Doctoral Training in Artificial Intelligence for Healthcare at Imperial College London focusses on healthcare applications of core AI to train AI PhDs and Clinical PhD Fellows. We deliver training that integrates the development of technical skills with an appreciation for approaches to human-in-the-Loop AI design that are socially and ethically acceptable. The term “AI” means for us the development of intelligent systems that embody a practical solution. Amongst contemporary AI approaches, Machine Learning methods have shown to yield powerful solutions which work in purely data-driven manners and link via data science to emerging biomedical research methodologies. However, practical solutions involving AI will require a broader approach and we will drive technical innovation by providing broad training for exploitation of multiple technological strategies within the broader realm of AI, including, Machine Learning, Logic-based, Computer Vision or Natural Language Processing methods.



**UKRI CDT in Artificial Intelligence for Medical Diagnosis and Care
University of Leeds**

Director – David Hogg

The UKRI Centre for Doctoral Training in Artificial Intelligence for Medical Diagnosis and Care aims to train the research leaders of tomorrow to transform clinical practice using artificial intelligence. The CDT is led and hosted by the University of Leeds and is founded on a strongly engaged ecosystem of industry, public and voluntary sector organisations, including a close partnership with the Leeds Teaching Hospitals NHS Trust (LTHT). The doctoral research focuses on world-renowned health areas of the University and LTHT, notably in cancer, cardiovascular and musculoskeletal disease. Our students come from a broad range of STEM and health backgrounds, enriching the disciplinary mix and maximising research potential. All students develop the foundational knowledge and practical skills necessary to undertake doctoral research in AI and Health at the highest level. The four-year CDT programme leads to an integrated PhD/MSc in AI for Medical Diagnosis and Care.



**UKRI CDT in AI-Enabled Healthcare
University College London**

Director – Paul Taylor

The mission of UCL's UKRI CDT in AI-enabled Healthcare Systems is to train future leaders to solve the most pressing healthcare challenges with the most innovative artificial intelligence solutions. Our CDT has been set up to train the brightest and best healthcare artificial intelligence scientists of the future to solve the most pressing healthcare challenges with the most innovative artificial intelligence solutions. We aim to focus on work that is close to application, and we work closely with NHS clinicians to apply AI to operational problems as well as projects aimed at improving diagnostics and creating new treatments. UCL is a multi-faculty university with strengths across the board in computer science, biomedicine but also in philosophy and economics and we encourage applications from students with a wide range of backgrounds. We are strongly entrepreneurial and partner with industry. We support students taking internships with a range of companies and help students develop links with start-ups and venture capital.

Venue:

[John McIntyre Centre](#),
Edinburgh

Pollock Halls,
18 Holyrood Park Road,
Edinburgh

[Get Directions to John McIntyre Centre](#)



Conference Programme

20th May 2024

15:00 – 16:00	Arrival at hotel
16:30 – 18:30	Registration and drinks reception (John McIntyre Centre, Penland Suite)
18:30 – 22:00	Dinner & Ceilidh (South Hall)

21st May 2024

9:00 – 09:15	Welcome/Introduction	
9:15 – 10:00	Keynote talk: Fairness and Accountability Challenges in ML for Health Shannon Vallor Director of the Centre for Technomoral Futures and Baillie Gifford Chair in the Ethics of Data and Artificial Intelligence at the Edinburgh Futures Institute (EFI) University of Edinburgh	
10:00 – 11:00	PhD Researchers - Oral Presentations	
	10:00 – 10:15	An Integrative Network Approach for Longitudinal Stratification in Parkinson’s Disease Barry Ryan UKRI CDT in Biomedical Artificial Intelligence, University of Edinburgh
	10:15 – 10:30	Advancing Medical Question-Answering with Retrieval-Augmented Generation: A Case Study in Ophthalmology Quang Nguyen UKRI CDT in AI-Enabled Healthcare, University College London
	10:30 – 10:45	AI for Histological Subtyping of Ovarian Cancer Jack Breen UKRI CDT in AI for Medical Diagnosis and Care, University of Leeds
	10:45 – 11:00	Challenges to Learn Early Prediction Tasks with Interventions History: Kidney Injury as an Example Asem Alaa UKRI CDT in AI for Healthcare, Imperial College London
11:00-12:00	Poster session A (+ tea and coffee) Foyer and Pentland West	

12:00-13:00	Lunch	
13:00-14:00	PhD Researchers – Oral Presentations	
	13:00 – 13:15	Modelling large-scale 3D genome organisation using ML-informed polymer simulations Aleksandra Sobieska UKRI CDT in Biomedical Artificial Intelligence, University of Edinburgh
	13:15 – 13:30	Localising the Seizure Onset Zone from responses to brain stimulation with a CNN Transformer Jamie Norris UKRI CDT in AI-Enabled Healthcare, University College London
		AI Analysis of Voice to Aid Laryngeal Cancer Diagnosis
	13:30 – 13:45	Mary Paterson UKRI CDT in AI for Medical Diagnosis and Care, University of Leeds
		Ultra-Resolution Cascaded Diffusion Model for Gigapixel Image Synthesis in Histopathology
	13:45 – 14:00	Sarah Cechnicka UKRI CDT in AI for Healthcare, Imperial College London
14:00 – 15:00	Poster session B (+ tea and coffee) Foyer and Pentland West	
15:00 – 15:45	Patient engagement talk: Carol Porteous	
15:45 – 16:00	Closing remarks	

The poster displays will be in the John McIntyre Centre Foyer and Pentland West

Keynote Speaker:



Shannon Vallor

Baillie Gifford Professor in the Ethics of Data and Artificial Intelligence
Director, Centre for Technomoral Futures
Edinburgh Futures Institute
Co-Director, UKRI BRAID (Bridging Responsible AI Divides) Programme
University of Edinburgh

Title:

Fairness and Accountability Challenges in ML for Health

Abstract:

Health care is among the most promising domains of application for machine learning, fueling advances in diagnostic imaging, genomics, drug discovery, clinical risk assessment and many more. Yet whenever machine learning models are trained on data about humans or used to impact humans, they create substantial new challenges for fairness and accountability. These ethical challenges go well beyond what health professionals are used to managing under the standard requirements of clinical and research ethics. Left unaddressed, the harms that flow from unfair and unaccountable use of ML in this sector undermine patient trust, clinical confidence in ML tools, and wider adoption of beneficial health applications. This talk will provide an overview of these challenges and how healthcare and AI professionals can work together to manage them.

Bio:

Prof. Shannon Vallor is the Baillie Gifford Chair in the Ethics of Data and Artificial Intelligence at the Edinburgh Futures Institute (EFI) at the University of Edinburgh, where she is also appointed in Philosophy. She is Director of the Centre for Technomoral Futures in EFI, and co-Director of the UKRI BRAID (Bridging Responsible AI Divides) programme. Professor Vallor's research explores how new technologies, especially AI, robotics, and data science, reshape human moral character, habits, and practices. Her work includes advising policymakers and industry on the ethical design and use of AI. She is a standing member of the One Hundred Year Study of Artificial Intelligence (AI100), a member of the Oversight Board of the Ada Lovelace Institute, and a former Visiting Researcher and AI Ethicist at Google. She is author of the books **Technology and the Virtues: A Philosophical Guide to a Future Worth Wanting** (Oxford University Press, 2016) and **The AI Mirror: Reclaiming Our Humanity in an Age of Machine Thinking** (Oxford University Press, 2024).



Carol Porteous

Patient Public Involvement Lead

University of Edinburgh and NHS Scotland

Title:

Working with the public is dangerous

Abstract:

The drive to work with patients and the public in research is only growing – but what difference could it make to your research, why should we do it and how? In this session I will explore what difference working with the public can make, who we need to speak with and how working with the public could prove dangerous for you all.

Bio:

Carol holds two Patient Public Involvement Lead roles, one at the University of Edinburgh and the other with NHS Research Scotland (NRS). Having worked in Patient Public Involvement for almost twenty years, her current role involves leading and supporting researchers across the University of Edinburgh and NHS Lothian, and her NRS role is promoting and progressing PPI across Scotland. Carol is an experienced qualitative researcher and PPI Lead. Prior to her PPI Lead role she was working on patient and public engagement in data linkage in the Usher Institute, looking at issues of public trust and acceptability of administrative data use in the health and social sciences. She has held a variety of positions in the NIHR including PPI Lead for the Research Design Service London, based at King's College London and worked in clinical trials at Moorfields Eye Hospital's Biomedical Research Centre. Her interests are in Patient Public Involvement, co-production and the impact of working with patient partners in health research

Poster Sessions

Session A - 11:00 - 12:00 on 21th May 2024

- Barry Ryan, Riccardo Marioni and Ian Simpson**
An Integrative Network Approach for Longitudinal Stratification in Parkinson's Disease
- William Bolton, Pantelis Georgiou, Alison Holmes and Tim Rawson**
Co-morbidity Representation in Artificial Intelligence: Tapping into Unused Clinical Knowledge
- Lucille Cazenave, Aaron Yurkewich, Chiara Hoehler, Thierry Keller, Carmen Krewer, Klaus Jahn, Sandra Hirche, Satoshi Endo and Etienne Burdet**
Hybrid Functional Electrical Stimulation and Robotic Assistance for Wrist Motion Training after Stroke: Preliminary Results
- Hadrien Reynaud, Mengyun Qiao, Mischa Dombrowski, Thomas Day, Reza Razavi, Alberto Gomez, Paul Leeson and Bernhard Kainz**
Feature-Conditioned Cascaded Video Diffusion Models for Precise Echocardiogram Synthesis
- Jack Breen, Nishant Ravikumar, Katie Allen, Kieran Zucker and Nicolas M. Orsi**
Reducing Magnification Improves the Speed and Accuracy of Ovarian Cancer Subtyping
- Olivier Labayle, Kelsey Tetley-Campbell, Joshua Slaughter, Sjoerd Beentjes, Chris Ponting, Ava Khamseh and Mark van der Laan**
Targeted Estimation of Genetic Effects in Population Genetics
- Mary Paterson, Jim Moor and Luisa Cutillo**
Generalizability of Throat Cancer Detection from Speech Using AI
- Ariane Duverdier, Guillem Hurault, Adnan Custovic and Reiko Tanaka**
A Bayesian machine learning approach to predict the weekly evolution of eczema severity
- Sarah Cechnicka**
Ultra-Resolution Cascaded Diffusion Model for Gigapixel Image Synthesis in Histopathology
- Allan Pang, Alwyn Kotze, Marc de Kamps and Owen Johnson**
No NEWS is Good News – Improving Clinical Early Warning Systems
- Benjamin Keel, Samuel Relton, Aaron Quyn and David Jayne**
Variational Autoencoders for Lung Cancer Diagnosis
- Zuzanna Wójcik, Vania Dimitrova, Lorraine Warrington, Galina Velikova and Kate Absolom**
Using Machine Learning to Predict Unplanned Hospital Utilisation and Chemotherapy Management from Patient-Reported Outcome Measures

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13. **Auguste Rumbutye**
Can lymphoma patient outcomes be predicted using multi-modal AI
 14. **Bailey Andrew, David Westhead and Luisa Cutillo**
Efficient Network Inference for Multi-Omics Data
 15. **Lars Werne**
Computational modelling of episodic memory in the context of Post-traumatic Stress Disorder
 16. **Ruoyu Hu**
An AI Platform for Learning to Laugh using Self-Initiated Humour
 17. **Joseph Farrington**
Many happy returns: a machine learning-based allocation policy to support platelet waste reduction in hospital blood banks
 18. **Chengzhe Piao, Taiyu Zhu, Yu Wang, Stephanie E Baldeweg, Paul Taylor, Pantelis Georgiou, Jiahao Sun, Jun Wang and Kezhi Li**
Privacy Preserved Blood Glucose Level Prediction by Federated Learning
 19. **Leonardo Castorina**
TIMED-Design: flexible and accessible protein sequence design with convolutional neural networks
 20. **Siân Carey**
Generalisable Fairness Testing for Generative AI
 21. **Cosima Graef, Alejandro Pascual Valdunciel, Dario Farina, Ravi Vaidyanathan, Yen Tai and Shlomi Haar**
Tracking beta bursts at the cortical and peripheral levels for Parkinson's disease
 22. **Edward Ellis**
Ultrasound Image Segmentation using various Encoder Architectures
 23. **Weitong Zhang and Bernhard Kainz**
MoCoSR: Respiratory Motion Correction and Super-Resolution for 3D Abdominal MRI
 24. **Simon Ellershaw, Christopher Tomlinson, Oliver Burton, Thomas Frost, John Gerrard Hanrahan, Danyal Z Khan, Hugo Layard Horsfall, Mollie Little, Evaleen Malgapo, Joachim Starup-Hansen, Jack Ross, George Woodward, Martinique Vella-Baldacchino, Kawsar Noor, Anoop Shah and Richard Dobson**
Automated Generation of Hospital Discharge Summaries Using Clinical Guidelines and Large Language Models
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25. **Victoria Smith**
Unlocking Pharmacokinetic Literature with Natural Language Processing
 26. **Simon Hanassab**
Explainable AI to identify ovarian follicles that optimise clinical outcomes during assisted conception
 27. **Federico Nardi, Aldo Faisal and Shlomi Haar**
Cortical beta oscillations as neural marker for learning mechanisms in Embodied Virtual Reality
 28. **Lewis Howell, Nicola Ingram, Roger Lapham, Adam Morrell and James McLaughlan**
Artificial Intelligence for lung ultrasound
 29. **Arpita Saggari, Jonathan C. Darling, Vania Dimitrova, Duygu Sarikaya and David C. Hogg**
Simulating Patient-Doctor Conversations with ChatGPT to Support Medical Training
 30. **Alexander Coles**
Detecting Cancer's Comeback: LSTM Sliding Window over EHR with XGBoost Ensemble for Recurrence Diagnosis Date Detection
 31. **Joshua Southern**
Message Passing Neural Networks with a Virtual Node: Graph Moments, Pooling and Node Heterogeneity
 32. **Oliver Umney, Alistair Curd, Michelle Peckham, Phil Quirke and Joanna Leng**
Linking the organisation of EGFR and its ligands with tumour biology
 33. **Scott Pirrie, Stuart Aitken and Colin Semple**
Patterns of Somatic Copy Number Variation in High Grade Serous Ovarian Cancer
 34. **Matthew Whelan, Daniel Smith and Jacques Fleuriot**
Predicting cognitive health outcomes from objectively-measured sleep duration in UK Biobank
 35. **Avish Vijayaraghavan**
Time Series-Guided Biomarker Discovery
 36. **Dimitar Georgiev, Álvaro Fernández-Galiana, Simon Vilms Pedersen, Georgios Papadopoulos, Ruoxiao Xie, Molly M. Stevens and Mauricio Barahona**
Hyperspectral unmixing for Raman spectroscopy via physics-constrained autoencoders
 37. **Sarah Miller, Serge Sharoff, Geoffrey Hall and Prabhu Arumugam**
Evaluating Text Pre-Processing Strategies for Clinical Document Classification with BERT
 38. **Giulia Sanguedolce, Patrick Naylor and Fatemeh Geranmayeh**
When Whisper Listens to Aphasia: Advancing Robust Post-Stroke Speech Recognition
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39. **Paul Festor, Matthieu Komorowski and Aldo Faisal**
The posterior of optimal policies and their sampling in offline reinforcement learning
 40. **Gerardo Loza**
Real-time surgical tool detection with multi-scale positional encoding and contrastive learning
 41. **Sobia Khan**
Exploring Automated Segmentation Techniques for Diffusion-Weighted MRI Analysis of the Brachial Plexus
 42. **Xin Ci Wong, Duygu Sarikaya, Kieran Zucker, Marc de Kamps and Nishant Ravikumar**
Assessing the effectiveness of synthetic images generated using a conditional DDPM in skin lesion classification
 43. **Eva Lymberopoulos, Muhannad Alomari and Nikhil Sharma**
Persistent Homology to Uncover Differences in the Gut Microbiome of Parkinson's Disease Patients and Healthy Controls
 44. **Nina Moutonnet**
Synthetic time series generation, a statistical and probabilistic approach
 45. **Raneem Toman, Sharib Ali, Venkataraman Subramanian and Animesh Jha**
Knowledge distillation for real-time and generalisable polyp detection
 46. **Michael Thornton, Danilo Mandic and Tobias Reichenbach**
Decoding envelope and frequency-following responses to speech using deep neural networks

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Session B - 14:00 - 15:00 on 21st May 2024

- 1. Victoria Moglia, Lesley Smith, Owen Johnson and Gordon Cook**
Using ML to detect liver cancer from longitudinal laboratory tests
- 2. Aron Syversen, Zhiqiang Zhang and David Wong**
Utilising synthetically generated ECG signals to assess the robustness of Signal Quality Index Tools
- 3. James Stainer**
Dynamics of Heart Rate and Blood Pressure in Paediatric Critical Illness Using the StemGNN Model
- 4. Emma Briggs**
AI for Primary Care Risk Assessment of Oesophago-gastric Cancer: Using Normalising Flows for Data Imputation
- 5. Morgan Thomas**
A Machine Learning Model for Estimating Purity of Glioblastoma Tumours from Bulk RNA-seq Data
- 6. Edoardo Occhipinti, Harry J. Davies, Marek Zylinski, Amir Nassibi, Nicholas S. Peters and Danilo P. Mandic**
Hearables: Denoising autoencoder for real-time in-ear ECG
- 7. Christopher Winder, Andrew Bulpitt, Gordon Cook, Russell Frod and Andrew Scarsbrook**
Extraction of Body Composition Metrics for Multiple Myeloma Prognosis
- 8. Jamie Norris, Aswin Chari, Gerald Cooray, Karl Friston, Martin Tisdall and Richard Rosch**
Localising the Seizure Onset Zone from Single-Pulse Electrical Stimulation Responses with a Transformer
- 9. Oliver Mills, Samuel Relton, Nishant Ravikumar and Philip Conaghan**
A Comparison of State-of-the-Art Segmentation Models on Menisci from 3D Knee MRI
- 10. Shamima Rahman, Emily Clarke and Derek Magee**
Neural Networks for Nuclear Detection in Melanoma Whole Slide Images
- 11. Aasiyah Rshan**
The Feasibility of Using a Common Data Model for Federated Analysis
- 12. Maria Miscouridou**
Classical and learned MR to pseudo-CT mappings for accurate transcranial ultrasound simulation

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13. **Dominic Williamson, Robbert Struyven, Fares Antaki, Mark Chia, Siegfried Wagner, Mahima Jhingan, Naaman Tammuz, Blaise Thompson, Daniel C. Alexander, Reena Chopra and Pearse Keane**
Accelerating clinical trial recruitment with AI-enabled pre-screening for age-related macular degeneration
 14. **Michal Kobiela, Diego Oyarzun and Michael Gutmann**
Optimization of Genetic Oscillators under Stochastic Noise
 15. **Aleksandra Sobieska, Kartic Subr and Chris Brackley**
Modelling large-scale 3D genome organisation using ML-informed polymer simulations
 16. **Lucy Fothergill, Duygu Sarikaya and Dominic Jones**
6D Surgical Tool Pose Estimation using Monocular RGB Images
 17. **Charlotte Merzbacher, Oisin Mac Aodha and Diego Oyarzun**
Bridging the Gap Between Genome-Scale and Kinetic Models for Dynamic Pathway Engineering
 18. **Raman Dutt, Ondrej Bohdal, Sotirios Tsaftaris and Timothy Hospedales**
FairTune: Optimizing Parameter Efficient Fine Tuning for Fairness in Medical Image Analysis
 19. **Aryo Gema, Pasquale Minervini, Luke Daines, Tom Hope and Beatrice Alex**
Parameter-Efficient Fine-Tuning of LLaMA for the Clinical Domain
 20. **Jonathan Gillham**
Optimizing Blood Test Ordering Through Personalized Uncertainty Estimates
 21. **Benjamin Wilson, Alice Westwood, Nicholas West, Heike Grabsch and Derek Magee**
Automated Measurement of Tumour Cell Density at the Luminal Surface using Convolutional Neural Networks is an Independent Marker in Colorectal Cancer
 22. **Rohan Gorantla**
Benchmarking Active Learning Protocols for Ligand-Binding Affinity Prediction
 23. **Yongshuo Zong, Yongxin Yang and Timothy Hospedales**
MEDFAIR: Benchmarking Fairness for Medical Imaging
 24. **Niccolo McConnell**
Towards a Foundation Model for Generalisable Disease Detection for Lung CT Volumes
 25. **Quang Nguyen**
Efficient Open-sourced Large Language Model for Eye Hospital
 26. **Craig Nicolson**
Optimising Organ Donation through the use of Machine Learning to Predict Time to Asystole in Intensive Care
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27. **Agnese Grison, Alexander Kenneth Clarke, Silvia Muceli, Jaime Ibanez, Aritra Kundu and Dario Farina**
New insights and methods for automatic and reliable decomposition of the spiking activity of populations of neurons
 28. **Michael Tänzler**
T1/T2 relaxation temporal modelling from accelerated acquisitions using a Latent Transformer
 29. **Neophytos Polydorou**
A Virtual Reality Platform with Emotion Recognition Capabilities for Self-Attachment Technique
 30. **Daolong Chen, Aldo Faisal and Richard Festenstein**
BehaviourGPT: Large Behaviour Models to measure health state in neurological diseases
 31. **Oskar Fraser-Krauss**
Dynamic Graph Machine Learning for Early Detection and Characterisation of Antimicrobial Resistant Outbreaks from Acute Care Data
 32. **Connor Daly, Ferdinando Rodriguez Y Baena, Daniel Elson and Jinendra Ekanayake**
Intraoperative Sensing for Human-Robot Interaction in Neurosurgery
 33. **Leo Huang, Wai Hoh Tang, Adnan Custovic, Claudia Gore and Reiko Tanaka**
Automated evaluation of eczema severity scores for children and adolescents with diverse skin tones
 34. **Simon Williamson**
Developing neuromorphic AI-based closed-loop control brain stimulation
 35. **Yuxuan Liu, Ramnarayan Padmanabhan and A. Aldo Faisal**
Time-to-Event Reinforced Decision Making for Ventilation Management in Pediatric ICUs: A Conditional Sequence Modelling Approach in Offline RL
 36. **Nicolas Calvo Peiro, Mathias Ramm Haugland, Anastasia Borovykh, Yen Tai and Shlomi Haar**
Explainable deep learning for localizing cortical physiomarkers from deep brain stimulation
 37. **Fiona Kekwick**
Representation Learning for Population-Level Multimodal Brain Imaging Data
 38. **William Plumb**
Worth the Wait?: AI-Enabled Clustering of Clinical Pathways for more Efficient Patient Management
 39. **Pauline Bourigault**
Multi-Modal Information Bottleneck Attribution with Cross-Attention Guidance for Visual Explanations of Image-Text Representations
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40. **Adam Gould, Francesca Toni and Seema Dadhania**
Arguing with physical activity data from a real-world wearable clinical trial with patients with a primary brain tumour
 41. **Barbora Barancikova**
Harmful Brain Activity - Classifying Multivariate Time Series
 42. **Ollie Pitts**
Physics-informed Machine Learning to Identify Structural and Functional Heterogeneities in Lung Diseases
 43. **Marco Visentin**
Towards Interpretable AI in Diagnostic Imaging
 44. **Asem Alaa**
Challenges to Learn Early Prediction Tasks with Interventions History: Kidney Injury as an Example

