AIMS

EPSRC Centre for Doctoral Training in
Autonomous Intelligent Machines & Systems

Annual Review 2024/2025

UKRI Engineering and Physical Sciences Research Council

UNIVERSITY OF OXFORD


DECIDING TO GO
TO UNIVERSITY
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EPSRC Centre for Doctoral Training in
Autonomous Intelligent Machines & Systems

Foreword

In this document we highlight what has happened in the past year of the AIMS CDT.

Welcome to the tenth annual review highlighting key aspects and activities of staff and students in AIMS during 2024/2025. This has been the eleventh full year of the EPSRC Centre for Doctoral Training in Autonomous Intelligent Machines & Systems. The CDT is thriving with applications in excess >300 in the past year.

Thanks to the generosity of our partners, we have been able to fully-fund more students this past year, and for future years.

The last year has been another successful year for publications to top conferences, students submitting their dissertations, and going to work for several companies, as well as in academia.

We held a very successful AIMS seminar series with speakers from the AIMS supervisory pool, industry representatives, including Marine AI, Meta and Continental as well as universities across the world and AIMS faculty.

We would like to warmly acknowledge EPSRC and our industry partners for their continued support of studentships and internships.

Alex Rogers
Director

Xiaowen Dong
Co-Director

Wendy Poole
Centre Administrator

About Us

Autonomous systems powered by artificial intelligence will have a transformative impact on economy, industry, and society. Our mission is to train cohorts with both theoretical, practical and systems skills in autonomous systems - comprising machine learning, robotics, sensor systems and verification- and a deep understanding of the cross-disciplinary requirements of these domains. Industrial Partnerships have been and will continue to be at the heart of AIMS, shaping its training and ensuring the delivery of Oxford's world-leading research in autonomous systems to a wide variety of sectors, including smart health, transport, finance, tracking of animals, energy, and extreme environments.

The CDT is underpinned by key skills areas in four interconnected themes, in which Oxford has research strengths, led by members of the CDT team, and strengthened by industrial contacts.

Key Skills Areas

What's holding up the real-world impact of Artificial Intelligence? Today, too often, innovation is overly focussed on new component algorithms, particularly those from Machine Learning. To realise impact on the world, however, such algorithms must be integrated with complete autonomous systems – in which there are far–too–few trained experts. AIMS imparts unified training in four important and intimately connected components of such systems:

- Machine Learning, as a unifying core.
- Robotics & Vision.
- Cyber-Physical Systems (e.g., sensor networks); and
- Control & Verification.

As examples of autonomous systems, AIMS aim is at building systems to impact upon

- sustainable urban development (transport, financial services, and smart infrastructure),
- extreme and challenging environments (space robots and satellite data) and
- smart health (cancer diagnosis).

To deliver training in these core research themes, we delivered a series of modules in 2024/2025 in the following areas: Data Estimation & Inference, Machine Learning, Signal Processing, Optimization, Embedded Systems Programming, Introduction to Modern Control, Discriminative & Deep Learning for Big Data , Computer Vision, Autonomous Systems Safety & Governance, Systems Verification, Privacy & Security, Reinforcement Learning, Internet of Things, Autonomous Robotics, Cooperative AI: Foundations & Frontiers and Deep Learning in Distributed and Constrained Systems.

Events, highlights, outreach, and publications

AIMS students have taken part in a wide range of research and outreach this last year. They have also published many papers at top conferences. These include: ICML (International Conference on Machine Learning), CVPR (Conference on Computer Vision and Pattern Recognition), NeurIPS (Neural Information Processing Systems, AAMAS (Autonomous Agents and Multiagent Systems), IJCAI (Joint Conference on Artificial Intelligence), EMNLP (Empirical Methods in Natural Language Processing).

Publications

(A full list of publications can be found at: *https://aims.robots.ox.ac.uk/publications/*) but here are just a few from the last year.

- **Matthew Jackson, Uljad Berdica, Jarek Liesen**, Shimon Whiteson and Jakob Foerster. *"A Clean Slate for Offline Reinforcement Learning"*. NeurIPS 2025 (Oral).
- **Charig Yang** et al. "Reading Recognition in the Wild". In NeurIPS, 2025
- Andrew M. Bean, Ryan Othniel Kearns, Angelika Romanou, Franziska Sofia Hafner, Harry Mayne, Jan Batzner, Negar Foroutan, Chris Schmitz, Karolina Korgul, Hunar Batra, **Oishi Deb**, Emma Beharry, Cornelius Emde, Thomas Foster, Anna Gausen, María Grandury, Simeng Han, Valentin Hofmann, Lujain Ibrahim, Hazel Kim, Hannah Rose Kirk, Fangru Lin, Gabrielle Kaili-May Liu, Lennart Luettgau, Jabez Magomere, Jonathan Rystrøm, Anna Sotnikova, Yushi Yang, Yilun Zhao, Adel Bibi, Antoine Bosselut, Ronald Clark, Arman Cohan, Jakob Nicolaus Foerster, Yarin Gal, Scott A. Hale, Inioluwa Deborah Raji, Christopher Summerfield, Philip Torr, Cozmin Ududec, Luc Rocher, Adam Mahdi. *"Measuring what Matters: Construct Validity in Large Language Model Benchmarks"*. NeurIPS 2025.
- Anabia Sohail, **Oishi Deb**, Anwaar Ulhaq. *"Organoid-ICLIP: Class Imbalance-Aware Vision-Language Learning for Organoid Mitosis Classification"*. ICIP 2025.
- **Patrick Benjamin** and Alessandro Abate, "Networked Communication for Mean-Field Games with Function Approximation and Empirical Mean-Field Estimation", Adaptive and Learning Agents Workshop at AAMAS 2025 (winner of best paper award).
- **Shreshth A. Malik**, Nora L. Eisner, Ian R. Mason, Sofia Platymesi, Suzanne Aigrain, Stephen J. Roberts, Yarin Gal, and Chris J. Lintott. *"Accelerating Long-period Exoplanet Discovery by Combining Deep Learning and Citizen Science*". The Astronomical Journal.

- Octave Mariotti, Zhipeng Du, **Yash Bhalgat**, Oisin Mac Aodha, Hakan Bilen. *"Jamais Vu: Exposing the Generalization Gap in Supervised Semantic Correspondence"*. NeurIPS 2025.
- Paul Engstler*, **Aleksandar Shtedritski***, Iro Laina, Christian Rupprecht, Andrea Vedaldi. *"SynCity: Training-Free Generation of 3D Worlds"*. ICCV 2025.
- **Jacques Cloete**, Nikolaus Vertovec and Alessandro Abate, *"SPoRt - Safe Policy Ratio: Certified Training and Deployment of Task Policies in Model-Free RL"*, at IJCAI 2025.
- **Jacques Cloete**, Wolfgang Merkt and Ioannis Havoutis, *"Adaptive Manipulation Using Behavior Trees"*, at IROS 2025.
- Jana Zeller, **Aleksandar Shtedritski**, Christian Rupprecht. *"Learning Visual Prompts for Vision-Language Models"*. CVPR 2025.
- **Benjamin Ramtoula**, Pierre-Yves Lajoie, Paul Newman and Daniele De Martini. "*Fantastic Features and Where to Find Them: A Probing Method to combine Features from Multiple Foundation Models"*. NeurIPS 2025.
- Pierre-Yves Lajoie, **Benjamin Ramtoula**, Daniele De Martini and Giovanni Beltrame. *"3D Foundation Model-Based Loop Closing for Decentralized Collaborative SLAM"*. *RA-L 2025.*
- **Dulhan Jayalath**, James Bradley Wendt, Nicholas Monath, Sandeep Tata and Beliz Gunel. *"PRISM: Efficient Long-Range Reasoning with Short-Context LLMs"*. EMNLP 2025.
- **Dulhan Jayalath**, Gilad Landau, Brendan Shillingford, Mark Woolrich and Oiwi Parker Jones. *"The Brain's Bitter Lesson: Scaling Speech Decoding With Self-Supervised Learning"*. ICML 2025.
- **Dulhan Jayalath**, Shashwat Goel, Thomas Foster, Parag Jain, Suchin Gururangan, Cheng Zhang, Anirudh Goyal, Alan Schelten. *"Compute as Teacher: Turning Inference Compute Into Reference-Free Supervision"*. (with Meta).
- **Alexander Pondaven**, Aliaksandr Siarohin, Sergey Tulyakov, Philip Torr, Fabio Pizzati. *"Video Motion Transfer with Diffusion Transformers"*. CVPR 2025.
- **Eltayeb Ahmed, Uljad Berdica, Martha Elliott, Danijela Horak, Jakob N. Foerster.** "*Intent Factored Generation: Unleashing the Diversity in Your Language Model"* was accepted at the Exploration in AI Today workshop at ICML 2025. This was in collaboration with the BBC.
- Alejandro Pardo, Fabio Pizzati, Tong Zhang, **Alexander Pondaven**, Philip Torr, Juan Camilo Perez, Bernard Ghanem. *"MatchDiffusion: Training-free Generation of Match-cuts"*. ICCV 2025.
- **Mathias Jackermeier** and Alessandro Abate. *"DEEPLTL: Learning to Efficiently Satisfy Complex LTL Specifications for Multi-Task RL"*. ICLR 2025.
- Mattia Giuri, **Mathias Jackermwier** and Alessandro Abate. *"Zero-Shot Instruction Following in RL via Structured LTL Representations"*. ICML 2025.
- M Keser, HI Orhan, **N Amini-Naieni,** G Schwalbe, A Knoll, M Rottmann. *"Benchmarking Vision Foundation Models for Input Monitoring in Autonomous Driving"*. BMVC, 2025.

- **Benedetta Mussati, Freddie Bickford Smith,** Tom Rainforth and Stephen Roberts. *"Prediction-Oriented Subsampling from Data Streams"*. CoLLAs 2025.
- **Baskaran Sripathmanathan**, Xiaowen Dong and Michael Bronstein. *"On the Impact of Downstream Tasks on Sampling and Reconstructing Noisy Graph Signals"*. IEEE CAMSAP 2025.
- **Patrick Benjamin** and Alessandro Abate. *"Networked Communication for Decentralised Cooperative Agents in Mean-Field Control."* Second Coordination and Cooperation in Multi-Agent Reinforcement Learning Workshop at RLC 2025.
- **Niki Amini-Naieni**, Tengda Han, and Andrew Zisserman. *"CountGD: Multi-Modal Open-World Counting"*. NeurIPS 2024.

Internships

- Apple, Meta, Roku, JP Morgan, QuantCo, Spotify and Normal Computing

Outreach/Invited Speaker

- Oishi Deb was an invited speaker at the University of Cambridge
- Kelsey Doerksen was the keynote speaker at EnSpire Oxford; first EnSpire Founders event.
- Kelsey Doerksen delivered a TEDx talk at the 15th annual Queens University TEDx event.

Impact/Achievements

- (Niki Amini-Naieni) Our State-of-the-art counting model CountGD has been used by ByteDance (creator of TikTok) for training its state-of-the-art Seed 1.5 vision-language model ([2505.07062] Seed1.5-VL Technical Report)
- Penguinologists from PenguinWatch have been extensively using CountGD to count large populations of seabirds including over a decade's worth of timelapse footage.
- Conservationists at the Seal Research Trust have been using CountGD to count populations of seals.
- Niki Amini-Naieni awarded the Qualcomm Innovation Fellowship.
- Alex Goldie received outstanding paper for Scientific Understanding in Reinforcement Learning at RLC 2025.
- Podcast series (Kelsey Doerksen) Data Scientist with the Climate and Data Environment Unit at UNICEF and 2021 Promise Award Recipient.

- AI 4 Science Workshop given by Shreshth Malik and Kelsey Doerksen. Attending by AIMS and Non-AIMS students, with guest speakers from NASA.
- Yash Bhalgat Co-organised the 1st Workshop on 3D-LLM/VLA at CVPR 2025.

Public Engagement

With planning and financial support from AIMS, first-year student John hosted a visit for a group of Year 12 students from his alma mater. The students spent the day with the MPLS Division learning about university applications and discussing what it means to be a researcher with current academics.

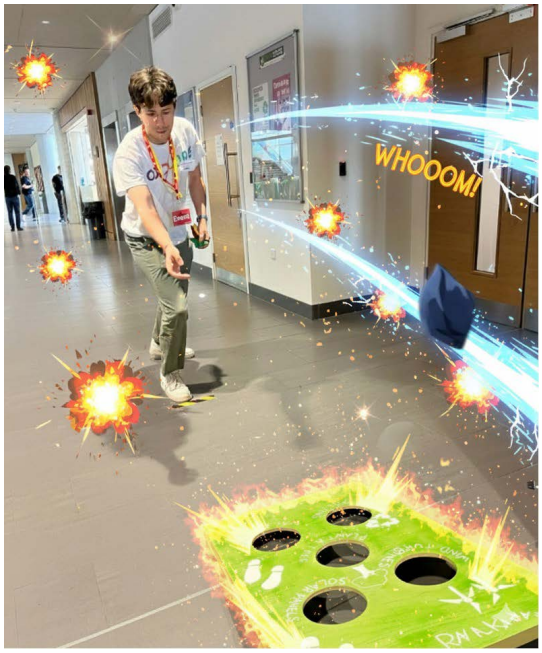
(Congelton School visit)

This year's Public Engagement with Research (PER) training, delivered in partnership with Statistics for Machine Learning, aimed to build students' confidence, understanding, and practical skills in communicating their research with public audiences. Through a day-long interactive workshop, students explored what makes engagement purposeful and effective, learned how to design hands-on activities for festivals, and worked in teams to create and deliver their own research-inspired public engagement projects. Mentors provided guidance throughout, and a dedicated demo day enabled students to test and refine their ideas before taking them to live events.

Two student-led teams delivered activities at established engagement events, reaching hundreds of participants. Team Evo-Racer designed Evolving Cars, an interactive racing game that brought the principles of genetic algorithms and evolutionary learning to life. Using large, colourful buttons connected to a Raspberry Pi and display screen, participants selected virtual cars to advance through successive "generations" of races. Each choice influenced how the next set of cars evolved, mimicking how selection pressures guide optimisation in machine learning. Over time, the audience effectively trained the system, learning intuitively how iterative feedback drives improvement in AI models.

The team showcased Evolving Cars at the Oxford Mathematics Festival, where around 160 visitors took part. The combination of sound, motion, and competition created a lively atmosphere: children formed spontaneous teams, and cheered their cars along. One young visitor even "broke" the model by discovering an unexpected winning

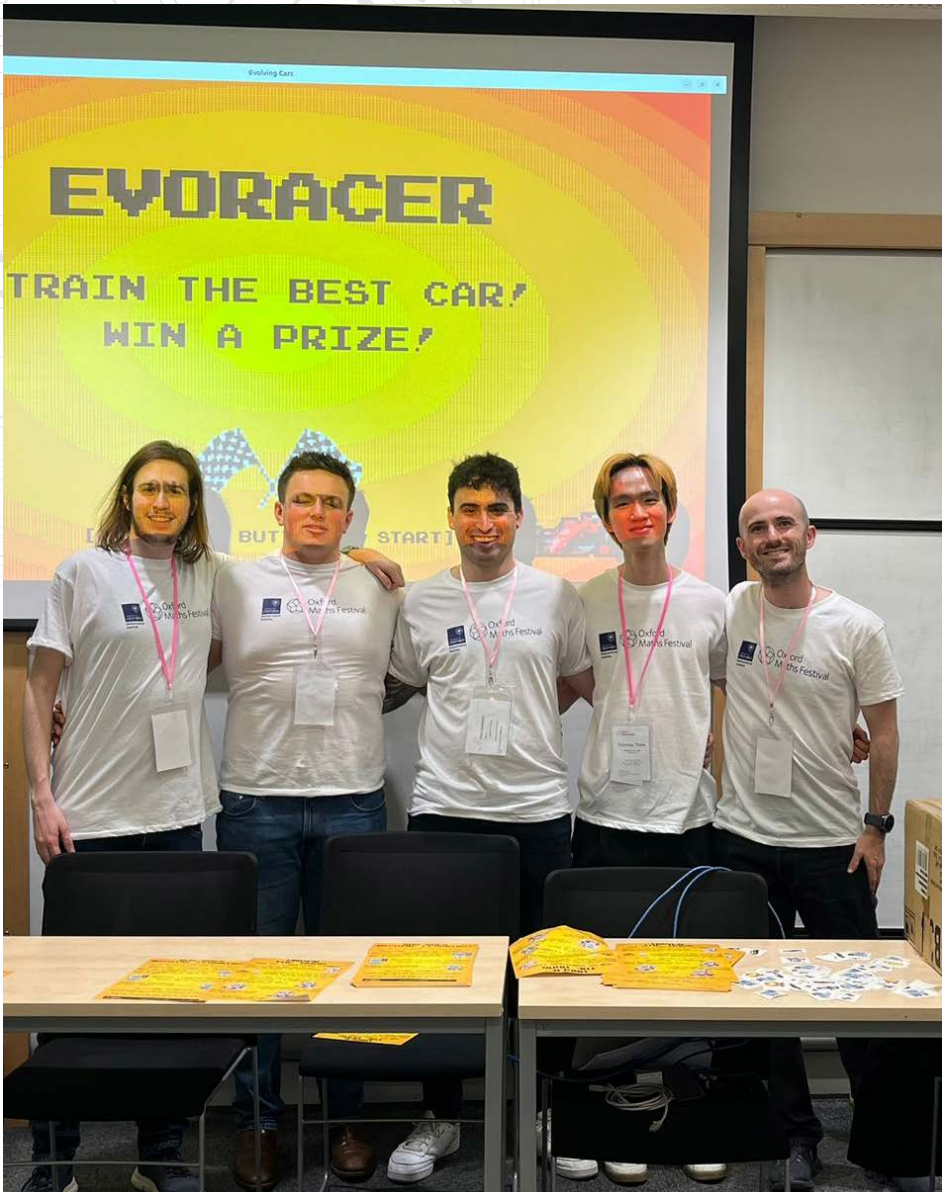
strategy by "breaking" the model by exploiting a loophole where going backwards would win the race. The experience demonstrated how play can reveal complex ideas about algorithmic learning and optimisation in an accessible, memorable way. The team's reflections emphasised that simplicity, clear visual feedback, and opportunities for shared discovery made the activity both enjoyable and educational.



Team **Aim4Change** created a climate-themed cornhole challenge for the Oxplore Festival, engaging over 300 young people and teachers. The game was inspired by reinforcement learning principles, translating the idea of an agent learning from hidden rewards into a playful, hands-on experience for festival visitors. Each cornhole target represented a climate action (such as using solar panels or reducing car emissions), with "rewards" revealed only after successful throws. Players had to infer which actions were most impactful for mitigating climate change, gradually improving their strategy over multiple rounds.

The team found that playfulness, clear visuals, and a simple scoring system supported both engagement and understanding, while also discovering that competition and rewards, such as stickers, were powerful motivators. The activity successfully stimulated discussion about climate impacts and energy technologies, including nuclear fusion, and was praised by festival organisers for its creativity and accessibility.

Both teams reflected thoughtfully on the challenges of simplifying complex ideas, adapting to real-world festival dynamics, and designing activities that invite curiosity and conversation. Their achievements were celebrated at the joint AIMS–StatML showcase event, where Evo-Racer won the People's Choice Award and Aim4Change received the Director's Choice Award for their ingenuity and thoughtful design. Collectively, these projects demonstrated the value of experiential learning in PER, building students' skills in teamwork, communication, creativity, and reflective practice while meaningfully connecting research with public audiences.


Evolving Cars
EVORACER
TRAIN THE BEST CAR!
WIN A PRIZE!
Oxford Maths Festival

AIMS CDT Cohort 2025

Jonathan Auton - Before joining AIMS, I completed a MEng in Discrete Mathematics at the University of Warwick, graduating at the top of my cohort with First Class Honours, and receiving multiple awards for continual achievement. During this time, I also undertook a funded research internship on the mechanisms of neural network training, where I discovered fascinating visual characterisations of the chaotic nature of gradient descent.

Through AIMS, I aim to contribute to the advancement of AI techniques that can be used in practical application to real-world problems, with a real capacity to benefit lives. I am particularly excited to apply my knowledge to create better, safer, and more effective AI tools.

In my free time, I enjoy playing a variety of tabletop games, learning new things, and turning curiosities of things I learn about into software solutions.

Alexandro Buburuzan - Prior to AIMS, I completed a BSc in Artificial Intelligence with Industrial Experience at The University of Manchester. I am interested in how physical AI agents might improve their spatial reasoning abilities by implicitly constructing and learning from reimagined worlds.

My computer vision journey began in Romania, at 16, when I joined a medical imaging startup. I later continued there for two years as a Research Engineer, with a focus on domain generalisation, before moving to FiveAI, an autonomous driving company from Cambridge, now part of Bosch. As a year-long Research Engineer Intern, I published work on multimodal sensor fusion and synthetic data generation for autonomous driving. Before starting AIMS, I rejoined FiveAI, as a Research Scientist Intern, extending my work to building end-to-end autonomous agents.

I enjoy going to contemporary ballet and opera, and I take photographs in my free time. My favourite film is Orlando. **Website: https://alexbubu.com**

Thomas Bush - I am from the south of the UK. I initially graduated in 2023 with a BSc in Philosophy, Politics, and Economics at the London School of Economics. However, during Lockdown, I became fascinated by AI and subsequently completed a MPhil in Machine Learning and Machine Intelligence at the University of Cambridge in 2024. Over the course of my MPhil, I became deeply interested in questions surrounding the interpretability of AI systems. I have spent the past year investigating whether methods from mechanistic interpretability can be used to reverse-engineer the world models learned by various AI systems. Outside of research, I love hiking, reading and playing guitar!

Francesco Capuano - I am broadly interested in applications of ML to impactful, long-standing challenges such as Science, as well as the development of systems capable of efficiently learning from interaction. In recent years, my interests gravitated towards robotics, and the many challenges arising from this inherently multidisciplinary and complex domain. My research aims at developing the knowledge and tools to make robots learn better.

Born and raised in the suburbs of Rome, Italy, I earned my undergraduate Engineering degree from Sapienza University of Rome. I then joined Politecnico di Torino for my MSc. I also hold a Diploma from Alta Scuola Politecnica, the joint honors program of Politecnico di Torino and Politecnico di Milano, Italy's top institutions. Both while at Politecnico and after, I was lucky enough to spend time in both research institutions and industry across Europe, living and working across Torino, Prague, Milan, and Paris. In industry, I mostly worked in tech startups with various roles ranging from engineering to research. After more than two years in industry, I obtained a second master in Applied Mathematics (MVA) from École Normale Supérieure Paris-Saclay.

I am extremely passionate about equality of opportunities, and love to engage in conversations on how to prevent ML from becoming inaccessible to people from regular, working-class backgrounds. In my free time, I pick up new sports while I learn to accept my slow BJJ progress or, more often, talk about music while traveling around Europe.

Website: https://fracapuano.github.io

Antoine Gorceix - I grew up and studied in Paris where I developed a deep passion for mathematics from an early age. I completed a Bachelor's degree in Pure Mathematics at CentraleSupélec before discovering computer science and artificial intelligence, a field that quickly became a new fascination. I went on to pursue a dual research Master's degree in Artificial Intelligence and Mathematics from the École Normale Supérieure and CentraleSupélec.

Over the past few years, I've developed particular interests in large language models, reinforcement learning, and multi-agent systems, which I've had the opportunity to explore both in academia and industry. Most recently, I worked as an AI Research Scientist at J.P. Morgan, where I led projects on portfolio optimization using deep reinforcement learning, and on enhancing the mathematical reasoning capabilities of LLMs. The latter earned an Outstanding Paper Award at NeurIPS MATH-AI 2024. Before that, I worked as a researcher at InstaDeep, focusing on multi-modality learning.

Outside of research, I enjoy literature, philosophy, as well as puzzles and logic or strategy games. I'm also a keen runner, mostly trails.

Linkedin: https://www.linkedin.com/in/antoine-gorceix-3a91531a0/

Anna Greer - My research interests began with humans' emotional connection to music and now focus more broadly on modelling human perception for AI personalisation. On the AIMS programme, I am excited to deepen these interests while exploring new areas such as computational social science and robotics. I hold a BSc in Mathematics and Statistics and an MSc in Artificial Intelligence from the University of Edinburgh. There, I combined my love of music and AI through projects including playlist continuation and key identification. Concurrently, I was president of a choir, co-founded an AI society and created a Maths support group. Professionally, I started as a Research Engineer in speech-to-text before becoming a Senior Data Scientist in music recommendation and artist revenue forecasting. Most recently, I was Senior Data Science Manager developing code and leading a team from design to deployment on a project in speech-to-text and text generation for the medical domain. I am British, French and Irish. Outside work, I enjoy travelling, concerts and songwriting.

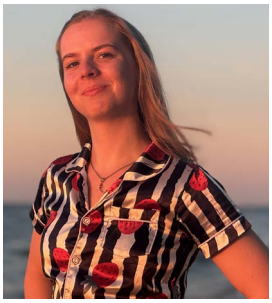
Angel He - I completed my Bachelor's degree at the University of Melbourne as a Melbourne Chancellor's Scholar. During my undergraduate studies, I developed a strong foundation in computer science alongside a deep interest in applied probability and stochastic modelling. A semester on exchange at Carnegie Mellon University expanded my curiosity to learning and game theory. Following, I pursued an MSc in Advanced Computer Science here at Oxford, where I developed a strong passion for formal verification and control for stochastic systems. My current research focuses on developing robust verification techniques for uncertain stochastic games, with work on extending the PRISM model checker.

Motivated by the goal of ensuring correctness and robustness in AI-based and learning-driven systems, I am excited to explore the intersection of verification, control, and learning more deeply during the AIMS CDT, while also engaging with other themes and inter-theme collaborations. I aim to contribute to the development of principled, mathematically grounded techniques and tools that provide formal guarantees for autonomous and intelligent systems, especially in the context of multi-agent interaction and neuro-symbolic architectures.

Outside my studies, I enjoy swimming, watching detective-themed media, cooking and writing.

GitHub: https://7angel4.github.io/

LinkedIn:https://www.linkedin.com/in/angel-he-82b4221a9/



Tita Rosemeyer - Made, born, and raised in Berlin, I was the shortest person in my family to ever graduate college.

I earned a BSc in Mathematics and Computer Science at École Polytechnique, Paris – with an exchange semester at University of Toronto – graduating as valedictorian with an excellence scholarship. My studies in Paris included a research project on the mathematics of self-similar objects and culminated in my bachelor's thesis on model-based engineering for quadcopter software. I further completed an MSc in Mathematics and Foundations of Computer Science at Oxford, supported by a DAAD scholarship, with my thesis on formal verification of capability safety in the CHERIoT Ibex processor. In my free time, I enjoy playing the clarinet in my local university orchestra, traveling, and taunting my allergies by volunteering in dog shelters.

Avi Semler - Before joining AIMS, I studied maths and computer science at the University of Warwick followed by a master's in mathematical sciences at the University of Oxford, coinciding with a dramatic expansion in the capabilities of autonomous systems. This lead to interest in developing new technical measures and understanding to ensure safety and beneficial outcomes. My areas of interest include technical AI governance, especially verification, chain-of-thought monitoring and leveraging an understanding of how neural networks work. In my spare time, I enjoy hiking, studying ancient languages, and running.

Charlotte Wayment - My research is driven by a desire to build intelligent systems that address complex, real-world problems in challenging environments. After graduating with a degree in Architecture from the University of Edinburgh, I pursued a Master's in Data Science at Durham, where I explored mechanistic interpretability in groundwater modelling pipelines to enhance environmental management in data-sparse regions of the UK.

Alongside my studies, I built extensive production scheduling and simulation systems in my work as a project and software engineer, now deployed to optimise operations in global food and pharmaceutical manufacturing environments. This trajectory motivated my current interest in computational neuroscience, where I am exploring event-driven neural networks and neuromorphic computing to reduce the energy demands and latency of deep learning systems in remote and resource-constrained environments. Beyond the research, I enjoy going for long walks, playing the piano and volunteering at my local animal rescue centre.

Mike Wharton - Previously, I worked as a trainee patent attorney and interned at a company that produced wireless load sensors for racing yachts. I graduated with an MEng in Mechanical Engineering from the University of Bristol in 2024, where I was awarded the Bechtel Industrial Prize. While studying, I enjoyed working on a broad range of research projects including modelling high-speed dynamics using slow-motion videogrammetry, developing low-cost optical processing algorithms for structural health monitoring, replicating haptic perception of prototypes with modular actuators, and characterising object dynamics using acoustic emission. My research has been interdisciplinary, spanning robotics, nuclear reactor engineering, quantum computing, psychology, and even social sciences. I have also benefitted from working with many excellent minds and different research groups; notably the Design and Manufacturing Futures Laboratory and the Electrical Energy Management Group. I am excited to continue my research and am currently interested in exploring in more detail how humans interact with automated systems. My other main vocations are as a classical pianist, trombone player, and occasional oil painter.

Evzen Wybitul - I did my BSc in bioinformatics at Charles University, Prague. Looking back, that must have been when I found my passion for never studying a well-defined field. Afterwards, I completed an MSc in data science at ETH Zurich, focusing on AI and AI safety, and I'm now continuing into AIMS to focus on AI safety and technical AI governance. During my studies, I worked as a data scientist at MSD and led a functional programming course at my former high school. My research interests center on high-level interpretability in AI safety. I've participated twice in the MATS research program in Berkeley, most recently working with a Google DeepMind researcher on localizing knowledge in models to aid unlearning and steering. Looking ahead, I hope to build technical tools that enable better AI governance for all stakeholders: model providers, users, and regulators. Outside research, I'm passionate about art, especially music, books, and films — I even tried writing poetry, but discovered I'm much better with Python.

AIMS Contacts

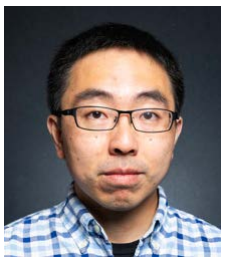
MICHAEL OSBORNE

Michael A Osborne is an expert in the development of intelligent algorithms capable of making sense of complex big data. His work in Machine Learning and non-parametric data analytics has been successfully applied in diverse and challenging contexts. For example, in astrostatistics, Michael's probabilistic algorithms have aided the detection of planets in distant solar systems, and in autonomous robotics, his work has enabled self-driving cars to determine when their maps may have changed due to roadworks.

More recently, he has addressed key societal challenges, analysing how intelligent algorithms might soon substitute for human workers, and predicting the resulting impact on employment. Michael is an Associate Professor in Machine Learning, an Official Fellow of Exeter College, and a Faculty Member of the Oxford-Man Institute for Quantitative Finance, all at the University of Oxford.

ALEX ROGERS

I originally studied Physics at Durham University before joining Schlumberger as a wireline logging engineer. After five years working in various oilfields around the world, I took suspended employment to study for a PhD applying statistical physics to models of evolving populations. Upon completing my PhD, I worked for a spin-out from the Santa Fe Institute applying complexity science to business problem before returning to academia, initially at the University of Southampton, and now at the University of Oxford.



XIAOWEN DONG

Xiaowen Dong is an Associate Professor in the Department of Engineering Science, where he is an academic member of both the Machine Learning Research Group and the Oxford-Man Institute. He is also a Tutorial Fellow at Lady Margaret Hall. Prior to joining Oxford, he was a postdoctoral associate in the MIT Media Lab, where he remains as a research affiliate, and received his PhD degree from the Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland.Director 2025/2026)

WENDY POOLE

I have been working in the University for 31 years. I accepted the position as CDT Centre Administrator, after working in the Department of Computer Science for 20 years.

ACADEMIC SUPERVISORS

A full list of academic supervisors can be found at:
http://aims.robots.ox.ac.uk/academics-and-staff/


AI for Climate
Uncovering the drivers of global air pollution with Deep Learning
Scientific Understanding from Data Science (SUDS) Initiative - to increase the speed, depth and rigor of scientific return by revealing new connections through data science
What are the drivers and impact of global ozone trends on global air quality at scales relevant to human health?
Using ML to predict surface ozone and ozone bias
NASA
SAMSUNG

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