Anton Isopoussu

Staff Applied Research Scientist · Mathematician & Machine Learning Researcher
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Experience

Unlikely AI 2023 – Present
Staff Applied Research Scientist

- Research and engineering at the intersection of generative and classical AI, treating model outputs as executable programs and formal structures.
- Research on neuro-symbolic reasoning, knowledge representation, and the behaviour of large language models.

Invenia Labs 2019 – 2023
Senior Researcher Cambridge, UK

- Developed probabilistic forecasting and statistical learning methods for high-dimensional, heavy-tailed time-series data.
- Researched continuous domain adaptation and optimal transport for time-series and sensor workloads.

Nokia Bell Labs 2018 – 2019
Senior Research Scientist Cambridge, UK

- Researcher in the Ubiquitous Computing and Human-Computer Interaction group (led by Fahim Kawsar).
- Led research on machine learning under dataset shift, unsupervised and distributed adversarial domain adaptation, and robust sensory and speech systems.

Nokia Technologies 2016 – 2018
Senior Researcher, Advanced Research Labs Cambridge, UK

- Designed and deployed machine learning algorithms for image processing, biometrics, wireless sensing, and mobile health applications.

Stacky Software Solutions Jun 2015 – Mar 2016
Software Consultant Cambridge, UK

- Decompression modelling algorithms and software for Lungfish Dive Systems.

Education

University of Cambridge 2010 – 2015
PhD in Mathematics (DPMMS, Churchill College) Cambridge, UK

- Thesis: *K-stability of Relative Flag Varieties* (arXiv:1307.7638), supervised by Dr Julius Ross. Algebraic geometry and geometric analysis.
- Teaching and supervision of graduate and undergraduate mathematics courses.

University of Cambridge 2009 – 2010
Master of Advanced Study (Mathematical Tripos Part III, Churchill College) Cambridge, UK

Helsinki University of Technology (Aalto University) 2006 – 2009
MSc in Technology (Mathematics, 2008–2009) & BSc (Mathematics and Physics, 2006–2008) Espoo, Finland

- Master's thesis: *Heisenberg Group as a Sub-Riemannian Manifold.*

Selected publications

- X. Wang-Lin, **A. Isopoussu**, L. Mahon. *If It's Not Buggy, Don't Fix It: On the Dynamics of Iterative Bug-fixing with LLMs.* NeurIPS 2026 Workshop on Interpreting Agent Behavior (IAB), 2026 (arXiv:2609.10123).
- J. T. H. Wong, C. Zhang, L. Mahon, W. Luk, **A. Isopoussu**, Y. Zhao. *On the Existence and Behavior of Secondary Attention Sinks.* ICLR 2026 Workshop on Unifying Concept Representation Learning (UCRL), 2026 (arXiv:2512.22213).
- S. Gan, A. Mathur, **A. Isopoussu**, N. Bianchi-Berthouze, N. D. Lane, F. Kawsar. *FRuDA: Framework for Distributed Adversarial Domain Adaptation.* IEEE Trans. Parallel and Distributed Systems, 33(11), 2021.
- M. Alloulah, M. Arnold, **A. Isopoussu**. *Deep Inertial Navigation using Continuous Domain Adaptation and Optimal Transport.* arXiv:2106.15178, 2021.
- Y. Chang, A. Mathur, **A. Isopoussu**, J. Song, F. Kawsar. *A Systematic Study of Unsupervised Domain Adaptation for Robust Human-Activity Recognition.* Proc. ACM IMWUT, 2020.
- A. Mathur, **A. Isopoussu**, F. Kawsar, N. Bianchi-Berthouze, N. D. Lane. *Mic2Mic: Using Cycle-Consistent Generative Adversarial Networks to Overcome Microphone Variability in Speech Systems.* ACM/IEEE IPSN, 2019.
- A. Mathur, **A. Isopoussu**, F. Kawsar, N. Bianchi-Berthouze, N. D. Lane. *FlexAdapt: Flexible Cycle-Consistent Adversarial Domain Adaptation.* IEEE ICMLA, 2019.
- M. Alloulah, **A. Isopoussu**, C. Min, F. Kawsar. *On Tracking the Physicality of Wi-Fi: A Subspace Approach.* IEEE Access, 7, 2019.
- **A. Isopoussu**. *K-stability of Relative Flag Varieties.* PhD Thesis, University of Cambridge, 2015 (arXiv:1307.7638).
- **A. Isopoussu**, K. Peltonen, J. Tyson. *Quasiregular maps and the conductivity equation on the Heisenberg group.* Contemporary Mathematics, 590, 2013.
- S. Alanko, S. Crevals, **A. Isopoussu**, P. Östergård, V. Pettersson. *Computing the Domination Number of Grid Graphs.* Electronic Journal of Combinatorics, 18(1), 2011.

Service & patents

- **Peer review:** Reviewer for NeurIPS and ACM IMWUT.
- **Patents:** Co-inventor on 7 patent families (4 granted patents, 3 published applications) in machine learning, domain adaptation, sensing, and wireless systems.