

Tavis Shore

PHD RESEARCHER · ARTIFICIAL INTELLIGENCE

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Highly motivated and focused AI researcher currently investigating AI for robotics - reducing the impact of occlusions on GNSS localisation. Strong experience solving problems mathematically and programmatically with an entrepreneurial attitude, able to function individually and within a multi-disciplinary team. Looking to build upon my knowledge and experience by applying my solution-focused skills to new and novel problems within the financial industry.

Skills Include

Programming	Machine Learning, Python (PyTorch, NumPy, SciPy, PyG, etc.), SQL, R(ggplot2), C/C++
Technical	Numerical Analysis, Statistics, Git, AWS, Linux, Bash, TeX , MATLAB, GCP, Data Visualisation
Transferable	Critical Thinking, Problem-Solving, Learning Agility, Effective Communication, Time Management, Teamwork

Education

University of Surrey

Guildford, UK

Ph.D. Artificial Intelligence (Electronic Engineering)

July 2022 - Dec 2025

- Developing novel computer vision localisation techniques, overcoming GNSS limitations within urban regions.
- Projects include employing BEV transforms to represent ground-level images in a similar space to satellite images, and utilising graph networks and GNNs to improve spatial context between such representations. Aiming to apply research to an autonomous vehicle to evaluate performance of combined published works.

University of Surrey

Guildford, UK

M.Sc. Data Science

Sept 2019 - Nov 2021

- Modules include: Statistics, Computational Intelligence, Machine Learning, Image Processing and Deep Learning

University of York

York, UK

B.Eng. Electronic Engineering

Sept 2016 - July 2019

- Modules include: Calculus, Numerical Methods, Programming, Digital Circuits, Principles of Digital Signal Processing

Employment Experience

University of Surrey

Guildford, UK

Post Graduate Researcher & Teaching Assistant

Oct 2022 - Dec 2025

- Teach undergraduate electronics labs, Undergraduate and Postgraduate mentor assisting with writing/learning skills, mathematics coursework grading
- Lead the University's F1Tenth team - working with fellow AI PhD researchers to develop an autonomous racing vehicle and algorithms, competing against other Universities at international conferences.
- Continuing machine learning research from published M.Sc. dissertation, further improving network performance my optimising city-scale hardware layout.

Vysion Technologies Ltd

Wivenhoe, UK

Startup Co-founder & Electronics Engineer

Oct 2020 - Mar 2022

- Co-founded a Machine Learning IoT company for detecting and predicting water pipe failures using neural networks to distinguish pipeline anomalies. Aiming to reduce the immense annual water loss from pipe leaks.
- Designed and constructed the system for harvesting energy from water flow, reading from sensors at variable rates, and sending relevant information to AWS services for analysis.
- Developed the cloud architecture and web application, allowing for secure data analysis and observation, along with creating any required alerts.
- Awarded multiple national research council grants for innovative work.

QinetiQ

Malvern, UK

Graduate Data Scientist

Sept 2020 - Apr 2021

- Developed computer vision solutions for high-risk object detection in robotics within a multi-disciplinary team.
- Researched societal trends relating to AI and data provenance, leading to highly-detailed governmental reports.

National Physical Laboratory

Teddington, London

Electronic Engineering Intern

June 2018 - Sept 2018

- Created embedded software for highly accurate optical thermometers with PID control to maintain precision.

Publications

Constrained Machine Learning for LoRa Gateway Location Optimisation

*Tavis Shore, *Abdullahi Kutiriko Abubakar, Nishanth Sastry

Proceedings of the 17th Asian Internet Engineering Conference, 2022, Hiroshima, Japan