# Aryan Esfandiari

## Personal Information


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| Citizenship: | Norwegian & British |
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## Experience

*2024 -* **Nolana AI** — London, United Kingdom
Co-founder & CTO

Co-founded Nolana AI as CTO, building an AI operating system enabling agentic workflows for financial services organisations, including banks and insurers. Led a team of eight engineers across AI research and development, agent orchestration, model evaluation, and backend infrastructure, combining technical direction with hands-on full-stack engineering. Directed forward-deployed engineering engagements, integrating and adapting the platform within customer systems from prototyping through deployment and validation. Led the technical work supporting SOC 2 Type I and Type II examinations. Contributed to go-to-market (GTM) strategy through market research, customer discovery, technical sales, and product demonstrations, helping shape product positioning and technical marketing content. The company secured over £1M in total funding through competitive government grants and venture capital.

*2023–2024* **Behold.AI Technologies** — London, United Kingdom
Head of Artificial Intelligence

Led a team of six in AI research and development for chest X-ray and head CT analysis at Behold.AI, a CQC-registered provider of AI-enabled diagnostics. Combined technical leadership with hands-on research, evaluating and adapting state-of-the-art convolutional neural networks, transformers, generative models, and multimodal large language models for medical imaging. Worked with NHS partners, hospitals, and radiologists on data collection, algorithm development, evaluation, and iterative model refinement. Collaborated with major technology companies, including Amazon, on joint research, cloud infrastructure, deployment, and technical support. Led forward-deployed engineering and MLOps to integrate imaging algorithms into clinical workflows, contributing to systems now deployed across several NHS trusts and hospitals.

*2019–2023* **Huawei Technologies R&D UK** — Cambridge, United Kingdom
Principal Artificial Intelligence Researcher and Engineer

Conducted research on open problems in multimodal AI, deep learning, and computer vision at Huawei's Cambridge and London Research Centre (2012 Laboratories), working within multidisciplinary teams spanning vision, speech, and natural language processing (NLP). Specialised in generative modelling, investigating state-of-the-art supervised and self-supervised learning approaches and developing neural network architectures including convolutional neural networks (CNNs), transformers, autoencoders, generative adversarial networks (GANs), and recurrent neural networks (RNNs). Research covered super-resolution, restoration, classification, action recognition, keypoint estimation, anomaly detection, image registration, captioning, retrieval, visual question answering (VQA), audio-visual learning, and speech recognition. Collaborated with university partners on joint research. Contributed to publications, patents, open-source projects, benchmark evaluations, and research competitions, with selected research outputs integrated into products.

*2016–2019* **Advanced Micro Devices** — Edinburgh, United Kingdom
Senior Machine Learning Design Engineer

Developed AI model architectures, optimisation methods, FPGA inference implementations, and hardware designs at AMD, focusing on efficient deep learning on advanced FPGA and system-on-chip (SoC) platforms. Implemented convolutional neural networks (CNNs) using PyTorch and TensorFlow, applying model compression techniques, including quantisation, pruning, and knowledge distillation, to fit models within hardware compute and memory constraints. Combined these methods with hardware–software co-design to enable low-latency inference. Contributed to the development, deployment, and validation of Vitis and related AI tooling, investigating hardware architectures incorporating AI Engines and digital signal processors (DSPs). Enabled FPGA-based AI inference across embedded systems and cloud infrastructure for customers including Amazon, Tesla, and NASA's Jet Propulsion Laboratory (JPL).

## Experience

*2014–2015* | **Samsung** — California, United States
Robotics & Hardware Engineer

Contributed to commercial product development at Samsung, combining hardware design and embedded systems development using ARM Cortex-M. Worked across circuit design, electronic component selection, sensor integration, firmware development in C/C++, and onboard software for data acquisition and processing. Integrated hardware and software into physical prototypes and carried out testing and validation.

## Education

*2022 -* | Doctor of Philosophy in Medical Artificial Intelligence, **King's College London**
**Dissertation:** "Artificial Intelligence at the edge: From time-consistency and 3D human pose estimation models to neurological outcome with on-board computing"
**School of Biomedical Engineering & Imaging Sciences**
EPSRC CDT in Smart Medical Imaging at **King's College London and Imperial College London**
Supervisors: Prof. M. Jorge Cardoso, Prof. Sebastien Ourselin FREng FMedSci

*2014–2016* | Master of Science in Robotics and Intelligent Systems, **University of Oslo**
**Dissertation:** "High-speed neural stimulation with Artificial Neural Network approaches based on Dynamic Vision Sensor and Embedded Systems"
GPA: A / A — Supervisors: Prof. Philipp Dominik Häfliger, Prof. Koen Gerard Vervaeke

*2014* | Master of Science in Robotics and Intelligent Systems, **University of California, Berkeley**
GPA: A / A — Supervisors: Prof. Ikhlaq Sidhu, Prof. Naeem Zafar

*2010–2014* | Bachelor of Science in Robotics and Intelligent Systems, **University of Oslo**
GPA: B / A — Supervisor: Prof. Ketil Røed

## Contributions and Awards

*2024 -* | **Reviewer for NeurIPS, CVPR and ICCV:** Reviewer for leading conferences in machine learning and computer vision, including the Conference on Neural Information Processing Systems, the Conference on Computer Vision and Pattern Recognition, and the International Conference on Computer Vision.

*2020* | **AIM 2020 Challenge Winner (ECCV):** Ranked first with the KirinUK team in both the fidelity and perceptual tracks of the Video Extreme Super-Resolution Challenge, part of the Advances in Image Manipulation (AIM) workshop at ECCV 2020.

*2019* | **Future Star, Huawei:** Recognised as one of Huawei's most enthusiastic, passionate and dedicated new starters for novel and innovative deep learning research and outstanding teamwork.

*2018* | **Recognition Award, AMD:** Awarded for distinguished research and development of hardware-optimised and efficient deep convolutional neural networks that led to multiple in-house and commercial patents.

*2015–2016* | **Best Student Project Award, University of Oslo:** Received the Best Student Project Award at the University of Oslo for projects including "Medical Robot for Healthcare", "Modular Walking Robot" and "Pool Detection and Path Identification with Computer Vision approaches in OpenCV".

## Languages

**English:** Fluent (IELTS Academic - C2 Proficient)
**Norwegian:** Native
**Persian:** Native

## Technical Skills

**Technologies:** Computer Vision, CNNs, Transformers, GenAI, LLMs, VLMs, SafeAI, MLOps
**Frameworks:** PyTorch, TensorFlow, Hugging Face, LangChain, LangGraph, vLLM, AI SDK
**Languages:** Python, MATLAB, C/C++, JavaScript, TypeScript, Bash, VHDL, SystemVerilog, LaTeX
**Cloud:** Amazon AWS, Google GDC, Cloudflare, Vercel, Modal, fal.ai
**Other:** Robotics, Signal Processing, Linux, Docker, GitHub, Embedded Systems, FPGAs