

Yona Falinie Binti Abd Gaus

Machine Learning Engineer / Researcher

Personal Website — LinkedIn Profile

Email: yonafalinie@gmail.com

Mobile: +44 7563 022757

UK ILR Visa Holder

PROFILE

- Machine Learning Engineer / Researcher with a PhD in Electronic and Computer Engineering from Brunel University London. Experience spans computer vision, deep learning, multimodal learning, anomaly detection, autonomous systems, and self-supervised learning. Currently working in a fast-paced startup environment on radar-based AI for safety-critical autonomous systems, with strong ownership across model design, large-scale experimentation, distributed training, and deployment-oriented research. Strong Python/PyTorch background with experience in TensorRT, ONNX, GPU clusters, and end-to-end ML workflows.

EDUCATION

- **Brunel University London** London, UK
PhD in Electronic and Computer Engineering Mar 2014 – Feb 2018
- **University Malaysia Sabah** Sabah, Malaysia
MSc in Electrical and Electronic Engineering 2010 – 2013
- **University Malaysia Sabah** Sabah, Malaysia
BEng in Electrical and Electronic Engineering 2005 – 2009

EXPERIENCE

- **Radareye.ai** London, UK
Machine Learning Engineer / Researcher Nov 2025 – Present
 - **Radar Self-Supervised Learning:** Leading applied AI research for safety-critical autonomous systems with a strong focus on self-supervised learning for radar and multimodal perception.
 - **End-to-End Ownership:** Designing, training, and evaluating deep learning systems in PyTorch across the full research pipeline, from data preparation and experimentation to delivery.
 - **Autonomous Systems:** Working extensively with autonomous driving datasets and radar modality, particularly for perception under adverse weather conditions.
 - **Startup Execution:** Operating in a fast-paced startup environment with responsibility to move quickly, take ownership, and deliver practical AI solutions.
 - **Partnerships:** Collaborating with industrial partners and government stakeholders to support technology development and deployment.
- **Durham University** Durham, UK
Postdoctoral Research Associate Feb 2018 – Oct 2025
 - **Computer Vision Research:** Led research and development across object detection, segmentation, tracking, anomaly detection, threat detection, and multimodal vision systems using visible and non-visible imagery.
 - **Autonomous Driving:** Worked on perception and scene understanding using datasets such as KITTI, nuScenes, and Dur360BEV, covering BEV segmentation, object detection, and tracking.
 - **Vision-Language and Multimodal Learning:** Built and fine-tuned multimodal and vision-language models for domain-specific applications, focusing on cross-modal representation learning and downstream perception tasks.
 - **Deployment and Infrastructure:** Developed, fine-tuned, and deployed deep learning models across servers, GPU clusters, and embedded or edge devices.
 - **Leadership:** Acted as lead developer on image generation and security imaging projects, supervised students, contributed to grant proposals, and collaborated with industrial and government partners.
- **Digital Transit Ltd.** Lancaster, UK
Consultant (Part-time) Oct 2022 – 2023
 - **Edge AI:** Provided expertise in image processing, object detection, and deployment of algorithms on edge devices.
- **Imagine MAIA** Johor, Malaysia
Consultant (Part-time) Jan 2021 – Jan 2024
 - **Industrial Vision:** Developed an intelligent automation system for visual quality inspection in wood grading processes.

- **Brunel University London**

London, UK

PhD Researcher

Mar 2014 – Feb 2018

- **Affective Computing:** Conducted research on multimodal emotion and depression analysis using audio, video, and speech data.
- **Multimodal Learning:** Built end-to-end frameworks combining Python and MATLAB for continuous affect estimation and audiovisual analysis.

- **University Malaysia Sabah**

Sabah, Malaysia

Research Assistant

Jan 2010 – Dec 2013

- **Sign Language Recognition:** Implemented image processing methodologies for Malaysian Sign Language recognition systems.

SELECTED PUBLICATIONS

- **ICCV 2025:** FEVER-OOD: Free Energy Vulnerability Elimination for Robust Out-of-Distribution Detection.
- **ICRA 2025:** Dur360BEV: A Real-world Single 360-degree Camera Dataset and Benchmark for Bird-Eye View Mapping in Autonomous Driving.
- **CVPR 2025:** Semi-supervised Object-Wise Anomaly Detection for Firearm and Firearm Component Detection in X-ray Security Imagery.
- **ECCV 2024:** Towards Open-World Object-based Anomaly Detection via Self-Supervised Outlier Synthesis.
- **CVPR Workshop 2024:** Performance Evaluation of Segment Anything Model with Variational Prompting for Application to Non-Visible Spectrum Imagery.

TECHNICAL SKILLS

- **Languages:** Python, MATLAB, Shell Script, LaTeX
- Frameworks / Libraries:** PyTorch, OpenCV, NumPy, Pandas, Matplotlib, Scikit-learn, MMLab, MMDetection, Detectron2, MMDeploy
- Systems / Deployment:** ONNX, TensorRT, Linux, Git, GPU clusters, HPC, distributed training
- Areas:** Computer Vision, Self-Supervised Learning, Multimodal Learning, Autonomous Driving, Anomaly Detection, Vision-Language Models

HONOURS & AWARDS

- **NVIDIA Deep Learning Institute:** Professional certification, 2024
- **CVPR DEI Travel Award:** Recipient, 2024
- **Dynamo UK:** Highly Recommended, Innovator of the Year, 2021
- **MARA Malaysia:** PhD Bursary recipient, 2014

ACADEMIC SERVICE & LEADERSHIP

- **Reviewing:** Reviewer for CVPR, BMVC, IJCNN, ICRA, IEEE Transactions on Image Processing, Sensors, Remote Sensing, and related venues.
- **University Leadership:** Served on Durham University Computer Science Ethics Committee and as Computer Science Research Representative.
- **Teaching & Mentoring:** Teaching Assistant in Image Processing, guest lecturer in AI and Computer Vision, and final-year project supervisor.