AKIRA-MIRANDA ADENIRAN-LOWE

AUTONOMOUS SYSTEMS STUDENT

Email • Website • LinkedIn • Scholar

RESEARCH INTERESTS

I am currently an Honour Track MSc student in Autonomous Systems at the Technical University of Denmark, specialising in 3D computer vision and robust perception for autonomous agents. My research focuses on developing methods for 3D scene understanding under distribution shift, with particular emphasis on domain adaptation, continual learning, and learning from partial, real-world sensory data.

EDUCATION

MSc. Autonomous Systems (Honour Track)
DTU - Technical University of Denmark

- **Thesis title:** *"Aligned Feature Learning for Semantic Segmentation on Partial Point Clouds"*
- **Thesis Advisors:** Theodora Kontogianni & Lazaros Nalpantidis
- **Exchange:** KTH Royal Institute of Technology, Sweden

BSc. General Engineering (Cyber Systems)
DTU - Technical University of Denmark

- **Thesis title:** *"On Antideepfake Methods for Multimodal Technologies"*
- **Thesis Advisor:** Sneha Das
- **Exchange:** Nanyang Technological University (NTU), Singapore

PUBLICATIONS

- **Concept Drift Under Harsh Constraints: A Review of Potential Strategies for IoT Systems [pdf]**
  Ask E. Øren, Nina K. Peuker, Akira-Miranda A. Adeniran-Lowe, Sarah Ruepp, Martin N. Petersen
  IEEE Access, 2025

EMPLOYMENT

DTU Compute, QUAITOM Project
Programmer **July,2025 - Present**

- Analysis of 3D volumetric data, dataset curation, and programming tools for image processing and tomographic reconstruction.

Falck Digital Technology A/S
Student in Data & Analytics **December, 2023 – July, 2025**

- Built Python-based cost tracking tools in Azure, deployed ML models for ambulance demand forecasting, and helped establish MLOps within the department.

DTU Compute
Research Asistant **October, 2023 – March, 2024**

- Developed a LoRa synchronization system for sensor fusion between pose estimation algorithm and IMU sensor data for live kayaking analysis.

Fujifilm Diosynth Biotechnologies
Student in Project Management **June, 2022 – November, 2023**

- Developed analytics dashboards and supported alignment between IT project requirements and technical solutions.

TEACHING EXPERIENCE

- **Teaching Assistant** (Jan 2025)**:** Embedded Systems Programming
- **Teaching Assistant** (Jun 2024)**:** Design-build 4: Autonomous devices for controlling and studying living systems
- **Teaching Assistant** (Jan 2024)**:** Design-build 1: Devices for measuring cell growth

PROJECTS

- **Aligned Feature Learning for Semantic Segmentation on Partial Point Clouds** *(Ongoing)*:
  - Evaluating state-of-the-art 3D segmentation models on partial point clouds captured from egocentric views to simulate real-world robotics scenarios, with a focus on continual adaptation strategies to improve robustness under changing viewpoints and environments.
  - *Technologies: Python, PyTorch, High Performance Computing*
- **6DOF Object Pose Estimation for Pick-and-Place with Danfoss** *(Aug 2025)*:
  - Developed a 6D pose estimation and grasping system for a Universal Robots arm that integrates new objects without retraining, using both stereo and monocular methods.
  - *Technologies: Python, ROS2, Quantization, TensorRT, Docker, FastSAM, Depth Anything*
- **Validation of Object Detection on NVIDIA Jetson** *(Feb 2025 - Jun 2025)*:
  - Benchmarked inference performance of YOLOv8 across TensorRT and ONNX Runtime, evaluating accuracy and speed under various quantization settings.
  - *Technologies: YOLOv8, TensorRT, ONNX Runtime, Python, OpenCV, NVIDIA Jetson Orin*
- **Autonomous Weed Management** *(Oct 2024 - Mar 25)*:
  - Designed an automated weed detection and thermal removal system using a precision heating element and real-time environmental monitoring.
  - *Technologies: Python, Raspberry Pi, OpenCV, PID control, Flask*
- **Anti-Deepfake Methods for Multimodal Technologies** *(Feb 2024 - Jun 2024)*:
  - Developed benchmarking framework for fairness and robustness in deepfake detection.
  - *Technologies: Python, Pytorch, OpenCV*
- **Interactive Device for Studying Living Systems** *(Jun 2023)*:
  - Built a real-time controlled habitat monitoring system using IoT and sensor data.
  - *Technologies: C++, MQTT, PID Control, Autodesk Fusion*