

Ahmed Aly

Abu Dhabi, UAE

Master's student in computer vision focused on AI for healthcare. Research focuses on echocardiography foundation models and neuroimaging graph networks; experienced building end-to-end imaging pipelines across ultrasound and MRI. Experience includes building systems for player tracking, pose estimation, and event understanding from match videos.

EDUCATION

Master of Science in Computer Vision

Mohamed Bin Zayed University of Artificial Intelligence, Abu Dhabi, UAE

2024 – 2026*

GPA: 3.75

Thesis: Test time prompt tuning of echocardiography foundation models.

- Organized the MICCAI HECKTOR 2025 Challenge on Head and Neck Tumor Segmentation, coordinating dataset preparation, evaluation protocols, and collaboration with international research teams.
- Managed and processed large-scale medical imaging datasets (36 TB), optimizing preprocessing and training pipelines to enable scalable foundation model development.
- Performed spatiotemporal analysis of BOLD fMRI time series, building graph neural networks that model regional connectivity and temporal dynamics.

Bachelor of Science in Applied Mathematics and Statistics

Khalifa University, Abu Dhabi, UAE

2016 – 2020

GPA: 3.6

Thesis: Optimization of global minima in nonlinear physical systems using metaheuristic statistical models.

PROFESSIONAL EXPERIENCE

Machine Learning Engineer, Intern

Labib AI, Abu Dhabi, United Arab Emirates

2025 – 2025

Project: Real-time surgical room understanding

- Developed the core pipeline integrating pose estimation and speech recognition to reduce wrong-site surgeries.
- Optimized performance to reduce latency and enable smooth multimodal analysis
- Designed and delivered an interactive demo to medical professionals, showcasing applications for surgical workflow understanding.

Computer Vision Engineer

Koralyze AI, Abu Dhabi, UAE

2023 – 2024

- Co-founded a football analytics company specializing in the generation of tracking and event data directly extracted from football broadcast footage.
- Developed machine learning pipelines to generate and analyze football tracking and event data.
- Analyzed event sequences and player trajectories over time, building sequence-level features for downstream soccer analytics.
- Coordinated and presented at a booth during GITEX Expand North Star 2023.

Mathematics Teacher

Ministry of Education, Sharjah, UAE

2020 – 2024

- Instructed high school students in AP Calculus AB and BC.
- Demonstrated the ability to communicate complex mathematical ideas clearly and concisely, both orally and in writing, to technical and non-technical audiences.

SKILLS

- Machine Learning frameworks:** PyTorch, OpenCV, scikit-learn, Pytorch Geometric.
- Video analytics:** Player detection, multi-object tracking, re-identification, pose estimation, event understanding.
- Data & experimentation:** NumPy, pandas, Weights & Biases
- Communication skills:** English (IELTS 8.0) Arabic (Native speaker).
- GRE:** 169 Quantitative reasoning, 156 Verbal reasoning.

PROJECTS

SynSpineMS

Multiple Sclerosis Spinal Cord Lesion Detection from MultiSequence MRIs

- Led and coordinated our team's participation in the MICCAI MS-Multi-Spine challenge and submission packaging; finished 2nd overall.

NeuroGNN

Diagnosing Autism Spectrum Disorder using Multimodal Brain Connectivity Network

- Developed a graph-based fMRI analysis pipeline for autism classification using Graph Attention Networks(GATs), modeling brain functional connectivity across seven subnetworks.
- Integrated region-level contrastive loss and super node-level KNN graph construction to improvererepresentation learning in brain MRI GNN pipelines.

Perception challenge for Bin-Picking

Developed robust pose estimation solutions for the most challenging industrial parts

- Developed a computer vision pipeline for bin-picking automation, integrating object detection, pose estimation, and grasping strategies

PUBLICATIONS

CardioBench: Do Echocardiography Foundation Models Generalize Beyond the Lab? [[link](#)]

- Designed a benchmark protocol to test out-of-distribution generalization of echocardiography foundation models across views and acquisition settings.

Language and Planning in Robotic Navigation: A Multilingual Evaluation of State-of-the-Art Models, LM4Plan, AAAI 2025 [[link](#)]

- Developed and evaluated a Vision-Language Navigation framework for indoor robotics capable of understanding both Arabic and English instructions.

AWARDS

- Won First place in *UAE IoT & AI Challenge* startup category (2023).
- Won Second place in *Arab IoT & AI Challenge* startup category among 100 contenders from 13 Arab countries (2023).
- Received Golden Key Honors award from Khalifa University(2020)

REFERENCES

Available upon request