

Muhammad H. Abdurrahman

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Summary

Detail-oriented and innovative Computer Engineering graduate specializing in Artificial Intelligence, Machine Learning, and Full-Stack Development. Proven success in delivering AI-driven solutions for logistics, gaming, image processing, and retail automation. Hands-on experience in Python, TensorFlow, PyTorch, NestJS, PostgreSQL, and cloud deployment (NVIDIA Jetson). Strong background in Agile/Scrum, software engineering, and real-world project delivery. Seeking to contribute technical expertise and research-based innovation to dynamic engineering teams.

Technical Skills

Programming: Python, C++, JavaScript, HTML/CSS, SQL
Frameworks & Libraries: TensorFlow, PyTorch, OpenCV, YOLOv11, NestJS, Express.js, Anaconda, NumPy, scikit-learn
Databases: PostgreSQL, TimescaleDB, MySQL, PrismaORM
Tools & Platforms: Docker, GitHub, LaTeX, Trello, Slack, Roboflow, Unity
Specialities: Computer Vision, Predictive Analytics, Object Detection, Agile Methodologies, Technical Documentation

Education

American University in Dubai <i>Bachelor of Science in Computer Engineering</i> <ul style="list-style-type: none">• Graduated Cum Laude. GPA: 3.47/4.00• Dean’s List 2022, 2024• Recipient of Sheikh Mohammed Bin Rashid Al Maktoum Foundation Scholarship• Captained the Tennis Team for 2022, 2023 season.	Dubai, UAE 2021 – 2025
Emirates International Private School <i>High School Diploma</i> <ul style="list-style-type: none">• American Curriculum• Graduation Grade: 97.8/100	Abu Dhabi, UAE 2019 – 2021

Experience

Algo Alliance, Dubai, UAE <i>Full Stack Developer Intern</i> <ul style="list-style-type: none">• Developed and deployed scalable Web3 and blockchain-integrated applications using NestJS, Prisma ORM, PostgreSQL, and Docker.• Implemented secure JWT-based authentication and authorization systems, improving security and scalability for high-traffic applications.• Optimized front-end performance by reducing DOM manipulation inefficiencies, enhancing user experience by 20%.• Containerized backend services with Docker Compose, streamlining deployment across development, staging, and production environment.• Collaborated in Agile/Scrum environment with daily stand-ups/stand-downs; participated in sprint planning sessions, resolved blockers, and maintained GitHub-based version control.	May – September 2024
Pertamina International Shipping, Dubai, UAE <i>Liaison Officer</i> <ul style="list-style-type: none">• Coordinated meetings and communications between internal teams and external stakeholders (including ENOC Dubai).• Managed executive schedules for CEO and Board of Directors, ensuring efficient time allocation and task prioritization.	December 2022

Projects

Senior Design Project: Automated Product Detection using Deep Learning (L’Oréal Collaboration), June 2025 <ul style="list-style-type: none">• Developed an AI-driven retail shelf monitoring system for L’Oréal products using YOLOv11, achieving 85% mAP@0.5 with sub-200 ms latency.• Designed hybrid edge-cloud architecture with NVIDIA Jetson Nano and AWS EC2 for scalable real-time deployment.• Integrated TimescaleDB for event logging and REST APIs for retailer notifications.• Implemented OpenCV preprocessing, data augmentation, and transformer-based exploration for small-object detection.
AI Game Project – GA-MAZE (Unity + Genetic Algorithms), May 2025 <ul style="list-style-type: none">• Designed a dynamic maze game integrating AI opponents powered by Genetic Algorithms and A* pathfinding.• Implemented multiplayer synchronization, destructible environments, teleportation mechanics, and resource-based combat systems for strategic gameplay.• Conducted algorithm testing for evolving AI behaviors in real time, optimizing bot fitness and decision-making under constraints.
Machine Learning Project – Predictive Modeling for Container Logistics (DP World Collaboration), December 2024 <ul style="list-style-type: none">• Built predictive models (Random Forest, Linear Regression) to forecast container volumes and classify seasonal demand.• Applied clustering and classified container demand levels using KNN, enabling optimized port resource allocation and 93% classification accuracy.• Performed feature engineering, preprocessing, and seasonal trend analysis on DP World’s operational dataset of 5,000+ records.
DIP Project – Comparative Analysis of CNN Architectures (ResNet-50 vs EfficientNet-B0), April 2024 <ul style="list-style-type: none">• Performed deep learning experiments comparing ResNet-50 and EfficientNet-B0 for object recognition.• Evaluated accuracy, training loss, and computational efficiency for image classification using ImageNet dataset.