Yousef Magdy A. A. Hussein

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Education

Carnegie Mellon University **GPA: 3.71/4.00**
B.S. in Computer Science
Concentration in Computer Systems, Minor in Mathematical Science

Experience

Research Assistant Doha, Qatar
Carnegie Mellon University Qatar Summer 2026 – Present

– Engineered ROS 2/DDS data pipelines on a Raspberry Pi edge node, decoupling high-computation planning from low-latency hardware control across a distributed system.
– Iteratively tuned QoS profiles through systematic testing to achieve deterministic motor actuation and low-latency LiDAR telemetry without disrupting peer-to-peer node discovery.
– Retrofitted legacy differential-drive hardware with a ROS 2/Nav2 navigation stack, integrating LiDAR-based SLAM and AMCL localization alongside a bumper array safety layer.

Software Engineer Intern Remote
OpenInfra Foundation (OpenStack) Summer 2026 – Present

– Contributed to Keystone-NG, a Rust-based reimplementation of OpenStack's identity service, reworking authentication and authorization for cloud infrastructure at scale.
– Implemented federated identity improvements including OIDC integration and JWT-based login to replace legacy role explosion patterns.
– Collaborated with an international team of contributors via code review and pull requests, shipping production-grade changes to the OpenStack Identity API (v3/v4).

Software Engineer Intern Doha, Qatar
Amana Healthcare Summer 2023

– Built immersive VR training simulations using Unity and C#, reducing reliance on physical mannequins by 70%.
– Optimized real-time rendering and memory usage for standalone headsets, cutting annual hardware and maintenance costs by 50,000 QAR.
– Led technical orientations for 50+ hospital staff, coordinating deployment and troubleshooting of VR software across hospital infrastructure.

Projects

AIX-CLM – AI Contract Lifecycle Management System
Next.js, TypeScript, FastAPI, Python, MongoDB, OpenAI, Pinecone, Docker Compose

– Built a full-stack AI-powered CLM platform supporting contract upload, automated risk analysis, semantic search, and multilingual translation.
– Integrated OpenAI GPT models and Pinecone vector embeddings across 10,000+ contract documents, enabling intelligent querying, contextual chatbot interaction, and semantic document retrieval at scale.
– Designed a scalable microservice architecture using FastAPI, Next.js, MongoDB, and Docker Compose with secure authentication and full API documentation.

PolySense – Automated ML Pipeline for Market Prediction
Python, scikit-learn, FastAPI, Docker, Jupyter

– Built an automated ML pipeline predicting 24-hour Polymarket and stock price movements from financial news sentiment and market data.
– Trained scikit-learn classifiers (Logistic Regression, Random Forest, Gradient Boosting) on multimodal feature sets with repeated stratified k-fold cross-validation, achieving over 70% accuracy.
– Built a FastAPI backend and web interface with Docker Compose deployment, decoupling model training from inference for rapid iteration.

Skills & Interests

Technical: Python (NumPy, Pandas, Matplotlib, scikit-learn), Rust, C/C++, C#, Java, JavaScript, Flutter, Docker, FastAPI, Next.js, Google Cloud Platform (GCP)
Languages: English, Arabic, French
Interests: Chess, Fitness, Reading, Film