Azaan Waseem

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Education

University of Texas at Austin GPA: 3.8/4.0
Bachelor of Science in Computer Science, Minor in Statistics and Data Science *May 2028*
Coursework: Computer Architecture, Data Structures, AI Robotics, Machine Learning, Discrete Math, Calculus III

Technical Skills

Languages: Python, Java, C++, C, JavaScript, SQL, HTML/CSS
Frameworks & Libraries: PyTorch, scikit-learn, FastAPI, Flask, React.js, Next.js, OpenCV, NumPy, Pandas, Matplotlib, Ant Design, React Router
Tools & Platforms: Supabase, PostgreSQL, Power BI, Git, Docker, ROS, AWS, AWS Lambda, Azure, REST APIs, Linux, Vercel, WebSockets
Core Competencies: Data Cleaning, Feature Engineering, Model Evaluation & Tuning, Statistical Analysis, Data Visualization, Computer Vision, CI/CD, Cloud Deployment

Experience

MyMosque Austin, TX
Software Engineer Intern *Aug 2025 – Present*

- Engineered core features for a mosque management platform with a mobile app (Expo/React Native) and admin web portal (Next.js/AWS Lambda), supporting **5+ active mosques** and scalable to **100+**.
- Implemented CI/CD pipelines, real-time analytics, and push notifications delivering **1500+ weekly updates** to over **250 beta users**, increasing engagement and scalability.
- Architected and managed a Supabase backend with **10+ PostgreSQL tables**, integrating **Google, Apple, and Email authentication** for multi-mosque support and secure cloud integration.

Autonomous Intelligent Robotics Lab Austin, TX
Machine Learning Researcher *Jan 2025 – Present*

- Engineered a Transformer-based model for a **time-series forecasting** task to predict human motion trajectories, achieving over **95% accuracy** in a related **classification** task for handover event timing.
- Cleaned, preprocessed, and vectorized skeletal data extracted using **MediaPipe** from a multimodal dataset of **500+** handover interactions captured with Azure Kinect.
- Improved model generalization by **12%** by systematically tuning **3+ key hyperparameters**, increasing the F1_score on unseen data from **0.83 to 0.93**.
- Established a foundational model and benchmark dataset of **200+ interactions** now used as the standard framework by **3+ ongoing projects** in the lab.

CodeAssist Austin, TX
Software Engineer Intern *May 2025 – Aug 2025*

- Developed a full stack grading platform using React.js and Flask, managing **500+ assignments** for **50+ students** across **3 courses** and cutting grading time by **30%**.
- Built an Admin Dashboard centralizing user management and course settings, consolidating **5+ administrative tasks** and reducing instructor workload by over **20%**.
- Implemented secure authentication with OAuth and role based access controls, decreasing login related support tickets by **50%**.

Projects

AutoTrack | ***AI Automated Full-stack, Python, FastAPI, React, Supabase, Groq***

- Built a job tracking tool that automatically parses **100s of emails** via Gmail API and Groq, extracting **5+ key data points** (company, role, etc.) into a Supabase database.
- Leveraged Groq LLM APIs for AI driven email parsing and classification, automating structured data extraction from unstructured text.

3D Point Cloud Perception Pipeline | ***ROS, C++, Point Cloud Library (PCL), Computer Vision***

- Developed a ROS based perception pipeline to process 3D point cloud data from indoor scans, capturing over **100,000 points per scan** to map environments for robotic interaction.
- Implemented a custom height based filtering algorithm to reduce point cloud noise by **80%**, enabling accurate isolation of flat surfaces for object placement tasks.

Video Color Filtering | ***C++, Python, OpenCV, PyTorch***

- Developed a C++ system using OpenCV to process video streams at over **30 FPS**, filtering frames based on target HSV color ranges.
- Achieved **98% accuracy** in isolating target objects from background noise by implementing adaptive contrast and thresholding techniques.