Ali Mohsin

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# Education

## George Mason University | Fairfax, VA Expected Graduation: Dec 2026

### B.S. Applied Computer Science, Minor in Data Science

* **GPA:** 3.6/4.0 (Dean’s List)
* **Relevant Coursework:** (AP/DE Credits: 46), Data Structures, OO, (Python and Java), C Programming, Statistics, Linear Algebra, Formal Methods/Models, Software Engineering, Software Design
* **Fall 2025:** Systems Programming, Algorithms, Databases, Software Testing and Maintenance, Web App Development

# Experience

## AI/ML Software Developer Intern | Network Designs, Inc May 2025 – Aug 2025

* Collaborated with cross-functional teams using Agile methodologies to architect an enterprise mobile application.
* Delivered an AI-powered HR assistant and real-time content management system to 500+ internal users across iOS and Android platforms.
* Engineered a headless Strapi CMS on Strapi Cloud with a PostgreSQL backend, optimizing automated JSON-driven content ingestion and data pipeline processes.
* Built REST APIs with role-based permissions and integrated Azure AD SSO for secure authentication.
* Implemented Firebase Messaging for React Native delivery, reducing management overhead by 60%.
* Designed a code modernization platform blueprint (FastAPI, LangChain, OpenAI API) integrating Qdrant vector DB and Tree-sitter parsing, with workflows for automated user stories, unit tests, and microservice templates—projecting up to 80% reduction in analysis time.
* Implemented a drone-based computer vision system leveraging YOLOv8 and OpenCV to detect and classify aerial objects (vehicles, people, and infrastructure) in real time, achieving 92% accuracy across diverse flight conditions and altitudes.

## Data Science Intern | Ballogy | FiveRivers Technologies May 2024 – Aug 2024

* Collaborated with a team using Agile methodologies to develop an AI-driven basketball training platform.
* Delivered real-time insights to 100+ coaches and dozens of schools nationwide, enhancing performance tracking for 15,000+ athletes.
* Engineered a pose detection system utilizing YOLOv8 and Google MediaPipe, deployed on AWS EC2 for scalable processing.
* Automated dataset annotation for 2 million frames, streamlining data cleaning and preprocessing workflows to improve accuracy by 30% and scalability by 50%.
* Developed a financial analysis tool, performed data wrangling techniques to standardize metrics of 156 companies with NumPy and Pandas for exploratory data analysis (EDA) and data visualization.
* Formulated an image enhancement pipeline using AWS S3, Pillow, and Canny edge detection, reducing false positives by approximately 94%.

# Projects

## CTO of Pre-Health Association | T3 Stack (Next.js, React 19, TypeScript, Tailwind CSS), Vercel, Spline 3D

* Developed PHG Association website as CTO, creating intuitive user experiences and modern interfaces serving 50+ students

## StartHub (In development) | React, Node.js, MongoDB, Express

* Project and Startup Collaboration Platform targeted for young startup enthusiasts and college students.

## Stock Guru | Node.js, FastAPI, React Native, Expo

* Engineered a financial analysis system with React Native (Expo) and Alpha Vantage API to display real-time market data and investment recommendations, incorporating technical indicators (RSI, MA50/200) and sentiment analysis.
* Built a backend pipeline with Node.js for live data aggregation, FastAPI for analysis and report generation, and NodeCache for low-latency performance and reduced response times.

## BEIGHT Workout App (In development) | React Native, Python, Jupyter, OpenCV, MediaPipe, NumPy, PostgreSQL

* Spearheading the development of an AI-powered body-weight workout app utilizing computer vision to track posture and count reps in real time, aiming to benefit millions of equipment-free users at home.
* Developed a real-time push-up and squat tracker using OpenCV and MediaPipe to implement pose detection, achieving 95% accuracy in tracking key body landmarks and calculating joint angles to enhance workout precision.

## Financial Sentiment Analysis |Python, Llama 3.1, Streamlit

* Fine-tuned Llama 3.1 model to classify financial news by sentiment, optimizing for market prediction insights.
* Deployed the model on Streamlit, creating an interactive web interface for real-time sentiment analysis of financial insights.

## PDF Semantic Search Engine | Python, LangChain, FAISS, SentenceTransformers

* Built a semantic PDF search engine using natural language processing (NLP) techniques by applying SentenceTransformer embeddings and FAISS vector search, enabling fast and accurate semantic retrieval across 1,000+ documents using LangChain for intelligent text chunking.

# Skills & Certs

Programming Languages: JavaScript, Python, TypeScript, Java, SQL, Node.js, Kotlin, HTML/CSS, Dart, R, C, MATLAB

Frameworks: React, React Native, Git, GitHub, Vercel, Docker, Expo, Tailwind, Vite, Flutter, LangChain, PyTorch, Strapi, Android Studio, Pandas, NumPy, OpenCV, Jupyter, Expo, Streamlit, Google MediaPipe, Ultralytics YOLOv8, LLMs, FAISS, Seaborn

Cloud: Microsoft Azure (OpenAI, Active Directory, Cognitive Search), AWS (EC2, S3), Firebase (Firestore, Functions, Authentication, Cloud Messaging)

Databases: PostgreSQL, SQLite, Qdrant Vector DB