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

# Experience

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

* Collaborated on development of an enterprise native mobile application (iOS/Android), using Agile Kanban workflows with cross-functional teams to deliver an AI-powered HR assistant and real-time CMS for 500+ employees.
* Built a headless Strapi CMS (Strapi Cloud + PostgreSQL) that automated JSON ingestion workflows and optimized data pipelines, streamlining content management 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.com | 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](https://phg-association.github.io/phg-app/) | T3 Stack (Next.js, TypeScript, Tailwind CSS), Vercel, Spline 3D

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

## Street2Elite Football Academy Platform (In development) | *Next.js, TypeScript, Supabase, Tailwind CSS*

* Engineered full-stack football academy platform with real-time booking system, role-based authentication, and automated session management
* Built responsive admin dashboard with calendar integration and payment processing, streamlining operations for coaches and parents

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

* Designing a modern collaboration platform where college students and early-stage founders can pitch ideas, discover projects, and build teams.

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

* Built financial analysis app using Alpha Vantage API with technical indicators (RSI, MA50/200) and sentiment analysis

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

* Developed AI-powered fitness app with computer vision tracking, targeting millions of home workout users worldwide
* Achieved 95% accuracy in real-time pose detection using OpenCV/MediaPipe, potentially revolutionizing equipment-free fitness experiences

## 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

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

Frameworks & Cloud: 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, Firebase, AWS, Azure