Muhammad Qasim Ali Rasheed

AI and Software Engineer

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AI and Software Engineer with production experience across healthcare and engineering domains. Proven expertise in developing HIPAA-compliant medical copilots and scalable RAG systems, alongside backend services and full-stack products. Proficient in end-to-end delivery from system design to containerized deployments on Azure with CI/CD pipelines.

EXPERIENCES

AI Engineer at Mobipixels **June 2024 – July 2025**

- Developed end-to-end, HIPAA-compliant GenAI copilot enabling clinicians to generate psychoeducational assessment reports from clinical data, PDFs and images reducing creation time from 3 hours to 12 minutes.
- Trained custom adapters for each clinician to mimic writing styles and report structures, ensuring personalized outputs.
- Deployed containerized FastAPI microservices on Azure with LLMOps best practices and built React front ends with MySQL + Docker CI/CD. Ensured full regulatory compliance with HIPAA standards for data privacy and security throughout the pipeline.

Software Engineer at Exelient Technologies **Sep 2023 – May 2024**

- Contributed across the SDLC by developing, testing, and maintaining software solutions, and played a key role in integrating Pakistan's first NDI-based broadcast network under challenging timelines.

SKILLS

- **Programming/Languages:** Python, JavaScript, C++, SQL, MATLAB **| AI/ML:** RAG, LangChain, LlamaIndex, OpenAI API, Tensorflow, Pytorch, Scikit-learn, MLflow, CV(OpenCV) **| Data & Visualization:** Pandas, NumPy, Grafana, Matplotlib
- **Cloud/DevOps:** Microsoft Azure, Docker, CI/CD, Vercel, Git **| Databases:** MySQL, InfluxDB, ChromaDB **| Web Frameworks:** React, Next.js, Node.js **| Compliance:** HIPAA
- **Methodologies:** Agile, Scrum **| Soft Skills:** Problem Solving, Leadership, Adaptability, Creativity

EDUCATION

MS SOFTWARE TECHNOLOGY **Linnaeus University, Växjö – [2025]**

BS COMPUTER ENGINEERING **NUTECH, Islamabad – [2019 – 2023]**

CGPA: 3.43/4

PROJECTS

Movement Assessment Prediction System **MS Semester Project**

- Built a full-stack movement-assessment system that scores deep squat form from ordinary webcam video via MediaPipe pose estimation, eliminating the need for depth-sensor hardware (e.g., Kinect) while keeping all inference CPU-friendly.
- Iteratively built 5 ML models over 16 Agile sprints to establish a sequential processing pipeline: (1) automatically filtering poor-quality recordings (lighting, blur, framing), (2) detecting start and stop boundaries, (3) classifying movement execution as Good vs. Bad with ~92% accuracy, and (4) assigning a continuous form quality score.
- Selected a sequence-modeling GRU network for the final scoring step, achieving 0.062 MAE and 0.67 Pearson correlation against expert ground-truth ratings and unified the multi-stage pipeline into a single API endpoint to run pose extraction only once, delivering a ~18.5s total processing time secured by a 43-test automated suite and CI/CD deployment.

Condition Monitoring and Diagnostics Using Machine Learning **BS Final Year Project**

- Designed a real-time Machine Learning pipeline to analyze real-time sensor data to perform preventive diagnostics, successfully modeling degradation patterns and detecting performance anomalies in elevator car doors. Engineered a full data pipeline in Python, using InfluxDB for time-series data storage and Grafana for live monitoring dashboards.

Contextly-AI

- Full-stack RAG assistant (React frontend, FastAPI backend) that ingests PDFs, texts and URLs, chunks and embeds them into per-session ChromaDB store, retrieves via cosine similarity to ground LLM responses with source citations.
- Implemented source-level summarization and key-topic extraction via LangChain and deployed the frontend on Vercel and backend on Hugging Face Spaces with CI/CD via GitHub Actions.

AWARDS AND CERTIFICATIONS

- **Best Capstone Award (Gold Medal):** Recognized for excellence in the Final Year Project on predictive maintenance.
- **1st Place, Softwerk AB OCR Competition:** offline low resource OCR pipeline for the Olof Palme cold case archives.
- **IBM:** Data Analysis in Python (Coursera)