

# Muhammad Ajlal Haider

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## PROFESSIONAL SUMMARY

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AI/ML Software Engineer with 3+ years of experience building and deploying intelligent, data-driven applications across the full AI/ML lifecycle — from data preparation, feature engineering, and model development to production integration and performance optimization. Proficient in Python with hands-on experience in LLMs, prompt engineering, NLP-based semantic analysis, and agentic AI frameworks including LangChain and AgentQL. Experienced in integrating ML models into scalable backend systems using FastAPI, containerizing workloads with Docker, and collaborating with cross-functional teams to translate complex business problems into working AI solutions. Promoted to Software Engineer II at CodeNinja within 18 months for consistent delivery of high-impact AI automation projects.

## TECHNICAL SKILLS

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**Languages:** Python, JavaScript, SQL

**AI / ML:** LangChain, AgentQL, LLM APIs (OpenAI, Anthropic), Prompt Engineering, RAG Pipelines, NLP, Semantic Analysis, Supervised & Unsupervised Learning

**ML Libraries:** Scikit-learn, Pandas, NumPy, Playwright

**Data:** Data Preprocessing, Feature Engineering, Model Evaluation, PostgreSQL, MongoDB, SQL

**Backend & APIs:** FastAPI, Flask, REST APIs, WebSockets, JWT, OAuth2, Async I/O

**MLOps & DevOps:** Docker, Docker Compose, Git, Model Integration, Model Monitoring

**Cloud:** Google Cloud Platform (GCP), Google Drive API

**Methodologies:** Microservices Architecture, Agile, Code Review, Technical Documentation

## WORK EXPERIENCE

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### Software Engineer II

Jan 2026 – Present

*CodeNinja INC.*

*Lahore, Pakistan*

- Lead end-to-end design and delivery of AI/ML automation solutions, covering the full lifecycle from data processing pipeline design to model integration and production deployment.
- Architect scalable microservices-based backends in FastAPI to serve ML model inference endpoints, ensuring low-latency and high-availability in production environments.
- Drive AI solution design with cross-functional stakeholders, translating client business problems into structured ML workflows and intelligent automation pipelines.
- Mentor junior engineers on ML integration patterns, LLM prompt engineering, clean code practices, and software design principles through code reviews and technical discussions.
- Monitor deployed model performance, identify degradation signals, and coordinate retraining and re-deployment cycles to maintain solution quality over time.

### Software Engineer

Jun 2024 – Dec 2025

*CodeNinja INC.*

*Lahore, Pakistan*

- Built and deployed AI-driven data extraction systems integrating LLM-based content understanding, semantic analysis, and NLP pattern recognition into production pipelines.
- Implemented machine learning workflows leveraging LangChain and AgentQL for intelligent web navigation, automated data classification, and structured output generation.
- Integrated ML models and AI APIs into FastAPI backend services for real-world client applications, ensuring clean, maintainable, and well-documented code throughout.
- Applied data preprocessing and feature engineering techniques to prepare structured and unstructured datasets for model training and evaluation.
- Optimized existing AI/ML pipelines and API services, improving system throughput and response times by up to 30% through profiling and targeted refactoring.
- Collaborated within Agile teams to deliver AI-powered features aligned with client requirements and timelines.

### Associate Software Engineer

Jun 2023 – May 2024

*Axiom World*

*Lahore, Pakistan*

- Developed ERP automation solutions using Python and Odoo, applying data modeling and workflow automation to optimize operational efficiency for local and global clients.
- Built custom modules and SQL-backed data pipelines to support business process automation and reporting.
- Collaborated with cross-functional teams to gather requirements and deliver well-documented, maintainable software solutions.

## PROJECTS

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### **AI-Powered Restaurant Menu Data Collection System** | *Python, AgentQL, LLMs, Playwright, browser-use* Apr 2025 – Present

- Designed and deployed an end-to-end AI/ML data pipeline combining LLM-based content understanding, NLP semantic analysis, and agentic web navigation to extract and classify restaurant menu data at scale.
- Applied feature engineering and pattern recognition techniques to build a menu detection model capable of reliably identifying and structuring unstructured web content across diverse restaurant platforms.
- Integrated AgentQL and browser-use AI agents with Playwright for intelligent, adaptive scraping of dynamic, JavaScript-heavy websites — demonstrating applied NLP and Generative AI in production.
- Designed a concurrent processing pipeline for multi-site extraction with structured JSON output, Docker containerization, and robust error recovery mechanisms.

### **ONEX – Bioinformatics Data Analysis Platform** | *Python, FastAPI, PostgreSQL, Docker, WebSockets* Aug 2024 – May 2025

- Built a production-grade AI-ready data processing platform handling large-scale genomic datasets (FASTQ, CSV, TSV), with automated preprocessing pipelines for RNA sequencing and mass spectrometry analysis.
- Designed and integrated RESTful ML-serving APIs into a scalable FastAPI microservices backend, enabling on-demand model inference and data-driven analytical workflows for bioinformatics researchers.
- Implemented real-time model job tracking via WebSocket connections, giving end users live feedback on long-running AI analysis workloads.
- Containerized the full application stack with Docker and Docker Compose, ensuring reproducible, scalable deployment consistent with MLOps best practices.
- Integrated Google Cloud (GCP) and public genomics databases (GEO) for external data ingestion; applied RBAC and JWT-based authentication for secure multi-user access.

## EDUCATION

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### **FAST National University of Computer and Emerging Sciences**

*Bachelor of Science in Computer Science*

Faisalabad, Pakistan

*Jun 2023*

## LANGUAGES

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**English:** Full Professional Proficiency

**Urdu:** Native / Bilingual Proficiency