Khawaja Azfar Asif

Associate Machine Learning Engineer

Lahore, Pakistan | +92-3098287841 | khawajaazfar2000@gmail.com | Linkedin.com | Github.com

PROFESSIONAL EXPERIENCES

Dubizzle Labs – Associate Machine Learning Engineer **September 2024 – Present**

- **Engineered a scalable machine learning pipeline** using **GPT-4, FastAPI, Docker, and PostgreSQL** for real-time real estate data analysis, featuring structured JSON outputs and dynamic prompt generation.
- **Reduced compute costs by 30%** by developing a **TypeScript and RabbitMQ load balancer** and **automating GPU instance scaling** across Genesis and RunPod via MLOps scripting.
- **Designed a modular architecture** with the **Factory Method pattern** to enhance maintainability for containerized ML workflows.

InvoZone – Machine Learning intern **February 2024– May 2024**

- Fine-tuned **transformer-based NLP models** (BERT, RoBERTa) using PyTorch/TensorFlow to enhance inference accuracy.
- Developed **API-integrated ML pipelines** to enhance inference accuracy and accelerate AI prototyping.

DevSinc – Python/Django Intern **July 2023 – September 2023**

- Developed and deployed responsive web pages using **HTML**, **CSS**, and **Bootstrap**.
- Contributed to **backend development** by implementing **Django framework essentials** (MVT, ORM) and building **RESTful APIs** using **Django REST Framework**.
- Applied core Django concepts to real-world projects by building interactive **management system** and deployed it.

PROJECTS

Dental Enumeration and Diagnosis on Panoramic X-Rays – (Final Year Project)

- Built an end-to-end **object detection system** for dental enumeration and disease diagnosis on panoramic X-rays.
- Achieved **96% accuracy of teeth** detection and **75% of teeth diseases** detection using **YOLOv8 deep learning** for model training.
- **Leveraged Pandas, NumPy, Matplotlib, Seaborn, and Scikit-learn** for data handling and analysis.
- Deployed the system on **GCP**.

Pneumonia X-Ray Classifier – Machine Learning Project

- Developed **deep learning** system for the **classification** of pneumonia from chest X-ray images.
- Leveraged **Convolutional Neural Networks (CNNs)** built with TensorFlow/Keras for robust model training, achieving **95% diagnostic accuracy**.
- Deployed the interactive diagnostic application on **Streamlit Cloud**.

E-commerce RAG System for Internal Communications – Retrieval Augmented Generation Project

- Developed a RAG solution using **Pgvectorscale**, Python and utilizing OpenAI's **text-embedding-3-small model** for embeddings.
- Utilized **Docker** for environment setup and managed database interactions with a **PostgreSQL** GUI client for seamless development and deployment.

EDUCATION

Lahore Garrison University (LGU) **February 2020 – March 2024**

- *Bachelor of Science |Software Engineering | CGPA: 3.0 / 4.0*
- *Core Courses: Software requirements, Software Construction & Development, Software Project Management, Artificial Intelligence, Machine Learning, Deep Learning, Linear Algebra, Statistics.*

LEADERSHIP ACTIVITIES

Event Society of Software Engineering, Lahore Garrison University - *President* **September 2023 – March 2024**

- Organized university first Job Fair, Onboard 20+ companies and single-handed manages them throughout the event.
- Arrange multiple Industrial visits for student so they can know about latest trends and technology of industry.

DevSinc – Ambassador **April 2023 – February 2024**

- Leading Ambassador of DevSinc, representing the company at my university.
- Organized and conducted various events to promote Advance Technology on campus.
  - Developed and nurtured relationships with students, faculty, and staff.

CERTIFICATIONS

- Machine Learning A-Z: AI, Python & R(Udemy)
- Open-source LLMs: Uncensored & secure AI locally with RAG

PROFESSIONAL SKILLS

Languages: Python (Intermediate), C++
Technologies: SQL, Git/ GitHub, Docker, AWS, GCP, HTML, CSS, Postgresql (Beginner), GCP, RAG, YOLO, Streamlit,
Libraries & Frameworks (Python): Django, Pandas, NLTK, OpenCV, scikit-learn, PIL, NumPy, Matplotlib, Plotly, Streamlit, Keras, TensorFlow, Transformers, Seaborn, Pgvector.
AI models: YOLOv5, YOLOv8, Detectron2.