Daniyal UMER. HARAL

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EDUCATION

Artificial Intelligence — *Bachelor of Science*   SEPT 2020 - JUN 2024
  Ghulam Ishaq Khan Institute (GIKI)   GPA: 3.05
DeepLearning.AI — *TensorFlow Developer Professional*   SEPT 2023 -

WORK EXPERIENCE

Datum Brain — *Associate Software Engineer - AI*   AUG 2024 - PRESENT
- Developed scalable APIs using **Python**, and **Flask-RESTx**, to manage agricultural sensor data in **MongoDB**, and **Krakend** as API gateway for a Europe-based Climate Change Observer firm. Leveraged **Docker**, and **AWS** for DevOps, cutting deployment time by 50% with automated **Bash** scripts, contributing to ESG-focused climate monitoring solutions.
- Engineered robust **RESTful APIs** in **Go** for a Europe-based fintech platform, enabling **SEPA** and **SWIFT** transaction processing. Designed XSD-based data validation and transaction workflows, ensuring 100% compliance with fintech regulations.
- Built a **Selenium** scraper for **PostgreSQL**, integrated **GPT** with **LangChain** for natural language querying, and developed a **Go-based chat API** with **MongoDB** for GPT-driven **SQL** and humanized results.
- Contributed to the **Open-Source Dirtree** package that prints directory tree with respect to **.gitignore**. Added directory argument support and implemented version control flags (-v/–version).

Techlogix — *Software Development Intern*   JUNE 2023 - AUG 2023
- Delivered the implementation of **ASP.NET Core** banking application, emphasizing **Clean Architecture** and **MVC** patterns to develop highly maintainable codebases that reduced bug fixes by 40%.
- Engineered seamless **RESTful API** designs and optimized database management, to handle over 1000 concurrent users.
- Deployed on **Azure** and incorporated advanced **Chatbot** features with **HuggingFace** pretrained models into web application, resulting in a significant 30% decrease in customer complaints, elevating user satisfaction.

Systems Ltd — *Data Science Intern*   JUL 2022 - SEPT 2022
- Gained **Data Warehousing**, **SSIS**, **ETL** techniques, and **SQL** skills. Created a pipeline to process 10,000 sales records.
- Harnessed **Tableau** to craft comprehensive dashboards, graphs, and maps, facilitating data-driven decision-making and saving 50 hours monthly in report generation.
- Performed **Exploratory Data Analysis** and developed an **LSTM** predictive model achieving 90% accuracy on time-series data.

TECHNICAL PROJECTS

Final Year Project — *Lucid Transit*   SEPT 2023 - MAY 2024
- Fine-tuned **YOLOv8** model on a dataset of 10,000 images, achieving 80% mAP for identifying 7 Pakistani vehicle classes. Annotated 600 images for passenger counting, with **YOLOv8** reaching a 65% mAP. Integrated with **HIKVISION CCTV system**.
- Created a responsive web app using **React** and **Flask**, featuring an interactive dashboard for real-time monitoring of vehicle and passenger influx. **RTSP** for seamless CCTV connection. Raised 200,000 PKR in funding from Pakistan Engineering Council.

Freelance Project — *DocumentChat*   JUNE 2023 - JULY 2023
- Crafted a **RAG Chatbot** utilizing **Python**, **LangChain** and **Llama Index** with **OpenAI's GPT-3.5 turbo** model, facilitating research paper question answering and summarization. A time-saving tool for researchers, facilitating efficient analysis.
- Engineered an intuitive user interface using **Streamlit**, integrating conversational history tracking.

Freelance Project — *Dutch Doc Accessibility: AI-powered Q&A for the Disabled*   JUNE 2024 - JULY 2024
- Spearheaded a Python-based initiative enhancing accessibility for disabled individuals, using **OCR** text extraction, **GPT API** for spell correction (80% accuracy improvement), **Transformers** for translation, summarization, question answering on Dutch legal documents, integrating **Text-to-Speech** and **Speech Recognition** models for information retrieval.

Academic Projects — *Exploratory Data Analysis*   2021 - 2024
- Datasets Analyzed: CIFAR-10, Pak-Wheels, Play Tennis, Breast Cancer, Titanic, Iris, Corn or Maize Leaf, Airbus Aircraft Detection, Movie Reviews, Twitter Tweets, UNSW NB15, Insurance, Balance Scale.

Academic Projects — *Algorithms Implemented From Scratch*   2020 - 2024
- AI Algorithms: **Linear Regression, Logistic Regression, Decision Trees, K-mean Clustering, SVM, ANN, CNN, RCNN, GAN, LSTM, Transformers**.

TECHNICAL SKILLS

- /Languages/Frameworks/Tools/Technologies: **Python, Go, C/C++, Bash, SQL, Flask, Django, Go-chi, fiber, Krakend, Casbin, LangChain, Tensorflow, Pytorch, Scikit-learn, HuggingFaceTransformers, YOLO, Pandas, NLTK, spaCy, MongoDB, Redis, Linux, Git, Github Actions, CI/CD, AWS, Terraform, Docker, Postman, ETL, ML, DL, NLP, CV**