

# 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

Naseeb Online Services (Pvt) Ltd - ROZEE.PK — *Software Engineer - AI*

FEBRUARY 2025 - PRESENT

- Led the transition from **SQL-based retrieval** to **Elasticsearch-powered semantic search**, reducing candidate retrieval time by 50% to match job descriptions with relevant candidates.
- Crafted a **Retrieval-Augmented Generation (RAG)** pipeline for efficient CV search. Parsed a dataset of over 1 million CVs into **JSON** using **GPT-4o**, optimized semantic search mappings, and utilized **OpenAI's text-embedding-3-large** model with **LangChain**.
- Utilized **hybrid search (BM25 + vector search)** using **Elasticsearch** and **OpenAI embeddings**, while fine-tuning **query expansion** and **synonym mapping** to enhance search relevance by 30% and improve candidate-job matching efficiency.
- Deployed scalable **Python** APIs with **Flask-RESTx** for job-matching, optimizing query performance with vector-based retrieval. Integrated **WhatsApp Web.js** for systemized candidate outreach, improving job conversion rates by 20%.

Datum Brain — *Associate Software Engineer - AI*

AUG 2024 - FEBRUARY 2025

- Developed scalable APIs using **Python**, and **Flask-RESTx**, to manage agricultural sensor data in **MongoDB**, and **Kraken** 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 created 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

- Executed 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%.
- Designed 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

- Acquired **Data Warehousing**, **SSIS**, **ETL** techniques, and **SQL** skills. Assembled 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.
- Conducted **Exploratory Data Analysis** and constructed 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**.
- Developed 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 — *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.

Freelance Project — *Shopify Store Automation*

JULY 2024 - AUGUST 2024

- Streamlined **customer segmentation** using **Python** and **Shopify Admin API (GraphQL)**, enabling personalized marketing and engagement.
- Devised **custom automation tools** for order processing, analytics, and inventory management, reducing manual effort by 40%.

### Freelance Project — *DocumentChat*

JUNE 2023 - JULY 2023

- Engineered 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.
- Orchestrated an intuitive user interface using **Streamlit**, integrating conversational history tracking.

### 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

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- /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**, **NumPy**, **NLTK**, **spaCy**, **VectorDatabases**, **ElasticSearch**, **PostgreSQL**, **MongoDB**, **Redis**, **Linux**, **Git**, **Github Actions**, **CI/CD**, **AWS**, **Terraform**, **Docker**, **Postman**, **EDA**, **ETL**, **ML**, **DL**, **NLP**, **CV**