

# Bilal Malik

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## EDUCATION

### Ghulam Ishaq Khan Institute of Engineering Sciences and Technology

Topi, Pakistan

- Bachelors in Computer Science

## PROFESSIONAL EXPERIENCE

### AI Systems

Karachi, Pakistan

August 2024 – Current

- *Full-time, Data Scientist*

- Working on extracting and parsing unstructured data from various sources, for RAG implementation.
- Exploring graph database solutions like Azure Cosmos DB with Gremlin to enhance data relationships and enable graph-based visualizations in an open-source tool.
- Research and experimentation with GraphRAG to evaluate its capabilities for knowledge-driven applications.

### Carvan Goods Transport

Karachi, Pakistan

Jan 2024 – June 2024

- *Part-time, Data Analyst*

- Maintained reports and visualizations, on matplotlib and PowerBI, to track KPIs.
- Utilized statistical methods and predictive modelling techniques to forecast demand and identify trends.
- Drove process automation initiatives by identifying repetitive tasks and developing automated workflows, reducing manual effort by 25% and increasing operational efficiency by 20%.

### United Bank Limited (UBL)

Karachi, Pakistan

June 2023 – August 2023

- *Internee, Data Science*

- Worked on developing a fake cheque detection system, and achieved 83% accuracy for the developed model.
- Implemented data augmentation techniques to overcome the difficulty of a limited training dataset, hence increasing dataset images from 4,000 to 14,000.
- Presented regular project updates, including findings and progress reports, to the HOD.

## PROJECTS

- LinkedIn Comment Visualizer
  - Engineered a universal prompt to transform LinkedIn comments into structured outputs, using DALL-E for image generation.
  - Developed functionality for end-users to create customized whiteboard or notebook images with summarized pointers or generate contextually relevant memes.
- AI Banking Support System (AIBSS)
  - Built an intelligent voice-bot utilizing a decoder-only model, LLM GPT 3.5 Turbo, and hosting it on Azure.
  - Integrated a vector database to incorporate FAQs into the bot's functionality and established connectivity with SQL databases to efficiently execute fetch operations, enhancing data retrieval capabilities.
- eCommerce Laptop Trend Analysis
  - Web scraped eBay listings for various laptop models, collecting data on prices, and specifications.
  - Performed EDA to identify trends such as brand popularity, specifications, and pricing patterns.
- Dimensionality Reduction using PCA
  - Utilized Python to read and process Landsat multi-band raster data stored in .tif format, reducing the dimensionality of the original dataset by 80% while retaining 95% of the variance.
  - Leveraged a suite of data processing and visualization libraries such as numpy, geopandas, etc.

## SKILLS

- Languages: Python, C++, C#
- Databases & Tools: MySQL, MongoDB, Azure Cosmos, PowerBI, Git

## ADDITIONAL INFORMATION

- Certificates & Achievements: Head Artist NAQSH Society, Sketch published in a column on 'Protests Against Muslim Women in India', Awarded 3rd Position in KMC Peshawar Photography Competition, Spotify Release Radar