TOOBA BIBI

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Visa Status: Employement
Marital Status: Single

EDUCATION

Salim Habib University   **Sept 2019 - May 2023**
Bachelor in Computer Science
Achievements: Received the Dean's Honor List Award and secured 2nd Position for the Best FYP Project.

WORK EXPERIENCE

AI SPECIALIST
SPARK AI *(UAE, Dubai)*   **May 2025 -Present**

- Leading the technical team in developing end-to-end AI-driven solutions across industries.
- Designing and deploying custom AI SaaS tools tailored to specific departmental use cases along with automations using N8N.
- Overseeing development of LLM-powered tools for internal productivity and external client solutions.
- Designed an end-to-end AI sales tool combining voice synthesis, LLMs, and analytics to automate outreach and boost conversion rates.

RESEARCH AND DEVELOPMENT LEAD – ARTIFICIAL INTELLIGENCE (AI)   **Dec 2024 - April 2025**
APPEDOLOGY PVT LTD *(Pakistan, Karachi)*

- Led a team of 4 in developing 6 AI-driven solutions using LLMs, computer vision, and intelligent document processing.
- Built a Text-to-SQL tool using Mistral Small, DeepSeek, and Qwen, tested on 200+ real business queries for database interaction.
- Developed an information extraction pipeline processing over 12,000 medical billing documents using LLaMA 3.2 Vision, Pixtral, and OCR.
- Re-engineered a 30+ table MS SQL Server schema to support LLM ingestion and improve data structure efficiency.
- Trained YOLOv8 on 2,000 annotated samples for document layout detection, enhancing input accuracy for downstream models.
- Managed multi-GPU clusters with Mistral Small sharded across 4 GPUs, enabling concurrent LLM pipelines and streamlined versioning via Git.

ASSOCIATE AI/ML ENGINEER   **Nov 2023 - Nov 2024**
TALEEMABAD (ORENDA WELFARE) *(Pakistan, Islamabad)*

- Built OCR-based PDF-to-CSV tool with Textract and Flask, deployed on GCP, converting 1,200+ student reports monthly across departments.
- Made Text-to-Video pipeline with GPT-4, Stable Diffusion, and DALL·E, streamlining educational video creation for curriculum development.
- Developed a Textract + Flask PDF-to-CSV tool on GCP, converting over 1,200 student reports monthly for academic teams.
- Constructed an OCR + LLaMA 3-based exam checker, deployed on Vertex AI, processing 200 handwritten test sheets daily.
- Worked with different cross-functional teams via JIRA and GitHub, completing ML and UI/backend integration tasks across 6 sprints.
- Prototyped state-of-the-art models, including GPT-4V and T5, contributing insights to internal model selection for adaptive learning tools.
- Delivered Flask-based AI applications, cloud-hosted on AWS/GCP, supporting 5,000+ daily users across student, teacher, and admin portals.

JUNIOR AI/ML ENGINEER   **Jun 2023 - Oct 2023**
CELERITAS DIGITAL *(Pakistan, Karachi)*

- Created a research paper retriever with GPT-4 and BERT, indexing 5000+ documents for semantic search and citation extraction.
- Designed LLM-based chatbots using GPT-4, LangChain, and semantic search, handling over 500 user queries daily with contextual accuracy.
- Built ML models with XGBoost and linear regression to support internal analytics, processing datasets with 100,000+ rows across 5 use cases.
- Led data preparation and feature optimization for model training pipelines, streamlining input formats and reducing preprocessing time.
- Evaluated and iteratively optimized AI models for production, improving performance across active use cases in research and product domains.
- Collaborated with cross-functional teams, integrating ML-driven features into 2 live platforms and presenting insights from different experiments.

FREELANCER   **Jan 2021 - Dec 2023**
CLIENT BASED *(International)*

- Built a facial emotion recognition model using VGG16, trained on 14,000+ images, with high classification accuracy across emotion categories.
- Developed a real-time sign language detector with VGG16 and OpenCV, trained on a 3,500-sample dataset for gesture-to-text translation.
- Created a license plate recognition system combining YOLOv5 and Tesseract OCR, capable of processing over 2,000 vehicle images.
- Engineered a bike helmet detection tool with YOLOv5s, trained on 4,000 custom images for real-time traffic compliance checks.
- Designed a student performance predictor using Random Forest, analyzing 1,200 academic records for grade forecasting and risk flagging.

PROJECTS

Research Based (Breast Cancer Detection and Classification Using XAI) | https://ieeexplore.ieee.org/document/11004362   **Feb 2022 - March 2023**
- Implemented CNN models with XAI techniques (LIME, GRAD-CAM) to enhance diagnostic accuracy.

CERTIFICATION

- Generative AI with LLM | **DeepLearning.ai**   **Feb 2024**
- Deep Learning Specialization | **DeepLearning.ai**   **Sep 2023**

SKILLS

Technical Skills: Python, C/C++, JavaScript, HTML, CSS, TensorFlow, PyTorch, HuggingFace, Flask, FastAPI, scikit-learn, Matplotlib, Pandas, GPT-4, LLaMA, YOLOv8, OpenCV, LangChain, XGBoost, Tesseract OCR, Stable Diffusion, GCP, AWS, Vertex AI, Git, GitHub, MS SQL Server

Professional Skills: Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Large Language Models (LLMs), Model Optimization, Intelligent Document Processing, Model Evaluation, AI Solution Design, Multi-modal AI, Deployment & Hosting, Database Architecture, Data Preprocessing, Feature Engineering, Cloud Deployment