

# Hamza Mughal

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## EDUCATION

### BSCS Computer Science

COMSATS UNIVERSITY LAHORE CAMPUS

Lahore, Pakistan | Feb 2018 – Feb 2022

## WORK EXPERIENCE

### AL NAFI INTERNATIONAL COLLEGE | BACKEND DEVELOPER DEVOPS Karachi, Pakistan | July 24 – Present

- Customized OpenEdX platform to align with business requirements, enhancing course management.
- Automated data migration from legacy systems to OpenEdX, ensuring seamless transition and data integrity.
- Developed automated workflows for dynamic course creation and personalized learning experiences.
- Leveraged AWS backend infrastructure to scale the platform for performance and reliability.
- Developed RESTful APIs for efficient communication between front-end and back-end systems.
- Monitored and refined DevOps pipelines to improve deployment reliability and reduce downtime.
- Planned and implementing CI/CD design for OpenEdX custom Docker images in both staging and production environments.

### KNYSYS | JUNIOR SOFTWARE DEVELOPER

Karachi, Pakistan | April 23 – July 24

- Developed Django-based backend services to enhance OpenEdX platform functionality.
- Integrated third-party tools and plugins to improve e-learning capabilities.
- Ensured robust course management and optimized learner engagement within the system.
- Developed RESTful APIs for efficient communication between front-end and back-end systems.

### A. F. FERGUSON & CO. | ORACLE APPLICATION TECHNICAL CONSULTANT Karachi, Pakistan | March 22 – April 23

- Customized and maintained Oracle applications to meet business requirements.
- Provided troubleshooting and support for legacy Oracle applications.

## PROJECTS

### ALNAFI

PYTHON, DJANGO, AI

DESIGNED AND DEVELOPED RESTFUL APIs FOR MICROSERVICES, IMPLEMENTING STATELESS DESIGN, VERSIONING (E.G., /API/V1), AND RESOURCE-BASED PRINCIPLES. CONFIGURED API GATEWAY FOR ROUTING, AUTHENTICATION (OAUTH2, JWT), RATE-LIMITING, LOAD BALANCING, AND SECURE COMMUNICATION ACROSS SERVICES. IMPLEMENTED CACHING STRATEGIES (E.G., REDIS) TO OPTIMIZE RESPONSE TIMES AND REDUCE LOAD ON BACKEND SERVICES. TROUBLESHOOTING THE APIs FOR PERFORMANCE EFFICIENCY.

### AGENTS MONITORING DASHBOARD

PYTHON, DJANGO, AI

DEVELOPED AN IN HOUSE PERFORMANCE MONITORING DASHBOARD FOR SALES AND SUPPORT AGENTS BY INTEGRATING APIs FROM CRM, CHAT SUPPORT PLATFORMS, AND PBX CALL DATA ANALYSED THROUGH AI. CREATED DETAILED METRICS AND VISUALIZATIONS (CHARTS) TO TRACK AGENT PERFORMANCE AND PROVIDE ACTIONABLE INSIGHTS.

### LEARNING MANAGEMENT SYSTEM


PYTHON, DJANGO, REACT, AI

CREATED A CUSTOM DRIP SCHEDULING FLOW IN OPENEDX TO MANAGE CONTENT ACCESS BASED ON INDIVIDUAL PAYMENTS, EXTENDING BEYOND THE COURSE START AND END DATES. DEVELOPED AN XBLOCK FOR CONFIGURING LAB ENVIRONMENTS, ENABLING STUDENTS TO PRACTICE AND INTEGRATED A CHATBOT TO ASSIST THEM DURING LAB EXERCISES. CUSTOMIZED THE FRONTEND TO MEET COMPANY-SPECIFIC REQUIREMENTS, INCLUDING WHITE-LABELING AND BRANDING FOR A PERSONALIZED USER EXPERIENCE. AUTOMATED MANUAL COURSE CREATION TASKS USING OPENEDX OLX TO STREAMLINE THE PROCESS AND ENHANCE EFFICIENCY. MIGRATED DATA FROM THE LEGACY THINKIFIC LMS TO OPENEDX BY DEVELOPING SCRIPTS TO BACK UP AND IMPORT COURSE DATA SEAMLESSLY.

### SAT GPT

PYTHON, FLASK, AI

BUILT AN AI-POWERED SAT PREPARATION PLATFORM WITH PERSONALIZED STUDY PLANS AND MACHINE LEARNING MODELS.

**FLOOD MAPPING TOOL** 

FLASK, MAPBOXGL JS

USING THE GOOGLE EARTH ENGINE AND MAPBOXGLJS, CREATED A REAL-TIME FLOOD MAPPING TOOL TO VISUALIZE FLOOD DATA INTERACTIVELY.

**UNIVERSITY OF SCIENCE AND TECH - AL TAIF - LMS** 

DJANGO, REST API BACKEND

DEVELOPED A LEARNING MANAGEMENT SYSTEM WITH SECURE BACKEND COMMUNICATION FOR MOBILE INTEGRATION.

**UNIVERSITY OF SCIENCE AND TECH - AL TAIF - MOBILE APP** 

REACT NATIVE, REST API

DEVELOPED RESTFUL APIs FOR THE MOBILE APPLICATION TO INTERACT WITH THE BACKEND OF THE LMS SYSTEM.

CERTIFICATIONS	
• IBM Machine Learning (Sep 2024)	Sept 2024
• Machine Learning Specialization (Coursera)	Jun 2024
• Data Analysis with Python Track (Datacamp)	Apr 2021

SKILLS

Languages: Python, JavaScript, SQL, HTML, CSS, REST APIs

Frameworks: Django, Flask, React.js, Bootstrap

Databases: PostgreSQL, MySQL, MongoDB, Oracle, Amazon DocumentDB, Azure CosmosDB

Cloud Platforms: AWS (EC2, RDS, ElastiCache, DocumentDB, ALB, NLB), Azure (VM, CosmosDB), GCP

Containers: Docker, Kubernetes

CI/CD and DevOps Tools: Git, GitHub Actions, Jenkins

Monitoring and Logging: Prometheus, Grafana, ELK Stack (Elasticsearch, Logstash, Kibana)

Operating Systems: Ubuntu, Linux Mint, Windows