

MUHAMMAD RAFAY

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PROFESSIONAL PROFILE

Computer Engineering undergraduate with strong expertise in **backend development and AI/ML**. Skilled in Python, Django Rest Framework, and database design for building scalable APIs, alongside hands-on in deep learning with TensorFlow and Keras for real-world applications. Passionate about integrating AI models into production-ready backend systems.

EDUCATION

BS Computer Engineering, COMSATS Univsersity Islamabad (CUI)

CGPA : 3.58

Sep 2022 - Jun 2026

Lahore , Pakistan

Relevant Coursework: Machine Learning, Artificial Intelligence, Data Structures and Algorithms, Mobile Application Development, Object Oriented Programming (OOP), Software Engineering Concepts, Operating Systems

SKILLS

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|----------------|-------------------------|--------------------|-----------------|
| ● Python | ● Django Rest Framework | ● TensorFlow | ● Keras |
| ● Scikit-learn | ● Pandas | ● NumPy | ● Matplotlib |
| ● PostgreSQL | ● MongoDB | ● Git/GitHub | ● REST APIs |
| ● HTML/CSS | ● Flutter | ● Machine Learning | ● Deep Learning |

Python Django Developer

July 2025 - Present

NexQuery, Lahore

- Built and deployed secure RESTful APIs with Django Rest Framework (DRF), including JWT authentication for role-based access control.
- Implemented API-level validation and error handling to improve scalability and maintainability of back-end services.

Flutter Developer

Jan 2025 - Present

LUMS NIC, Lahore

- Maintained and enhanced a Flutter-based social media app (U.n.I), integrating new features and ensuring smooth backend communication.

PROJECTS

Knee Osteoarthritis Detection using CNNs

Python, TensorFlow, Keras

- Developed a CNN model to classify knee X-ray images into 3 classes (Normal, Osteopenia, Osteoporosis), achieving 80%+ validation accuracy.
- Preprocessed medical images with data normalization and batch augmentation for robust training.
- Designed training pipeline with real-time visualization of accuracy and loss curves.

Chess Analytical Dashboard

Python, Tkinter, MySQL, Matplotlib

- Built an interactive analytics dashboard to visualize and compare chess player performance.
- Integrated CRUD operations with MySQL backend and dynamic data visualization in Python.