

# Ahmed Abdul Rauf

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## Experience

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### AI Intern

*Bookme.pk*

*Lahore, Pakistan*

*June 2024 - August 2024*

- Developed an AI-powered itinerary generation system leveraging LangChain and Google Vertex AI for intelligent travel planning and recommendations.
- Architected a RESTful API using Flask with containerized Docker deployment, enhancing system scalability and operational efficiency.
- Conducted comprehensive API testing and validation using Postman, ensuring complete endpoint coverage and reliability.
- Built an OCR pipeline using Google Cloud Platform for automated passport data extraction.
- Designed and executed data acquisition pipelines and web scraping solutions for Saudi Arabia market analysis, expanding dataset coverage.

## Education

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### Forman Christian College University

*BS(Hons) in Computer Science*

*Lahore, Pakistan*

*2021 - 2025*

- GPA: 3.93/4.0
- **Coursework:** Machine Learning, Natural Language Processing, Data Mining

## Projects

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### MedApp - Urdu Medical Chatbot

*LlamaIndex, FlaskRestful, React Native, ChromaDB, Docker*

- Developed a mobile-first medical chatbot for Urdu-speaking populations in Pakistan, achieving 93.9% accuracy across 830 medical queries validated by healthcare professionals.
- Architected scalable backend using RAG with LlamaIndex, Groq API, and ChromaDB for semantic search of government-approved medical sources.
- Implemented OCR pipeline for prescription analysis with cross-referencing against local medicine databases for accurate drug information retrieval.
- Designed RESTful Flask API with real-time web search capabilities to provide up-to-date medical information from credible sources.
- Engineered LLM-powered content simplification to convert complex medical reports into accessible explanations for low-literacy populations.
- Containerized application using Docker for high-availability deployment and seamless migration across cloud environments.

### Real-Time Person Detection

*Python, YOLO, Pytorch*

- Trained a custom YOLO object detection model for person identification, achieving 80% precision through optimized hyperparameter tuning and dataset curation.
- Applied comprehensive image augmentation techniques including rotation, scaling, and color jittering to enhance model generalization and robustness across diverse scenarios.
- Implemented training optimization strategies balancing computational efficiency and model performance, reducing training time while maintaining detection accuracy.

## Technologies

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**Languages:** Python, C, JavaScript, HTML, CSS, SQL

**Frameworks/Libraries:** Flask, FastAPI, LangChain, LlamaIndex, scikit-learn, pandas, NumPy

**Tools/Technologies:** Docker, Git, Postman, SQL Server, SQLite