

# Rayyan Ahmed

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## PROFESSIONAL SUMMARY

AI Engineer and Data Scientist with deep expertise in Retrieval-Augmented Generation (RAG), AI agents, and Model Context Protocol (MCP). I specialize in designing machine-learning systems, building end-to-end NLP pipelines, and deploying high performance LLM solutions—both cloud-based and local inference.

I have a proven track record of delivering measurable business impact: reducing manual workload by **15%** through LLM browser automation at Nobility and improving fraud-detection precision by **22%** at Digital Empowerment Network.

Skilled in developing secure, compliant (HIPAA/GDPR-ready) AI software, I combine strong engineering capabilities with practical problem-solving, enabling organizations to leverage AI responsibly, efficiently, and at scale.

## SKILLS:

**Programming Languages:** Python, SQL, Java, C++

**AI:** LLMs, RAG, AI Agents, MCP, NLP, Deep Learning, Fine-Tuning, Inference, Py Torch, Transformers, MLOPS, Vectors

**Databases and Cloud Services:** Chroma DB, MySQL, PostgreSQL, MongoDB, Azure, AWS, GCP

**Soft Skills:** Consistency, Dedication, Problem-Solving, Communication, Attention to Detail, Getting the job done

## Projects:

- **Multi-Agentic RAG Document Analysis**      **Multi-Agent Orchestration, Crew AI, Vector Search, Local LLM, Cuda**  
An AI-powered document processing application using 5 specialized AI Agents (Crew AI) and hybrid RAG pipeline (FAISS DB vectors + BM25) with local LLM inference (llama-CPP). Parses PDFs to textual format, generates embeddings, performs semantic search, and produces automated analysis reports (report lab) through sequential agent workflows.
- **OCR-App**      **PDF Preprocessing, VLM, Table Extraction, HIPAA Compliance, Tesseract**  
Optical Character Recognition combining multiple OCR engines (OCRPDF + Tesseract.js) with AI-powered (VLM) accuracy enhancement and intelligent preprocessing (skew, noise reduction, contrast adjustment). Convert the PDF to same a searchable and retrievable format without any loss of data or quality, Features table extraction and Parallel document processing with improved accuracy rates and HIPAA-compliant security.
- **Speech Emotion Classification**      | [Link](#) | **TensorFlow, Voice AI, NLP, Transformers, Docker** |  
Deep learning system classifying 8 emotions from speech using neural network (MFCC + Mel-spectrogram CNN) trained on RAVDESS dataset. Features extract audio processing, TensorFlow architecture and Hugging Face deployment.
- **House Predication ML Model**      | [Link](#) | **Python, ML Training, Regression, MLOPS, GitHub Actions, CI/CD** |  
Property valuation application using Random Forest with user interface for real-time price predictions across Pakistani cities. Features model retraining, scikit-learn ML pipeline, Docker deployment, and CI/CD automation with testing.

## EXPERIENCE

**Data Scientist: Nobility MBS | Islamabad, Pakistan**

**March 2025 – Present**

- Automated medical billing workflows using browser automation (Playwright, Browser Use), **AI agents**, and **LLMs**, reducing manual processing by **15%** and boosting billing accuracy by **10%**.
- Designed and deployed **RAG pipelines** and **MCP** and AI solutions to deliver real-time insights, accelerating billing operations and improving decision-making efficiency by **10%**.

**Data Analyst: OZIBOOK Tech Solutions | Remote, Bangalore, India**

**October 2024 – January 2025**

- **Optimized SQL Queries and Interactive Dashboards:** Enhanced SQL query performance by 20%, enabling faster data processing, and developed Power BI dashboards, improving data visualization and decision-making processes by 15%.
- **Predictive Analytics Implementation:** Built machine learning models using Python libraries such as Pandas, NumPy, Matplotlib, Scrapy, and Scikit-Learn, achieving an 18% increase in predictive accuracy.

**AI Engineer (Machine Learning): Digital Empowerment Networks | Islamabad, Pakistan**

**July – September 2024**

- **Advanced Data Processing:** Conducted data cleaning, preprocessing, and visualization to prepare large datasets for analysis, enhancing data quality by 30%.

## EDUCATION

**FAST NUCES Islamabad, Islamabad Pakistan**

**Aug 2022 – June 2026**

BS: Software Engineering