MOHAMMED IKRAM ASHRAFI

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PYTHON DEVELOPER | FULL-STACK & GENAI INTEGRATION DEVELOPER

Python Developer with hands-on experience in full-stack web development, Generative AI (GenAI), and Large Language Model (LLM) integration. Proficient in Python, Django, FastAPI, and React, with expertise in building and deploying AI-powered, production-ready applications from the ground up. Strong foundation in backend architecture, RESTful API design, and Retrieval-Augmented Generation (RAG) pipelines leveraging LangChain, Pinecone, and HuggingFace. Skilled in containerization (Docker), production debugging (CORS, 502, database pooling), and cloud deployment on Render and AWS. Delivered 3 production applications with proven reliability and scalability. Seeking Python Developer / AI Engineer roles to build cutting-edge, intelligent systems that merge software engineering with advanced AI technologies

STRENGTHS AND EXPERTISE

Full-Stack Development | Python Backend Development | AI/ML Integration
Role-Based Authentication | RESTful API Design | Database Optimization
Django & FastAPI | React | Cloud Deployment & DevOps

PROFESSIONAL EXPERIENCE

GenAI RAG Chatbot Project   **November 2025 - Ongoing Project**
Full-Stack AI Developer

Built enterprise-grade AI chatbot with Retrieval-Augmented Generation (RAG) enabling intelligentdocument-based conversations using Llama 3.3-70B Large Language Model via Groq API withLangChain orchestration.

Accomplishments:

- Developed complete FastAPI backend with RESTful API architecture featuring dual authentication (JWT token-based + Google OAuth 2.0) for seamless social login experience
- Implemented role-based access control system with User and Admin roles enabling granular permissions and admin dashboard capabilities
- Built end-to-end RAG pipeline with document processing supporting PDF, DOCX, TXT, and Markdown formats using PyPDF2, python-docx with automated text extraction and intelligent chunking
- Integrated Pinecone vector database for semantic search with HuggingFace embeddings achieving sub-200ms response time and 95% context retrieval accuracy
- Designed complete user management system with email verification (SMTP), password hashing (bcrypt), profile management, and persistent chat history tracking
- Deployed production-ready application with Docker containerization, PostgreSQL database, async file upload processing, and cloud infrastructure on Render/AWS
- Tech Stack: Python, FastAPI, LangChain, Pinecone, Llama 3.3, React, PostgreSQL, JWT, Google OAuth, HuggingFace, Docker, Render, Git

Anti-Ragging Complaint Management System   **Dec 2024 - Mar 2025**
Full-Stack Developer

Developed comprehensive complaint management system using Django backend and React frontend with sophisticated multi-role authentication and deployment to production.

Accomplishments:

- Implemented 4 distinct user roles (Admin, Principal, Squad Members, Students) with granular permissions and custom middleware for access control
- Built complete authentication system with JWT token-based authentication and Google OAuth integration for secure user management
- Designed PostgreSQL database schema with migrations and developed comprehensive APIs using Django REST Framework
- Implemented email notification system, file upload functionality, and real-time updates for complaint tracking workflow
- Created responsive UI using React, Tailwind CSS, and Bootstrap ensuring mobile-first design accessible across all devices
- Deployed production application on Render and resolved critical backend issues including CORS, 502 errors, OAuth configuration, and database connection pooling
- Tech Stack: Python, Django, Django REST Framework, React, PostgreSQL, JWT, Google OAuth, Tailwind CSS, Bootstrap, Render, Postman, Git

AI Chatbot Application - Full-Stack   **Apr 2025 - July 2025**
Backend/Full-Stack Developer

Built full-stack AI chatbot with Django REST backend and React frontend integrating Google Gemini API for intelligent conversational responses.

Accomplishments:

- Integrated Google Gemini API for intelligent response generation enabling natural language conversations
- Implemented JWT authentication and Google OAuth login for secure user access and session management
- Designed PostgreSQL database for persistent chat history storage and conversation retrieval
- Developed admin dashboard with conversation analytics for monitoring chatbot performance and user engagement
- Deployed production application on Render with complete DevOps configuration and monitoring
- Tech Stack: Python, Django, Django REST Framework, React, PostgreSQL, Google Gemini API, JWT, Google OAuth, Render

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EDUCATION

Diploma in Computer Science
D. Banumaiah's Polytechnic College | Completed in 2025

Bachelor of Computer Applications (BCA)
University of Mysore (Online Program) | Expected Graduation: 2028

SKILLS SUMMARY

Programming & Frameworks: Python, JavaScript, Django, FastAPI, Flask, React, Django REST Framework, SQLAlchemy ORM, Async/Await Programming
AI/ML Technologies: LangChain, Large Language Models (Llama 3.3, Google Gemini), RAG Architecture, Pinecone Vector Database, HuggingFace Transformers, Semantic Search, Groq API, Vector Embeddings, Document Processing (PDF/DOCX/TXT/MD), Text Chunking
Frontend Development: React, HTML5, CSS3, Tailwind CSS, Bootstrap, Responsive Design
Database Management: PostgreSQL, MySQL, SQLite, Pinecone (Vector DB), Database Design, Migrations, Optimization, Connection Pooling, Query Optimization
Authentication & Security: JWT (JSON Web Tokens), OAuth 2.0 (Google OAuth), Password Hashing (bcrypt), Role-Based Access Control (RBAC), Custom Middleware, Session Management
API Development: RESTful API Design, Django REST Framework, FastAPI, Third-Party API Integration (Google OAuth, Google Gemini, WhatsApp), Async API Development
DevOps & Deployment: Docker, Render, AWS EC2, Vercel, CI/CD, CORS Configuration, Database Connection Pooling, Production Debugging, 502 Error Resolution, Environment Configuration Management
Development Tools: Git, GitHub, Postman, VS Code, PyCharm, Version Control, Agile Project Management
Additional Skills: Email Systems (SMTP), File Upload Management, Real-Time Updates, Performance Optimization, Debugging, Complete Development Lifecycle Management, Production Issue Resolution, System Monitoring

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CERTIFICATIONS & NOTABLE ACCOMPLISHMENTS

- Built and deployed 3+ production-ready full-stack Django/FastAPI + React applications
- Transitioned from Java/Spring Boot to Python/Django demonstrating rapid learning ability
- Implemented multi-role authentication systems in real-world projects with 4-role hierarchies
- Strong foundation in cybersecurity (Linux, Kali Linux)
- Self-taught in Django and FastAPI through project-based learning and continuous improvement
- Experienced in managing complete development lifecycle from design to deployment
- Resolved critical production issues including CORS, 502 errors, OAuth configuration, and database pooling

References are available on request.