VINAYAK KANCHAN

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SUMMARY

Software Engineer at Celebal Technologies with hands-on experience in building scalable backend systems using Python and FastAPI. Actively working on integrating Large Language Models (LLMs) into backend applications. Experienced in cloud-native development using Microsoft Azure services. Proficient in Python, C++, and C with solid problem-solving skills.

PROFESSIONAL EXPERIENCE

Celebal Technologies, Jaipur, Rajasthan: Software Engineer August 2024 – Present

- Engineered and maintained high-performance, asynchronous RESTful APIs using Python, FastAPI, and Pydantic, powering the core backend of a production-grade e-commerce application.
- Automated a data reporting pipeline by integrating data warehouse ingestion, schema transformation, and secure API-based delivery, reducing manual operational effort by **60%**.
- DDesigned and deployed scalable, message-driven cloud architectures using Azure Service Bus and Azure Function Apps to enable reliable inter-service communication.
- Implemented publish/subscribe messaging patterns using Azure Service Bus to ensure fault-tolerant data delivery across distributed services.
- Managed and secured mission-critical APIs using Azure API Management (APIM), implementing **rate-limiting, caching, and JWT-based authentication.**

EDUCATION

B.Tech in Computer Science (Honors) – Specialization in Artificial Intelligence & Machine Learning 2021 - 2025
Manipal University Jaipur 8.66 CGPA

XII CBSE Boards 2020 - 2021
All Saints Sr. Sec. School, Ajmer 89%

X CBSE Boards 2018 - 2019
All Saints Sr. Sec. School, Ajmer 90%

PROJECTS

Ecommerce-Backend Sept 2025

- Developed a production-ready RESTful API with FastAPI, leveraging SQLAlchemy for data management and Alembic to safely automate database migrations, ensuring continuous deployment.
- Implemented secure authentication and authorization using JWT (JSON Web Tokens) for both customers and administrators and fined grained access control using RBAC (Role Based Access Control).
- Utilized PostgreSQL as the primary database, managed via an ORM - SQLAlchemy ensuring transactional integrity for complex operations like order processing and inventory updates.

IPC Prediction Jan 2024 - Apr 2024

- Built an NLP-based machine learning system to predict applicable IPC (Indian Penal Code) sections from unstructured crime descriptions using Python.
- Performed text preprocessing and feature extraction using TF-IDF Vectorization and Label Encoding to capture linguistic patterns.
- Trained and evaluated **Naive Bayes** and **Random Forest** classifiers, achieving an accuracy of **88.28%**.
- Automated preliminary legal text classification, reducing manual effort in IPC section identification.
- Published a patent recognizing the novelty of the IPC prediction approach and its application of machine learning to legal text analysis.

TECHNICAL SKILLS

Programming Languages: Python, C, C++
Backend Development: FastAPI, Pydantic, SQLAlchemy, REST APIs, Pytest
Data & Machine Learning: NumPy, Pandas, Matplotlib, NLTK
Databases: MySQL, PostgreSQL, MS SQL Server
Cloud Platforms: Microsoft Azure (App Service, Azure Functions, Service Bus, Event Hub, Logic Apps, API Management)
Certifications: Microsoft Azure Fundamentals (AZ-900)
Soft Skills: Problem Solving, Team Collaboration, Communication, Time Management