

Summary

Innovative Backend Developer specializing in scalable, production-grade applications with AI/ML integration. Expert in API architecture, database optimization, and cloud deployment using Python, FastAPI, SQL, and modern backend ecosystems. Proficient in PostgreSQL, MongoDB, NeonDB, and WebSocket-based real-time communication, with experience in JWT authentication, LLM integration (Google Gemini, Mistral, Qwen2.5-72B-Instruct), and asynchronous file processing. Strong in data structures, algorithms, and OOP principles, with DevOps expertise in AWS EC2.

Education

Bachelor of Technology in Computer Science and Engineering <i>Chaibasa Engineering College, Jharkhand</i>	2021 - 2025 CGPA – 8.35
Intermediate (Mathematics) <i>Jawahar Vidya Mandir, Ranchi</i>	2021 CGPA – 8.78

Skills

- **Programming Languages/Frameworks:** Python, FastAPI, SQL, Flutter, Java, Flask, HTML, CSS, JavaScript
- **Tools & Platforms:** Git, GitHub, AWS EC2, Postman, Docker, VS Code, MongoDB Atlas, HuggingFace , Microsoft Windows, GCP
- **Databases:** PostgreSQL, MongoDB, NeonDB, SQLite, Redis
- **Concepts:** API Development (REST/SOAP), RESTful API, JWT Authentication, Web Sockets, LLM Integration, OOPs, DBMS, DSA, File Processing, API Security, API Design, Web Protocols, JSON, API data formats, User authentication, Role based access control
- **AI/ML Tools & LLMs:** Google Gemini, Mistral, Qwen
- **DevOps:** API Deployment, Shell Scripting, Version Control

Internships

AI-ML Industrial Applications Intern <i>Ultra Max Technology</i>	Chaibasa, Jharkhand July 2023 – October 2023
<ul style="list-style-type: none">▪ Developed a Python-based Virtual Assistant with speech recognition and text-to-speech features using Speech Recognition, pyttsx3, and Google Speech API, enabling voice-controlled task execution.▪ Explored fundamentals of Artificial Intelligence and Machine Learning, including data preprocessing, model training, and evaluation and gained practical exposure to AI-driven application development.▪ Applied API integration for fetching live information (weather, news, etc.) and performing automated desktop tasks.	

Projects

AI Based Teaching Application <i>Full – Stack Web Application</i>	https://github.com/PiyushPratap10/ai_tutor July 2025 – Present
<ul style="list-style-type: none">▪ Designed and developed a full-stack AI tutoring platform using Flutter (frontend) and FastAPI (backend) with real-time WebSocket communication.▪ Implemented support for multiple LLM providers (Google Gemini, Mistral) with dynamic model selection, custom prompt engineering, and file-based course context processing.▪ Built secure user authentication and API key management with JWT and encrypted key storage.▪ Integrated asynchronous file handling and AI content extraction, enabling contextual, structured, and adaptive tutoring responses. Optimized backend for scalability using PostgreSQL (NeonDB) and SQLAlchemy.	
PsycheSense AI <i>Android Application</i>	https://github.com/PiyushPratap10/psychesense_ai April 2025 – June 2025
<ul style="list-style-type: none">▪ Developed an AI-powered emotional support app using Flutter for the frontend and FastAPI for backend services▪ Integrated Qwen2.5-72B-Instruct LLM (via HuggingFace) to provide dynamic, empathetic responses and daily emotion summaries. Implemented JWT authentication, Web Sockets, and CRUD operations with hybrid database systems (MongoDB Atlas + NeonDB). Deployed backend on AWS EC2, ensuring scalable and secure API endpoints.	

Certifications

- **Google AI Essentials** (<https://www.coursera.org/verify/8GJJHGPDNDXG>): Gained practical, beginner-friendly AI skills, including prompt engineering, ethical AI usage, and productivity enhancement through generative AI tools. Learned to apply AI for task automation, content generation, summarization, and informed decision-making, with a focus on bias mitigation and responsible deployment. Earned a Google-branded certificate upon completion.