

NEERAV BABEL

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PROFESSIONAL SUMMARY

Results-driven B.Tech Computer Science student (CGPA: 9.21/10) with 1 year of freelance experience delivering 10+ production-grade full-stack and AI/ML systems across SaaS, e-commerce, and logistics domains. Proficient in Python, JavaScript, REST API design, distributed systems, cloud deployment (AWS, Docker), and Agile/SDLC practices. IEEE-published researcher with a strong foundation in DSA, system design, and scalable architecture.

WORK EXPERIENCE

Freelance Backend & Full-Stack Developer

Jun 2025 – May 2026

SaaS, E-Commerce, Logistics | Part-time, Remote

- Engineered cloud-native REST APIs (FastAPI, Flask, Node.js) with JWT auth and RBAC across 10+ multi-tenant client systems, achieving 70% client repeat engagement and 30% faster third-party integration timelines.
- Deployed distributed systems on AWS using Docker and GitHub Actions CI/CD; optimized PostgreSQL and MongoDB schemas via targeted indexing, improving data retrieval speed by 35%.
- Performed code reviews and systematic debugging across client codebases, enforcing clean code standards that reduced post-deployment defects and improved long-term maintainability.

EDUCATION

Jain (Deemed-to-be) University

Aug 2023 – May 2027 (Expected)

B.Tech in Computer Science & Engineering | CGPA: 9.21/10 | Top 5% of CSE Department

Coursework: DSA, Operating Systems, DBMS, Distributed Systems, Machine Learning, Computer Networks, OOP, Scalable Architecture

TECHNICAL SKILLS

Languages	Python, JavaScript (ES6+), TypeScript, SQL, HTML5, CSS3
Frontend	React.js, Next.js, Tailwind CSS, Bootstrap
Backend & APIs	FastAPI, Flask, Node.js, ExpressJS, REST APIs, WebSockets, Microservices, RabbitMQ, Celery, asyncio, OAuth 2.0, Stripe, Razorpay
AI / ML & GenAI	PyTorch, YOLOv11, LangChain, RAG Pipelines, ChromaDB, RAGAS, scikit-learn, Hugging Face, Groq, OpenAI API, Anthropic API, Gemini API, Prompt Engineering, TensorFlow
Cloud & DevOps	AWS, Docker, Docker Compose, Kubernetes, GitHub Actions (CI/CD), Git, Vercel, Render, Azure
Databases	PostgreSQL, MongoDB, Redis, MySQL

PROJECTS

EcoStream AI — Smart AI Waste Management Platform

Feb – Apr 2026

PyTorch, YOLOv11, FastAPI, LangChain, ChromaDB, Groq/Llama-3.1, RAGAS, React, PostgreSQL | Team of 5 |

My role: YOLOv11 training, RAG pipeline, RAGAS benchmarking, predictive analytics

github.com/PrakashSh05/EcostreamAI-Smart-Waste-Management

- Trained YOLOv11 model (mAP50-95 = 0.6503, +2.8pp over YOLOv8); built LangChain + ChromaDB RAG pipeline with 0.92 faithfulness and 0.86 answer relevancy at 966 ms P95 latency across 50 concurrent users.
- Built a next-day waste forecasting engine for 4 Indian cities using exponential decay modeling and Gaussian KDE heatmaps, validated against a RAGAS-based hybrid-search evaluation suite achieving 89% forecast accuracy.

EchoQuery — Fault-Tolerant Distributed Task Engine

Oct – Nov 2025

Python, FastAPI, Redis, RabbitMQ, PostgreSQL, Kubernetes, Celery, asyncio |

github.com/Neerav02/EchoQuery

- Architected async task engine that decouples compute from the API layer, cutting latency by 40%; orchestrated the full stack on Kubernetes with auto-scaling Celery workers sustaining 99.99% uptime under production load.
- Applied Redis distributed locking to eliminate concurrent write conflicts and built a Dead Letter Queue with exponential backoff for zero data loss, verified across all service boundaries via a pytest test suite.

Waggy — High-Concurrency E-Commerce Platform

Jan – Apr 2025

Python, Flask, Node.js, MongoDB, TypeScript, Socket.IO, Stripe API, Groq AI, OAuth 2.0 |

waggy-pet-shop-ubkp.onrender.com (Live)

- Resolved critical server deadlocks by migrating to Gevent-backed WebSockets, achieving <50 ms real-time dashboard updates; integrated Stripe and Google OAuth, increasing simulated user retention by 40%.
- Automated customer support via a Groq LLM chatbot and SMTP pipeline, delivering 24/7 AI responses and cutting order confirmation delivery to under 2 seconds.

RESEARCH & PUBLICATIONS

Crypto Seer — ML-based financial time-series prediction pipeline. Published, IEEE OTCON 4.0, 2025.

([DOI LINK](#))

EcoStream AI — Co-author; contributed Performance Analysis and RAG Experimental Results sections.

(Under review)

ACHIEVEMENT & HACKATHONS

AtomQuest Hackathon 2026 — Top 10 Finalist out of 7,000+ registrations (national) | **Smart India Hackathon 2025** — Institutional representative, national government hackathon | **HackOn With Amazon 6.0** — Designed scalable cloud-native solution | **Agentic AI Hackathon 2026** — Built autonomous multi-agent AI system

CERTIFICATIONS

LangChain for LLM App Development — DeepLearning.AI, 2026 (100%) | **Fundamentals of LLMs** — Hugging Face, Jun 2026

Meta Full-Stack Developer — Coursera, 2025 | **Full Stack Web Development** — freeCodeCamp, 2025