

Piyush Kumar Pandey

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ABOUT

Proactive and research-driven Computer Science undergraduate with hands-on experience in deep learning, web app development, and AI-based application building. I am skilled in building scalable apps using Firebase and deploying LLM-integrated chatbots. Strong foundation in algorithms, software design, and cross-functional collaboration.

EDUCATION

IMS Engineering College B. Tech (CSE) - 8.92	July 2022 - July 2026
Delhi Public School Ghaziabad High School - 87%	July 2021 - July 2022
St. Joseph's Academy Secondary School - 97%	May 2019 - July 2020

EXPERIENCE

Undergraduate Student Researcher at Amity University, Noida (June 2024 - July 2024)

- Designed and implemented a custom CNN architecture using transfer learning and multi-head attention to classify biodegradable vs. non-biodegradable waste, achieving **95.12% accuracy** on a dataset of **76,000+ labeled images**.
- Deployed the model to a **real-time mobile application** using Flutter and TensorFlow Lite, enabling on-device inference for waste classification..- [Waste Classifier - GitHub](#)
- Published a peer-reviewed research paper based on this work in **IEEE Xplore**, detailing architecture, dataset, and deployment strategies. - [IEEE Publication](#)

TECHNICAL SKILLS

- Programming:** Data Structures and Algorithms, OOPS, DBMS, OS.
- Languages:** Java, C, Python, JavaScript, HTML, CSS, MySQL.
- Frameworks:** ReactJS (Library), Node Js, Express, Zod, Mongoose, MongoDB Atlas, Tailwind CSS, Bootstrap.
- Technologies:** Firebase, Pinecone, LangChain, LangGraph, Gemini, Google Maps API, FastAPI, tflite, Flutter (basic).
- Skills:** Deep Learning, Transfer Learning, RAG, LLM Integration, Agentic AI, APIs, Web Development, Git, GitHub.

PROJECTS

HerShield | Flutter, Dart, Google Maps API, RAG chatbot Mar 2024 - Apr 2024

- Engineered a women's safety app with features like safety indexing for localities based on crime data.
- Developed a community-assist mechanism to alert nearby users during reported emergencies using Google Maps API.
- Integrated a Retrieval-Augmented Generation (RAG) chatbot for guidance and emergency procedures.
- [GitHub-Hershield](#)

Bhagwat Gita Chatbot | Ollama, LangChain, Pinecone, Flask, Python, PDF parsing Dec 2024 - Jan 2025

- Built a semantic chatbot using Ollama + LangChain + Pinecone for contextual QA based on the Bhagavad Gita.
- Implemented PDF parsing and embeddings for philosophical query resolution with context-aware responses.
- Frontend implements Html/CSS on a web UI; handled 200+ test queries with 85%+ response relevancy.
- [GitHub-Chatbot](#)

LegalEdge AI | Python, Ollama, FastAPI, HTML/CSS/JS, PyMuPDF, LangChain, REST APIs May 2025 - June 2025

- Engineered a full-stack AI-driven platform for legal document generation, contract analysis, and compliance checks using Python and Ollama.
- Designed and implemented modular REST APIs with FastAPI, enabling scalable endpoints for LLM-powered legal tasks.
- Built a fully offline inference pipeline integrating local LLaMA models for secure, private prompt processing and document simplification.
- Developed a dynamic HTML/CSS/JS frontend for seamless interaction, and integrated PyMuPDF for PDF parsing and future document upload features.
- [LegalEdge AI](#)

ACHIEVEMENTS/CERTIFICATIONS

- 1st Prize** – IEEE Mega Project 7.0, Birla Institute of Technology (2025) - [Certificate](#)
- 1st Prize** – BugSense AI Bug Hunting, IMS UC Campus (2025) - [Certificate](#)
- 2nd Prize** – Hackmatrix Hackathon, IIT Patna (2024) - [Certificate](#)
- Certificate of Appreciation** – Walmart Sparkathon (2024) - [Certificate](#)
- Certified in Deep Learning** – NVIDIA (2024) - [Certificate](#)
- Certified in Python Programming** – IIT Madras Research Park - [Certificate](#)