

Priyanshu Kumar Singh

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SUMMARY

B.Tech CSE (AI Specialization) student with hands-on experience building LLM-based agents, retrieval-augmented generation pipelines, and computer-vision systems using LangChain, LangGraph, PyTorch, and FastAPI. Currently seeking AI/ML or software-engineering internships where I can apply my expertise in building scalable, production-ready AI solutions.

EDUCATION

Bennett University, Greater Noida, India
- CGPA **8.46** (6th Semester)

B.Tech CSE (AI Specialization)
August 2023 – August 2027 (Expected)

SKILLS

Programming Languages: Python, Java

Web Technologies: HTML, CSS, JavaScript

Frameworks & Libraries: LangChain, LangGraph, FastAPI, PyTorch, OpenCV, YOLO

Tools: Docker, GitHub, LangSmith, DVC, MLflow

Databases: MySQL, MongoDB, Pinecone

EXPERIENCE

LearnNex,
Remote

AI Engineering Intern
Dec. 2025 – Dec. 2025

- Developed two production-ready AI systems: a multi-domain stateful chatbot built with LangGraph, and a RAG-based document-intelligence system that summarizes and answers questions across multiple PDFs.
- Optimized inference pipelines, cutting average response latency by **68%** (from 2.5 s to 0.8 s) via FastAPI backends deployed in Docker and powered by Groq LLMs.

PROJECT EXPERIENCE

Weighing Scale Detection System – [GitHub Repo](#) | [Live Demo](#)

Jan 2026 – Aug 2026

End-to-end computer-vision pipeline for intelligent scale display detection.

- Curated and annotated a **custom dataset** with **Roboflow**, applying extensive **data-augmentation** techniques to improve model robustness and generalization.
- Fine-tuned **YOLOv8n** achieving **99.5% mAP@0.50**, **99.17% precision**, and **100% recall** on the validation set.
- Engineered a modular **training, evaluation, and batch inference pipeline** with **structured JSON reporting**.
- Designed a **primary scale-selection engine** using **multi-factor scoring** (area, centrality, confidence).
- Created an interactive **Streamlit web application** that supports **real-time detection** and downloadable outputs.

Smart Credit Orchestrator – AI Invoice-Collections Agent – [GitHub Repo](#) | [Live Demo](#)

May 2026 – Sept 2026

LangGraph-driven finance workflow for automated invoice follow-ups, tone escalation, and audit logging.

- Implemented an end-to-end **AI agent** with **LangGraph** using an **8-node StateGraph**, **two conditional edges**, and an automatic **two-attempt retry loop** for validation failures.
- Developed a **FastAPI** backend with **6 REST endpoints** and a **Streamlit** dashboard spanning **five pages** for invoice queuing, audit inspection, and live agent execution.
- Implemented **Pydantic** schema validation, **prompt-injection** detection, **PII masking**, and immutable JSON audit logs; shipped **20/20 passing tests** across escalation and validation modules.
- Integrated **Groq** and **LangChain** for tone-specific email generation across **four escalation stages**, including **legal flagging for invoices overdue by more than 30 days**.

AI Document Summarizer & Q&A System – [GitHub Repo](#) | [Live Demo](#)

Nov. 2025 – Dec. 2025

RAG-based document intelligence system for multi-document PDF summarization and Q&A.

- Developed an end-to-end RAG pipeline using LangChain, Pinecone vector database (384-dimensional), and Groq LLMs, achieving **fast inference** with context-grounded responses.
- Engineered a multi-document processing workflow that supports **batch PDF uploads** with recursive text chunking (with overlap), semantic search retrieval, and hallucination-minimized generation.
- Deployed the system with a drag-and-drop interface, real-time chat, and multiple summary modes (short, medium, detailed) hosted on Vercel and HuggingFace Spaces.

ACHIEVEMENTS

LeetCode: Solved **700+** problems focused on data structures and algorithms. ([Profile Link](#))

Open source contributor: Merged 6 PRs during **Hacktoberfest 2025** to repositories such as **TheAlgorithms/Java** and **sktime**, emphasizing testing and algorithm optimization. (Oct 2025)

Smart India Hackathon (SIH): Selected among the top **35** teams out of 300+ competitors in the first year of college. (Sept 2023)