

Abhishek

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Education

Indian Institute of Information Technology, Design and Manufacturing (IIITDM)
B.Tech in Artificial Intelligence & Data Science

Kurnool, AP

Expected May 2026

- **Relevant Coursework:** Data Structures & Algorithms, Machine Learning, Natural Language Processing, Computer Vision, Database Management Systems.

Experience

xFORM Solutions (Intern - AI Application Development)

May 2025 – July 2025

- Reduced data processing time by 11% by architecting a scalable backend using **Django REST Framework**.
- Boosted information retrieval speed from the company's catalog by 35% by integrating a **Retrieval-Augmented Generation (RAG)** model.
- Implemented a Speech-to-Text feature with a 98% word accuracy rate using the Assembly API, minimizing manual data entry (leveraging Gemini NLP).
- Secured all API endpoints by implementing **JWT-based token authentication**, eliminating unauthorized access vulnerabilities.

SkillCraft Technology (ML Intern)

Sept 2024 – Oct 2024

- Achieved 93% classification accuracy by developing a **Convolutional Neural Network (CNN)** trained on a dataset.
- Engineered a real-time gesture recognition system using **OpenCV**, processing video streams with an average latency of under 50ms.

Prodigy Infotech (ML Intern)

Aug 2024 – Aug 2024

- Improved classification model accuracy by 15% by implementing and fine-tuning **Support Vector Machine (SVM)** algorithms for predictive analysis tasks.

Projects

HackRx 6.0 — *Bajaj Finserv Hackathon*

[GITHUB](#)

- Built an end-to-end document Q&A pipeline using **RAG + FastAPI**, supporting multi-format inputs with an average query-ready turnaround time of ~14.5s.
- Optimized performance with concurrent processing (**ThreadPoolExecutor**) and **LRU caching**, achieving 3× faster throughput and reducing processing overhead by 60%.
- Integrated **OpenAI GPT-4o-mini** with **FAISS** for semantic retrieval and context-aware answering, optimizing 200K token batches for large-scale workloads.
- Developed structure-aware chunking and reranking algorithms, improving context preservation and answer relevance by 25% through optimized prompt engineering and LLM-based scoring.

SHOPNEX — *E-commerce Platform*

[GITHUB](#)

- Developed a comprehensive suite of RESTful APIs using **Django REST Framework** for product management, user authentication, and order processing.
- Optimized **MySQL** database queries and schema, resulting in a 19% reduction in average API response.
- Integrated the **Stripe API** to handle secure online transactions and manage payment states.
- Secured all endpoints with robust, **token-based authentication** and permission classes to protect user data.

SRR — *Song Recommender and Recognizer*

[GITHUB](#)

- Implemented an audio **fingerprinting algorithm** with **Shazam API** matching in under 5 seconds.
- Extracted key audio features like Chroma using the **Librosa** library for the content-based recommendation engine.
- Designed a **content-based filtering** algorithm to recommend songs from a library of over 50,000 tracks.

Achievements

- **Bajaj Finserv HackRx 6.0 (2025):** Ranked **76th (Top 0.16%)** among 46,000+ participants by developing an advanced RAG-based document Q&A system.
- **IEEE/CVF Winter Conference on Applications of Computer Vision (WACV):** Developed "PatchSAR" framework, outperforming SOTA by **10%** in 1-shot accuracy (87.12%) and improving open-set outlier rejection by **40%** (to 91.73%) on MSTAR datasets.

Skills

Languages

C, C++, SQL, Python, R, HTML, CSS, JavaScript

Frameworks/Libraries

Django REST, OpenCV, Pandas, NumPy, Scikit-learn, tensorflow, keras, FastAPI, LangChain

Tools

Power BI, DataGrip, Git, Postman, FAISS

Specializations

Machine Learning, NLP, Computer Vision, RAG, REST APIs

Coding Profile

- **LeetCode:** [abhishek_vimukt](#) Solved **200+** problems on Data Structures and Algorithms overall.