

Dhruv Maheshwari

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EDUCATION

PES University, Bengaluru

2027

Bachelor of Technology – **Computer Science and Engineering**

Prof. C. N. R. Rao **Scholarship** (40% tuition merit award); **4× Distinction Award**

EXPERIENCE

Technology Intern – AceNet Consulting

Jun – Aug 2026

Python · FastAPI · AWS Bedrock · LangChain

- Built the backend for **CFO Copilot**, a multi-agent financial analytics platform with **3 specialist agents** and **24 analysis modes** spanning macroeconomic, industry, and financial data.
- Designed LLM query routing and parallel orchestration with **20+ REST API endpoints** covering chat, specialist-agent reasoning, scenario analysis, source lookup, and tool-driven analysis.
- Engineered analytics over **100K+ government-sourced VAHAN records** and external data feeds, with source-linked confidence scoring and verification for auditable findings.

AI App Development Intern – xForm Solutions

Jun – Jul 2025

Python · Speech Recognition · Translation · Intent Classification

- Built a multilingual speech pipeline for code-switched English, Hindi, and Tamil, chaining ASR, translation, and semantic intent classification for Tier 2/3 city users.
- Benchmarked **150 Google FLEURS clips** across English, Hindi, and Tamil (**6.4% English CER**); added resampling, ASR correction, and an evaluation harness for repeatable comparisons.

PROJECTS

MusiConvert – Encrypted Peer-to-Peer Transfer

Python · UDP Sockets · Fernet · Multithreading

github.com/dhruvm-04/MusiConvert

- Built encrypted P2P playlist transfers with **Selective Repeat ARQ over UDP** (sliding windows, ACKs, retransmission timers) and fuzzy Spotify-to-YouTube Music track matching.
- Stress-tested **200-packet UDP streams** at up to **40% simulated packet loss**.

paraTile – Distributed Image Processing

Python · Apache Kafka · FastAPI · Pillow

github.com/dhruvm-04/paraTile

- Built a **12-partition Kafka** pipeline for distributed Gaussian blur and image inversion.
- Added **3-second heartbeats**, **10-second timeouts**, manual offset commits, and duplicate-tolerant aggregation.

pRAGma – RAG Pipeline & Retrieval Evaluation

Python · FastAPI · ChromaDB · FastEmbed

github.com/dhruvm-04/pRAGma

- Built a **Retrieval-Augmented Generation (RAG)** PDF pipeline with asynchronous ingestion, vector search, evidence-linked responses, and **5 query strategies**.
- Designed an **80-question offline evaluation set** across **8 reference documents**, including **16 unanswerable queries** to probe evidence retrieval and abstention.
- Exposed retrieved evidence, similarity scores, query traces, latency, and token usage for debugging.

aiCFO – Multi-Agent Financial Analysis

Python · LangGraph · Pydantic · Pandas

github.com/dhruvm-04/aiCFO

- Orchestrated parallel LangGraph agents over shared state, synthesizing CFO findings from **17 analytical tools** with Pydantic-validated recommendations.

SKILLS

Languages & DSA: Python, SQL (MySQL), Data Structures & Algorithms (DSA)

Backend & Systems: FastAPI, Uvicorn, REST APIs, Pydantic, Apache Kafka, Socket Programming

RAG & AI: Retrieval-Augmented Generation (RAG), ChromaDB, FastEmbed, LangChain, LangGraph, AWS Bedrock

Tools & Platforms: Docker, Kubernetes, Git/GitHub, Azure, Agno, Hugging Face, Pandas, Blender

ACHIEVEMENTS & LEADERSHIP

1st Place, PES Digital Twin & XR Hackathon 2026 ([demo](#)); **Head of Design**, Maaya 2025; taught 3D modeling to **~50** students.

Under Secretary General, MUNSoc PESUECC; led chassis design and fabrication for **Team Vegavath** (automotive club).

CERTIFICATIONS

[View credentials](#)

AWS Prompt Engineering Foundation (2025) · **IBM** Fundamentals of AI (2025) · **Google** IT Automation with Python (2023)