

Hirak Parekh

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EDUCATION

VIT Vellore, Tamil Nadu

B.Tech in CSE, Specialization in AI & ML

August 2023 – May 2027

CGPA: 8.15

National University of Singapore — Executive Education

December 2025 – January 2026

Applied ML with Gen AI & Big Data Analytics/Deep Learning programs (see Certifications)

- Prototyped a real-time audio-to-ASL pipeline (speech-to-text, gloss translation, avatar motion synthesis) using MediaPipe and Three.js

EXPERIENCE

Finsort Technologies

July 2026 – Sept 2026

Software Engineering Intern (Remote)

- Built an incremental OHLC data pipeline (Playwright) syncing live market data for Nifty 50 stocks, storing full history locally to minimize redundant fetches
- Implemented a full candlestick pattern recognition library (Doji, Three Soldiers, Evening Star, and others) with cross-stock pattern search
- Architected toward a notification and auto-trade system for confirmed pattern signals

Coders Boutique Pvt Ltd

May 2026 – July 2026

Jr. Software Engineer (Remote)

- Built and evaluated two candidate architectures for a RAG-based knowledge system ingesting meeting transcripts, GitHub, and Slack data into a custom node-based tree with LLM-driven traversal and automatic ClickUp task generation
- Wrote BDD test suites and built a resume-parsing service normalizing arbitrary resume formats into structured JSON for an HR dashboard
- Built AI-driven internal tools (Gmail-integrated email classifier, Telegram inbox-query bot) using Hermes Agent

PROJECTS

Threadline — Communication Knowledge Graph Platform (*Nominated Best Project, Top 10/880 — VIT Vellore*)

- Designed a custom RAG architecture that cuts per-question LLM cost by 50% (1 call vs. industry-standard vector-RAG's 2 calls, no separate embedding step) by using a single knowledge graph as both the answer engine and a browsable UI, letting users self-serve simple lookups without invoking the model at all
- No separate vector DB: one graph structure serves queries and renders as a navigable tree, collapsing two-system RAG architecture into one
- Built a deterministic keyword-guardrail that independently audits every LLM classification against a fixed schema, catching hallucinated categories before they corrupt the graph

Vatavaran — Intelligent Predictive Climate Control System

- Built an intelligent climate-control system that predicts future indoor temperature, understands natural-language comfort preferences, and proactively controls an AC to maintain the desired environment
- Trained an LSTM-based time-series forecasting model on 1.49M+ IoT sensor readings, incorporating live weather data to predict indoor temperature with 0.83°C MAE, 1.11°C RMSE, and 0.92 R²
- Developed an NLP-driven control layer and integrated an IR blaster for physical AC control, enabling automated HVAC actuation based on predicted temperature and user comfort preferences

NeuroSense — Multimodal Parkinson's Disease Screening System

- Built an AI-driven screening platform that analyzes voice recordings, handwriting/spiral drawings, and MRI scans to independently estimate Parkinson's disease risk and visualize modality-specific predictions
- Developed three independent ML pipelines using CNNs, XGBoost, SVM, and Random Forest, achieving 90%+ accuracy on modality-specific classification tasks and 81% ROC-AUC for the screening system
- Implemented a locally hosted end-to-end web application with probability-based risk scoring, confidence visualization, and late-fusion multimodal prediction when voice, handwriting, and MRI inputs are all available

TECHNICAL SKILLS

Programming: Python, Java, REST API, Databases, SQL, BDD Testing

Machine Learning: Scikit-learn, PyTorch, TensorFlow, NLP

Data Analysis: Matplotlib, Seaborn, NumPy, Pandas

AI Systems & Automation: Hermes Agent, RAG, Playwright, Slack/ClickUp/Telegram/GitHub

CERTIFICATIONS

NUS: Executive Education — Applied ML with Gen AI (Distinction); Big Data Analytics & Deep Learning (Merit)

Udemy: NLP: Natural Language Processing with Python (Instructor: Jose Portilla)

Anthropic: AI Fluency: Framework & Foundations; Claude 101