

SAMIR MODE

Mumbai, Maharashtra, India

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Education

Veermata Jijabai Technological Institute

Aug 2023 – May 2027

Bachelor of Technology in Electronics and Telecommunications, CGPA: 8.55

Mumbai

Indian Institute of Technology, Madras

Jan 2024 – May 2027

Bachelor of Science in Data Science and Applications, CGPA-7.19

Chennai(Remote)

Relevant Coursework

- Object Oriented Programming
- Database Management Systems
- Operating Systems
- Data Structures & Algorithms
- Data Analysis

Projects

NEP Timetable Generator (SIH) | React.js, FastAPI, Supabase (PostgreSQL), DEAP

Aug 2025

- Built a constraint-driven timetable generation engine using Genetic Algorithms (DEAP) for NEP-compliant scheduling.
- Designed a fitness function minimizing clashes, resource overload, and student idle time.
- Implemented a population-based optimization pipeline with crossover, mutation, and tournament selection.
- Integrated FastAPI backend with Supabase to fetch academic data and store optimized schedules.
- Reduced scheduling time by over 95%, generating complete timetables within minutes.

Portfolio Backtesting Engine | Python, Pandas, NumPy, OOP

June 2025

- Built an object-oriented Python tool to backtest asset allocation strategies using historical market data.
- Designed classes for **Asset** and **Portfolio** to compute returns, volatility, and risk-adjusted performance.
- Implemented key performance metrics such as Sharpe Ratio, Max Drawdown, and annualized returns.
- Optimized computations using vectorized operations for faster multi-asset simulations.

LLM Based Automation Agent – TDS IIT Madras | Python, LLM Models, API, SQLite

- Automation Agent for CI Pipeline Integration.
- Designed and implemented an automation agent to parse and execute plain-English tasks, leveraging GPT-4o-Mini for deterministic processing.
- Automated 10 operational tasks, including data generation, file formatting, date counting, JSON sorting, log processing, Markdown indexing, and data extraction using LLMs and embeddings.
- Developed RESTful API endpoints (/run and /read) for task execution and output verification.

Technical Skills

Languages: Python, C++, HTML, SQL

Tools / Platforms: Git, Google Colab, VS Code, MS Excel, Google Sheets, Power BI

Libraries/Frameworks: NumPy, Pandas

Databases: PostgreSQL, SQLite, MongoDB

Achievements

Awarded the prestigious FBHMF Scholarship by **Federal Bank** — a 4 lakh grant awarded over 4 years to only 476 students across India.

Secured AIR 8984 in **JEE Advanced 2023**, conducted by **IIT Guwahati** – among the top 2% of over 1.9 lakh candidates nationwide.

Positions of Responsibility

Community of Coders

April 2025

Volunteer – CodeHunt Coding Event

VJTI

- Assisted in event coordination, team registration, and smooth execution of multiple coding rounds.
- Helped manage logistics, resolve participant queries, and ensure adherence to event timelines.
- Provided technical assistance to participants by resolving coding doubts related to syntax, logic errors, and language-specific issues in real time.