

# Vidisha Chirag Sodha

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## SKILLS

- **Languages:** Python, Java, JavaScript
- **Backend & APIs:** REST API Design, FastAPI, Flask, Node.js, Express
- **Databases:** PostgreSQL, MySQL, MongoDB, SQL
- **System & Infrastructure:** Docker, AWS, Linux, Git, CI/CD
- **Core CS:** Data Structures & Algorithms, Object-Oriented Design, Concurrency, Operating Systems
- **Data & AI:** Pandas, NumPy, Scikit-learn, LLM APIs

## EDUCATION

### Master of Computer Science

Purdue University

Jan 2024 - Dec 2025

Indiana, USA

Coursework: Algorithm, Database Systems, Game Design Core Skills, Heuristic Problem Solving, Human Computer Interface, Machine Learning, Operating Systems, Software Design, Software Engineering, Web Development

### Bachelor in Electronics and Communication

G H Patel College of Engineering & Technology

2019 - 2023

Gujarat, India

## WORK EXPERIENCE

### Bitmechanix Solutions, Ahmedabad, Gujarat, India

Engineering Intern

Jan 2023 - April 2023

- Studied existing simulation and engineering workflows by reviewing execution steps and data dependencies to identify inefficiencies and repetitive processing.
- Assisted in improving workflow efficiency by restructuring processing stages and organizing data handling logic, reducing manual intervention.
- Developed simple automation scripts and execution routines to improve consistency and repeatability of simulation runs.
- Tracked runtime and operational metrics to evaluate the impact of workflow changes, contributing to an estimated 14.5 hours/week reduction in processing time and 9.5% operational cost reduction.
- Collaborated with engineers to validate results, debug issues, and document improvements, supporting reliable engineering processes.

### AceSoftex, Rajkot, Gujarat, India

Developer Intern

June 2022 - July 2022

- Supported application development by implementing small feature updates and bug fixes using JavaScript, Node.js, and MySQL.
- Assisted in testing backend APIs to identify basic performance issues and error cases.
- Improved reliability by adding input checks and handling simple edge cases, reducing errors during testing.
- Participated in team discussions and code reviews to learn development workflows and best practices.

## PROJECTS

### Market Data Integration, Analytics & Altering Platform | Python, REST APIs, PostgreSQL, Docker

- Built APIs to ingest simulated market data with schema validation and rate limiting.
- Designed a time-series data model with indexed symbol-timestamp queries for analytics.
- Implemented rolling averages, price deltas, and volatility metrics over configurable time windows.
- Added threshold-based alerting to detect abnormal price and volatility changes.
- Improved stability by separating ingestion and analytics using background processing.

### AI Chatbot | Python, Flask, SQLite, Docker, Ollama

- Built a stateful chatbot backend with persistent multi-session storage.
- Implemented conversation lifecycle management by modeling chats and messages explicitly.
- Designed a provider-agnostic LLM interface supporting local, mock and external providers.
- Deployed a containerized application with a publicly accessible UI.
- <https://ai-chatbot-flask-5p5h.onrender.com/ui> (UI uses mock LLM)

## ADDITIONAL PROJECTS

**AI-Powered Partner Data Validator:** Validated uploaded datasets using FASTAPI schemas and structured error reporting.

**Collaborative Code Editor:** Built real-time collaboration using WebSockets with session recovery logic.

**ExpenTrack:** Developed a full-stack expense tracking application using RESTful APIs, MongoDB data models and React dashboards to analyze financial transactions.

**Exoplanet Detection using Machine Learning:** Built an ML classification pipeline on Kepler flux data (~3,000 features) using SMOTE for class imbalance, trained multiple models (SVM, Logistic Regression, Neural Networks, XGBoost)