

# HEET MEHTA

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## SUMMARY

Aspiring software engineer with strong foundation in full-stack development, machine learning, and data analytics. Proficient in designing scalable systems, building interactive interfaces, and deploying cloud applications. Experienced with Python, JavaScript, React.js, FastAPI, Kafka, and AWS.

## EDUCATION

New York University, Tandon School of Engineering	September 2025-May 2027 (Expected)
Masters in Computer Science	Brooklyn, New York
Courses: Software Engineering, Design & Analysis of Algorithms, Machine Learning	
Vellore Institute of Technology	September 2021-June 2025
Bachelor of Technology in Information Technology	Tamil Nadu, India
GPA: 9.14/10	

## EXPERIENCE

Bhabha Atomic Research Centre (BARC)	December 2024-May 2025
Project Intern	Mumbai, India
<ul style="list-style-type: none"><li>Built BLE-driven real-time visitor monitoring solution using <b>Python</b>, <b>BlueZ</b>, and multithreaded <b>socket programming</b> to monitor 500+ Bluetooth devices in real time.</li><li>Implemented <b>RSSI-based trilateration algorithms</b> for indoor positioning, leveraging <b>NumPy</b>, <b>SciPy</b>, and <b>Kalman filtering</b> to achieve 1-meter accuracy.</li></ul>	
Encardio Rite	May 2024 - August 2024
Software Development Intern	Lucknow, India
<ul style="list-style-type: none"><li>Built <b>machine learning-powered infrastructure diagnostics tool</b> using <b>Python</b>, <b>Scikit-learn</b>, and <b>AWS Lambda</b> for bridges, tunnels, and dams, reducing critical failures by 40%.</li><li>Integrated sensor data from 20+ geotechnical monitoring systems via <b>MQTT</b> and <b>AWS IoT Core</b>, with real-time dashboards using <b>Plotly</b>, <b>D3.js</b>, and <b>CloudWatch</b>.</li></ul>	

## PROJECTS

### SentryFlow - Real-Time API Rate Limiting & Usage Analytics 🔒

- Built production-grade platform using **FastAPI**, **Redis**, **Kafka**, and **ClickHouse** to enforce dynamic rate limiting and collect API usage metrics at scale.
- Designed token bucket and sliding window algorithms with **JWT-based authentication**, API key provisioning, and streaming event ingestion pipeline.
- Developed performant frontend with **React.js**, **Tailwind CSS**, and **Chart.js** to visualize live API usage and quota exhaustion.

### InsightBoard - B2B Product Telemetry & Funnel Analytics Platform 🔒

- Engineered Mixpanel-style analytics system to track feature usage, retention, and engagement using **React**, **React DnD**, **Zustand**, and custom dashboard builders.
- Developed lightweight **JavaScript SDK** for event batching and offline persistence, integrated with **FastAPI** backend and **PostgreSQL**.
- Enabled high-speed querying of time-series data via **ClickHouse**, with **Kafka consumers** for ETL and role-based access using **Firestore Auth**.

## PUBLICATIONS

IEEE Xplore: Applications of Machine Learning in Detecting Unethical Sources of Raw Materials in Supply Chains in the Cosmetic Industry 🔒
Conference: 4th International Conference on Sustainable Expert Systems (ICSSES 2024)

## SKILLS

Languages	Python, Java, JavaScript, TypeScript, C, C++, SQL
Frameworks	FastAPI, React.js, Zustand, React DnD, Scikit-learn, Pandas, Chart.js, Tailwind CSS
Tools	Docker, Kafka, Redis, ClickHouse, PostgreSQL, Git, Firebase, Postman, VS Code
Cloud	AWS (Lambda, IoT Core, CloudWatch), GitHub Actions, Google Cloud
Domains	Full-Stack Development, Data Pipelines, System Design, Product Analytics, API Management, ML