HEET MEHTA

New York City, NY

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EDUCATION

New York University, Tandon School of Engineering   **Sep 2025 – May 2027**
Master of Science in Computer Science   *Brooklyn, NY*
Courses: Software Engineering, Design & Analysis of Algorithms, Machine Learning

Vellore Institute of Technology   **Sep 2021 – Jun 2025**
Bachelor of Technology in Information Technology, **GPA: 9.14/10**   *Tamil Nadu, India*
Courses: Data Structures and Algorithms, Operating Systems, Machine Learning, Deep Learning,
Database Management,Computer Networks, Data Science, Artificial Intelligence, Cloud Computing

SKILLS

Languages : Python, Java, JavaScript, Rust, TypeScript, C, C++, C#, Go, R, SQL, HTML, CSS
Frameworks / Libraries : FastAPI, React.js, UNIX/LINUX Environment, Zustand, TensorFlow, Angular, PyTorch,
Scikit-learn, Pandas, Chart.js, Tailwind CSS, Natural Language Processing (NLTK, spaCy, Transformers)
Cloud / Databases : PostgreSQL, Google Cloud, NoSQL (Firebase, MongoDB), AWS (Lambda, IoT Core, CloudWatch)
Software Tools / Utilities : Docker, Kubernetes, Kafka, Redis, ClickHouse, GitHub, Postman, Agile, Power BI, Tableau

EXPERIENCE

NYU Secure Systems Lab | Member ↗   **Sep 2025 – Present**
- Wrote the **Lind Project Documentation**, supporting Prof. Justin Cappos in developing secure multi-program execution via cages and 3i interfaces.
- Enhanced documentation for **Lind-NaCl** and **RustPOSIX**, clarifying architecture and debugging methodologies, shortening issue resolution time for researchers by **20%** through effective troubleshooting.
- Streamlined setup, testing, and profiling workflows, reducing developer onboarding time by **1 hour** and limiting documentation gaps.

Bhabha Atomic Research Centre | Project Intern ↗   **Dec 2024 – May 2025**
- Built **BLE-driven real-time visitor monitoring solution** using Python, BlueZ, and multithreaded sockets, monitoring **500+ devices**.
- Implemented **RSSI-based trilateration** with **NumPy**, **SciPy**, and **Kalman filtering**, achieving indoor positioning with **1-meter accuracy**.
- Developed automated testing scripts to simulate large-scale BLE environments, lowering evaluation time by **30%**.

Encardio Rite | Software Development Intern ↗   **May 2024 – Aug 2024**
- Engineered a **ML-powered infrastructure diagnostics tool** built with Python, Scikit-learn, and AWS Lambda, decreasing critical failures by **40%**.
- Integrated sensor data from **20+ monitoring systems** via **MQTT** and **AWS IoT Core**, with real-time dashboards in **Plotly/D3.js**.
- Designed preprocessing pipelines, applying targeted optimization strategies improving fault detection accuracy by **20%**.

PROJECTS

SentryFlow – Real-Time API Rate Limiting & Usage Analytics | FastAPI, Redis, Kafka, System Design ↗   **2025**
- Deployed a production-grade platform with FastAPI, Redis, Kafka, and ClickHouse and Cloud Infrastructure on AWS to enforce rate limits, supporting more than **1000 API requests/day**.
- Created a token bucket & sliding window algorithms with **JWT authentication, API key provisioning**, and event ingestion pipeline, ensuring $< 100ms$ **latency** under load.
- Constructed an interactive React.js frontend with **Tailwind CSS** and **Chart.js** for real-time visualization of API usage,increasing monitoring efficiency for developers by **30%**.

Eco-Nexus – AI-Driven Sustainable Procurement Platform | Next.js, TypeScript, Node.js, Solana, Snowflake ↗   **2025**
- Developed an **AI multi-agent negotiation engine** automating procurement scoring across **30+ supplier proposals**, improving decision accuracy by **25%** with explainable evaluation of cost, delivery efficiency, and carbon impact.
- Executed **real-time negotiation and analytics** powered by Socket.io, enabling seamless concurrent interactions for **50+ simulated buyer–seller sessions** with consistent state sync and sub-second updates.
- Implemented **Solana Web3** and **Snowflake ML analytics**, reducing transaction verification time by **35%** and contributing to **3rd Place Sustainability** and **MLH Best Usage of Snowflake** at HackNYU 2026.

PUBLICATIONS

- Published *"Applications of Machine Learning in Detecting Unethical Sources of Raw Materials in Supply Chains in the Cosmetic Industry"* at **ICSES 2024, IEEE Xplore.** ↗

LEADERSHIP & SOCIAL IMPACT

- **Finance Head at Becoming I Foundation** ↗, managing a 120-member team, ensuring accurate budgeting,increasing financial support for underprivileged students and conducting computer literacy programs for underprivileged students.