Last Updated: July 29, 2025

Education

B.Tech in Computer Science (Honors)

- *Minors: Entrepreneurship — Specialization: Artificial Intelligence and Machine Learning*
- *Current CGPA: 9.67/10*

Experience

Hybrid

Jun 2025 – Current

- Designed and co-developed the **entire backend architecture** of a **Flask–React lead management system**, including **RBAC-based role handling** and **SHA256+OTP authentication** for 3 user types (Admin, Vendor, Agent).
- Engineered **modular REST APIs** for authentication, leads tracking, form creation, agent assigning, vendor analytics, and lead routing; reduced manual assignment effort by **40%**.
- Outlined and implemented the full **Database architecture** using SQLAlchemy ORM; deployed on **VPS with MySQL, SMTP**, and production-grade rate-limiting and request validation.

Skills: System Design, Flask, MySQL, SQLAlchemy, SMTP, OTP, RBAC, REST APIs, Real-Time Systems, VPS Deployment

Remote

Oct 2024 – Apr 2025

- Designed and trained **30+ deep learning model variants** to classify oral and ear scan videos for a public health screening of **1M+ children**.
- Used **MobileNetV2, ResNet, and LSTM architectures**, achieving **85%+ accuracy** through data augmentation and cross-validation.
- Extended work was on model efficiency using **minLSTM/minGRU** and improved clarity through targeted **Roboflow annotations**.

Skills: Deep Neural Networks, TensorFlow, Keras, OpenCV, Roboflow, Cross-Validation, Data Augmentation

Remote

Mar 2024 – Sep 2024

- Collaborated on a **Java-based CNN implementation**, initially inspired by LeNet-5, under strict no-library constraints.
- Contributed to building **100+ NumPy-style functions** covering tensor ops, shape logic, and end-to-end testing with JTest.
- Implemented complex ML concepts including **backpropagation**, **axis manipulation**, and **broadcasting** from scratch.

Skills: Neural Networks, Java, Custom Algorithms, Machine Learning, Lambda Expressions

Projects

Jun 2023 – Jul 2023

- **Created** a GUI tool to *cross-check* **3,500+ invoices** using **HSN Codes**.
- **Integrated Apache POI** to export data into *Excel*, enabling *easy access* to records.
- **Packaged** the application using **Launch4J** for deployment.

Feb 2022 – Jan 2023

- **Programmed C on Arduino** to perform *metal detection* and waste sensing with **80% accuracy**.
- **Enhanced** control precision, achieving *real-time feedback* and response times under *3.5 seconds*.

Technical Skills

Languages: Java, Python, C, HTML, CSS, SQL
Tools: GitHub, Jupyter NoteBook, IntelliJ, VS Code, Eclipse, PyCharm, Postman, pgAdmin
Cloud + Hosting: PythonAnywhere, Vercel, GCP, AWS, Render, Leapcell