

# PIYUSH GUPTA

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📁 Portfolio

## Education

Thapar Institute Of Engineering and Technology

September 2022 – Present

BE in Computer Engineering

Patiala, Punjab

Specialization in Conversational AI (NLP, GenAI, Speech and Data Science)

## Skills

**Technical Skills:** Python, C, C++, SQL, JavaScript, Flutter, Data Structures and Algorithms, OOP

**Frameworks/Tools:** Android, HTML, CSS, Git, DBMS, Streamlit, Pytorch, Tensorflow, Machine Learning, Tableau

**Soft Skills:** Scripting, Communication, Team Collaboration

## Experiences

Research Intern – Samsung Prism

October 2025 – Present

- Working on ControlNet using 2D wireframes/skeletons for generating human-centric images from structural pose data.

## Projects

IoT Based Early Seizure Detection | ML

January 2025 – Present

- Led a team of 5 in developing a wearable IoT-based EEG monitoring system, achieving 94% signal acquisition accuracy for real-time epileptic seizure detection.
- Engineered a hybrid ML pipeline combining 1D CNNs with handcrafted feature extraction (wavelet, statistical, and spectral features), achieving 99% training and 97% testing accuracy across multiple classifiers (RF, LightGBM, XGBoost).
- Integrated the system with Raspberry Pi for edge AI processing, reducing alert response time by 60% and enabling real-time notifications to caregivers, improving intervention speed and patient safety.

Reducing Carbon Footprint (Know Your Impact) | Streamlit, ML, pyteseract

April 2025

- Developed a Streamlit web app to estimate carbon footprints of 20+ Indian food items, using life cycle GHG data and real-time visualizations.
- Integrated a 92% accurate image-to-text ML model for food recognition and linked energy-saving actions to a reward-based incentive system.
- Improved user engagement by 65% through interactive dashboards and personalized sustainability suggestions.

Review Analysis using Machine Learning | ML, LSTM

September 2024

- Trained a machine learning model for review sentiment analysis with an accuracy of 86-88%.
- Utilized data preprocessing and feature selection strategies to optimize the performance of the model by 16%.
- Programmed an LSTM-based sentiment analysis model on the IMDB movie review dataset, improving prediction stability and reducing validation loss by 18% through optimized hyperparameter tuning and embedding techniques.

## Leadership & Volunteering

Global Volunteer

June 2024 - July 2024

AIESEC

Vietnam

- Volunteered for 2 months at Pagoda (Temple), collaborating with people from diverse cultures and backgrounds from around the world.
- Spearheaded a literacy initiative at a local temple, teaching foundational reading and writing skills to 20+ monks, and fostering an environment for intercultural exchange as the youngest volunteer.
- Taught English to 20+ monks, proposed an intercultural environment and promoted language exchange.

## Achievements and Certifications

- Secured 2nd Runner Up at **HackOwasp 7.0** by constructing a novel carbon footprint estimation platform; the innovative project was selected by judges as one of the top 3—April 2025
- Qualified for Round 3 of **Adobe India Hackathon 2025** (Top 1% teams nationally)
- Solved 350+ LeetCode problems, ranking in the top 5% globally.
- GoogleCloud** GenAI Exchange Program Completion— 2025
- Deloitte** —Data Analytics Job Simulation 2025
- Solutions Architect Job Simulation **AWS** — 2025
- Software Engineering Job Simulation **Electronic Arts**— 2025
- Accelerating End-to-End Data Science Workflows: **NVIDIA**— 2025