

Aayush Chauhan

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PROFESSIONAL SUMMARY

Results-driven **Machine Learning Engineer** with expertise in **Deep Learning, Computer Vision, and NLP**. Built and deployed ML pipelines — from ensemble models with **99.76% accuracy** to **LLM-powered enterprise agents**. Skilled at turning complex data into actionable insights that drive measurable impact.

EDUCATION

Faculty of Technology, University of Delhi

Delhi, India

Bachelor of Technology in Electronics and Communication Engineering

Expected May 2027

Minor in Artificial Intelligence & Machine Learning

CGPA: 8.50 / 10.00

Relevant Coursework: Deep Learning, Signal & Image Processing, Data Analytics, Probability & Statistics

TECHNICAL SKILLS

- **Languages:** Python, C++, SQL, HTML/CSS
- **ML/DL Frameworks:** PyTorch, TensorFlow, Scikit-learn, OpenCV, Hugging Face Transformers
- **Data Science & Visualization:** Pandas, NumPy, Matplotlib, Seaborn
- **Platforms & Tools:** Git, Flask, Streamlit, REST APIs, Google Cloud (Vertex AI)
- **Engineering Simulation:** MATLAB, Simulink, CST Studio Suite, Ansys HFSS

PROJECTS

SAM AI – Smart Shopping Assistant [\[GitHub\]](#)

Python, FastAPI, LLM, NLP, TTS/STT, Fuzzy Matching

Developed the core backend for an **AI-powered shopping assistant** with features like intelligent product search and recommendation, fuzzy matching, sustainable alternatives recommendation, recipe suggestions, and LLM-based intent recognition. Integrated text-to-speech and speech-to-text for a fully voice-interactive experience.

HaritaX – Plant Disease Classifier [\[GitHub\]](#)

PyTorch, TensorFlow, CNN, Vision Transformer

Engineered a novel deep ensemble model combining VGG16, ResNet50, ViT, and Swin Transformer with feature-level fusion. Achieved **99.76% accuracy** on the PlantVillage dataset, outperforming state-of-the-art benchmarks.

Saferoad AI – Real-Time Accident Detection [\[GitHub\]](#)

YOLOv8, OpenCV, Computer Vision

Developed and trained a YOLOv8 model on a custom video dataset for real-time crash detection from live CCTV feeds. Integrated OLA Maps API to automatically dispatch alerts to nearby hospitals, aiming to reduce emergency response times.

Finance Assistant Bot – Stock Analyst AI Agent [\[GitHub\]](#)

LLM, LLaMA 3.1, Groq API, Streamlit

Architected a financial chatbot using LLaMA 3.1-70B and the Groq API to provide real-time stock analysis and recommendations. Automated fundamental analysis, achieving **85% accuracy** in stock assessments and cutting user research time by over **50%**.

RESEARCH & PUBLICATION

Cracking the Code of Spotify Hits

Paper under review

Analyzed 40,000+ tracks to predict song popularity. Engineered features using PCA and optimized a Random Forest model to achieve **83.17% prediction accuracy**, demonstrating the critical impact of temporal data segmentation.

ACHIEVEMENTS & CERTIFICATIONS

- **Hackathon Winner:** Awarded for the 'Saferoad AI' project at **D3 Hackathon, Amity University, Noida**
- **NITORI Scholarship (2024-25):** Awarded by the University of Delhi for outstanding academic excellence.
- **Machine Learning Specialization:** Stanford University (Coursera)
- **Computer Vision & Python for DS/AI Certifications:** IBM (Coursera)