Aarav Asthana

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Profile

I'm a final-year B.Tech (Hons.) student specializing in AI and Machine Learning, passionate about building smart, impactful solutions. With a solid grasp of machine learning, deep learning, and full-stack development, I've worked on real-world projects and participated in hackathons that sharpened both my technical and collaborative skills. I'm excited to bring this experience to a team where I can keep learning and contribute meaningfully to cutting-edge AI innovations.

Skills

Programming & Scripting
C, C++, Python, JavaScript

Machine Learning & Deep Learning
TensorFlow, Keras, Scikit-learn, OpenCV

Data Science & Analytics
Pandas, NumPy, SciPy, Matplotlib, Excel

Backend & API Development
Flask, Celery

Frontend & Web Technologies
HTML, CSS, JavaScript

Database Management
MySQL, MongoDB, Prisma

Professional Experience

Software Intern 2025/01 – 2025/02
Edunet Foundation
- Develop AI models for sustainability, focusing on **plastic waste classification.**
- Work with CNN models for image recognition and deep learning applications. Use **Python, TensorFlow/Keras,** and **OpenCV** for data analysis.
- Collaborate with mentors to improve AI and analytical skills. Present findings through reports and documentation.

Smart India Hackathon 2024 Finalist 2024/09 – 2024/12
Government of NCT of Delhi Noida, India
- Designed and deployed an AI-powered forecasting model using Python, leveraging **gradient boosting techniques and time series analysis** to optimize electricity demand prediction.

Summer Intern 2024/07 – 2024/07
Digital Green Pvt. Ltd. Bengaluru, India
- Worked on content categorization and auto-description generation.
- Developed an API model using Python, Flask, Celery, and Docker.
- Gained hands-on experience with Python libraries like OpenAI, Whisper, Pydub, yt-dlp, and others.

Projects

Ai based model for Electricity Demand Projection
- Developed and deployed an **AI-driven time series forecasting model** using **S-ARIMA and Gradient Boosting Machines (GBM)** to predict daily electricity demand in the Delhi-NCR region.
- Implemented **feature engineering** techniques along with historical trend analysis to improve prediction accuracy.

Auto Categorization and Description Generation
- Built an **NLP-based content categorization API** using **Flask, Celery, and OpenAI's Whisper** to automate content tagging and summarization.
- Deployed the model on a cloud-based architecture, integrating **Docker for containerization** and **Redis for task queuing**.

CNN Model for Plastic Waste Identification
- Developed a **Convolutional Neural Network (CNN)** using **TensorFlow and Keras** to classify plastic waste into multiple categories.
- Applied **OpenCV for image preprocessing** and applied **data augmentation and transfer learning** to enhance model performance..
- Achieved **95% classification accuracy** on the test dataset.

Carbon Footprint Tracker
- Designed and built a **carbon footprint tracking system** using **TypeScript, Prisma, and JavaScript**.
- Developed a **user-friendly dashboard** for tracking progress and behavioral insights.

Certificates

Design and Analysis of Algorithms
By NPTEL

Machine Learning with Python
By IBM & Coursera

Education

B.Tech Hons. in Computer Science and Engineering (AI & ML) 2022 – 2026
Manipal University Jaipur Jaipur, India
CGPA: 7.78 (till 5th Semester)

Class 12th CBSE 2021 – 2022
Timpany Senior Secondary School Vishakhapatnam, India
Percentage: 77%

Class 10th (CBSE) 2019 – 2020
G.D. Goenka Public School Patna, India
Percentage: 91%