Sahil Raj Patel

Roorkee, Uttarakhand • sahilrajpatel1.7@gmail.com • +91-9835388863
sahilrajpatel07.vercel.app • linkedin.com/in/sahil-raj-patel-2357a8360 • github.com/sahilrajpatel

Professional Summary

AI & Data Science undergraduate with hands-on experience in Machine Learning, Deep Learning, Computer Vision, and AI-driven surveillance systems. Built predictive models achieving 95% accuracy and reduced downtime by 20%. Skilled in CNN, facial recognition, object tracking, recommendation systems, and end-to-end ML deployment using Flask REST APIs and Docker.

Education

B.Tech – CSE (Data Science), Haridwar University 2023–2027
CGPA: 8.2/10
Class 12: 81% Class 10: 80%

Technical Skills

Languages: Python, C, SQL
Machine Learning: Regression, Classification, Clustering, Recommendation Systems, Collaborative Filtering, Cosine Similarity, Feature Engineering, Cross-Validation, Model Optimization
Deep Learning: CNN, Transfer Learning, Image Classification
Computer Vision: OpenCV, YOLOv8, Face Recognition, Object Tracking
Embedded Systems: Arduino, Servo Motors, Microcontrollers
Frameworks: TensorFlow, PyTorch, Scikit-learn, Pandas, NumPy
Deployment: Flask, REST APIs, Docker
Tools: Git, GitHub, VS Code, Jupyter Notebook, Google Colab
Cloud: Google Cloud Platform (Basic)

Experience

Data Science Summer Intern June 2025 – July 2025
CertED Technologies – Haridwar University
- Built and evaluated ML models for predictive analytics achieving 90%+ accuracy.
- Applied cross-validation and hyperparameter tuning improving performance by 12%.
- Performed data preprocessing and feature engineering.
- Deployed ML models using Flask REST APIs and Docker containers.

Projects

AI-Based Autonomous Face Tracking & Target Locking System *2nd Position – TECHSANGRAM 2025*
- Designed defense-oriented AI surveillance system using facial credential authentication for authorized target identification.
- Trained face recognition model using OpenCV-based feature encoding achieving 94% accuracy.
- Integrated YOLOv8 for real-time object detection and tracking (30 FPS performance).
- Implemented servo motor-based mechanical alignment system for automated target positioning.
- Integrated Arduino microcontroller for hardware actuation and secure command execution.
- Reduced false detection rate by 15% through dataset preprocessing and optimization techniques.

Spotify Music Recommendation System
- Developed content-based and collaborative filtering recommendation system using Spotify dataset.
- Implemented TF-IDF vectorization and cosine similarity for song similarity computation.
- Built recommendation pipeline using Pandas, NumPy, and Scikit-learn.
- Improved recommendation relevance via feature engineering and similarity threshold tuning.

Certifications

Data Science Summer Internship – CertED (2025)
Microsoft Power BI – Microsoft Learn (2025)
C Programming – IIT Bombay(Spoken Tutorial Project) (95%)
IBM SkillsBuild AI Internship
Data Science with Generative AI – PW Skills
NPTEL Certification