

# Akshat Pal

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## EDUCATION

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**Dr. Akhilesh Das Gupta Institute Of Professional Studies**

*Bachelor of Technology*

Delhi, India

Aug 2024 – May 2028

## EXPERIENCE

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**Data Science Intern**

Aug 2025 – Nov 2025

*Renu Sharma Foundation*

- Built an end-to-end **AutoML pipeline** using Python that automates the entire machine learning workflow, including data cleaning, visualization, and model selection.
- Implemented intelligent algorithms to test multiple models simultaneously and automatically select the **best-performing model** based on accuracy metrics.
- Engineered a model selection logic that optimized hyperparameters for Random Forest and XGBoost, achieving a consistent **15% improvement** over baseline models.

**OpenStreetMap Contributor (Open Source)**

Sept 2023 – Present

- Contributed **41,000+ verified geospatial edits** to OpenStreetMap over 12 months, focusing on road networks, intersections, and rail infrastructure across North Indian regions
- Edited and validated geographic data using **iD Editor and JSON-based tooling**, ensuring topological correctness and tagging accuracy.
- Performed **large-scale manual annotation** using high-resolution satellite imagery, developing strong intuition for **label ambiguity, spatial noise, and real-world data inconsistencies**.
- Gained experience working with real-world, unstructured geographic data.

## PROJECTS

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**MeowFace** | *OpenCV, TensorFlow, Keras, Python*

Nov 2025

- Built a real-time facial expression classifier using **CNNs** to detect and label user emotions (e.g., happy, sad, neutral) from a live webcam feed.
- Engineered a deterministic mapping logic that triggers specific content retrieval based on the model's inference output, ensuring accurate and instant visual feedback.
- Achieved viral traction on LinkedIn with **70,000+ views** and **1,300+ interactions**, demonstrating strong user engagement for an interactive AI application.

**VeriVox – Voice Spoof Detection** | *Python, TensorFlow, Librosa, Scikit-learn*

Jan 2026 – Present

- Developed a deep learning classifier to detect AI-generated audio spoofs by extracting MFCC and spectral features from raw waveforms to identify synthetic artifacts.
- Achieved a peak Validation F1-Score of 0.99 with a minimized validation loss of 0.20, ensuring high model convergence and stability during training.
- Evaluated model performance using Confusion Matrices, attaining a 97% detection rate for genuine audio samples and optimizing decision boundaries for security verification tasks.

## TECHNICAL SKILLS

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**Languages:** Python, C/C++, SQL

**Machine Learning:** TensorFlow, Keras, PyTorch, Scikit-learn, OpenCV, NLTK, Librosa

**Libraries & Tools:** NumPy, Pandas, Matplotlib, Seaborn, Git, Jupyter, Google Colab

**Concepts:** Deep Learning (CNNs), Computer Vision, Data Structures & Algorithms, Object-Oriented Programming (OOP)