# Akshay Kumar

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Portfolio site

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Github

## Education

| Degree | Institute | Year |
|---|---|---|
| BS, Data Science | Indian Institutes of Technology Madras | 2026 |
| B.Tech ESE | National institute of Electronics and Information Technology Aurangabad | 2026 |

## Skills

- Tools :Python, SQL (Postgre), Java, JavaScript, Excel, Git, Postman API
- Library: Flask, Scikit-learn, Pandas, Numpy, Tensorflow, Selenium, Vue.js, Report Lab
- Skills:Data Science, Machine Learning, Computer Vision, Deep Learning, Web Scraping,Web-Devlopement
- Soft Skills: Problem-Solving, Critical Thinking, Time Management,Leadership

## Projects

**Deepfake Scam Call Detection**
  – Designed and implemented a deepfake scam call detection system leveraging advanced audio analysis and deep learning.
  – Integrated real-time audio capture with WebRTC and processed inputs using PyDub and custom classification models to differentiate genuine calls from deepfake audio.
  – Applied signal processing and machine learning techniques for reliable scam call identification.

**Multimodal RAG Chatbot**
  – Developed an AI-powered, RAG-based chatbot using Hugging Face Transformers and FAISS for dynamic, document-driven question answering.
  – Integrated sentence embeddings with real-time vector retrieval to deliver context-aware responses.
  – Implemented an interactive conversational interface using Gradio for text interactions, augmented with voice input/output via Speech-to-Text and Text-to-Speech APIs for multimodal communication.

**From Refinery Floors to Market Scores: Decoding IOCL's Operational and Financial Success**
  – Analyzed refinery production data alongside stock market trends to uncover operational inefficiencies impacting financial performance.
  – Utilized Python, Pandas, and statistical modeling to derive actionable insights for margin strategy enhancements.
  – Developed data-driven visualizations to correlate production metrics with market performance, supporting strategic decision-making.

**Household Service Management System**
  – Developed a Household Service Management platform using Flask, Vue.js, HTML, Celery, and Redis with multirole user authentication for secure access.
  – Integrated asynchronous task processing and a responsive frontend-backend architecture, enhancing efficiency and user experience.

**Quiz Master WebApp**
  – Developed a Flask/SQLAlchemy quiz platform with role-based access and real-time analytics, streamlining assessment creation and improving student performance tracking.
  – Built responsive UI with Bootstrap and Chart.js, implementing timed quizzes and data visualizations that increased student engagement and provided critical insights to educators.

## Leadership

  – Group Leader, Corbett House, IIT Madras: Acted as a liaison between group members and house leadership, ensuring effective dissemination of information and addressing concerns.

## Achievements

  – GATE DA 2025 : 1838 RANK