Rohan Roy

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EDUCATION

Vellore Institute of Technology, Bhopal 8.58 cgpa
Bachelor of Technology, Computer Science Core *June 2021–June 2025*

Sacred Heart Children Senior Secondary School, Kota 84.0%
Class Xll *May 2021*

Delhi Public School, NTPC Farakka 90.0%
Class X *May 2019*

CERTIFICATION

NPTEL Cloud Computing | (Elite Certificate)
AWS Academy Graduate - AWS Academy Cloud Architecting | (AWS)

TECHNICAL SKILLS

Languages: C++, SQL, Python
Frameworks: Pandas, NumPy, Scikit-learn, Selenium
Developer Tools: Git, GitHub, Excel, Power BI
Databases: MySQL, MongoDB

PROJECTS

Football-Match-Analysis | (Python, Ultralytics, Supervision, Numpy, Pickle)
- Engineered a real-time computer vision pipeline using YOLO and ByteTrack to detect and track players from both broadcast.mp4 and tacticam.mp4 views, maintaining over 92% detection accuracy.
- Achieved 95% accuracy in cross-camera player ID mapping by aligning spatial-temporal features, significantly reducing manual validation efforts by 15+ hours weekly.
- Processed and analyzed 1,000+ video frames to extract positional data for each player, enabling future modules like heatmaps, possession analysis, and pass trajectory prediction.

Athlete's Injury Detection and Analysis | (Python , Scikit-learn, TensorFlow, Streamlit)
- Built injury prediction pipeline using Linear Regression and 4 classifiers (LGBM, AdaBoost, ExtraTrees, NuSVC), achieving 94.6% accuracy with LGBM and improving baseline by 18%.
- Fine-tuned a Streamlit app for real-time injury risk analysis using BMI, height, weight, and recovery period, predicting injury likelihood (0–100%) and rest days ($\pm 1.5\times$ recovery time).
- Corrected inverted ROC AUC (0.38) through class relabeling and balancing, boosting AUC to 0.91.

AI Assistant (Friday) | (Speech Recognition, OpenRouter, Spotify Web API, Python)
- Designed a voice-activated AI assistant using Google Speech Recognition and pyttsx3, achieving 95% accuracy in command recognition across various user accents and commands.
- Integrated Spotify Web API to build a real-time voice-controlled music search and playback system, enabling hands-free access to 80+ million tracks with instant feedback.
- Powered response generation using OpenRouter's LLM (Gemma), capable of delivering contextual AI summaries and instructions in under 4 seconds, enhancing user productivity and engagement.

INTERNSHIP

TechnoHacks Solutions Pvt Ltd | Machine Learning Intern
- Developed an automated error detection system that processed datasets weekly, identifying and correcting data discrepancies, saving 20 hours monthly in manual data checks.
- Pioneered a Linear Regression model to analyze Body Mass Index (BMI), workout days, and training intensity for 1,500+ athletes, using Mean-Squared Error (MSE) for performance evaluation.

EXTRACURRICULAR AND ACHIEVEMENTS

- Accomplished Selenium 101 Python Certification with a 70% score with LambdaTest.
- Earned NPTEL Cloud Computing Certification with a 71% score and an Elite Certificate.
- Secured Google Cloud certification in "Innovating with Google Cloud AI" (April 2025).