

Shankar Singh

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EDUCATION

- **Graphic Era Hill University** Bhimtal, Uttarakhand
Bachelor of Technology in Computer Science — 8.65 GPA
Aug 2023 – May 2027
- **THE MASTERS SCHOOL** Haldwani, Uttarakhand
Matriculation — 82.17% – Intermediate — 83.40%
July 2021 – July 2023

PROJECTS

- **CollegeBot** — Python, FAISS, Ollama, Sentence Transformers Jun 2025 – Jul 2025
 - **Built Bilingual Assistant:** Built offline assistant using LLaMA 3.2 via Ollama for Hindi-English queries.
 - **Integrated RAG Pipeline:** Used FAISS and MiniLM-L6-v2 for context-aware retrieval over college data.
 - **Enabled Voice Interaction:** Added Hindi/English voice input and TTS with lip-sync Lottie animation.
 - **Dynamic Learning:** Implemented persistent memory for real-time learning without model retraining.
 - **Enhanced Performance:** Reduced response time to 1.5s using caching, parallel inference, and model tuning.
- **YogAI** — Python, MediaPipe, Random Forest Apr 2025 – May 2025
 - **Created Posture Detection:** Achieved 93% accuracy using 33-point landmark recognition and random forest models.
 - **Implemented Voice Feedback:** Added audio prompts every 5s to guide users and improve posture retention.
 - **Reduced Latency:** Accelerated detection speed to under 1s by refining model and pipeline latency.
 - **User Accessibility:** Modified posture criteria to assist elderly users with limited flexibility.
- **DeepTrack Attendance System** — Computer Vision Jan 2025 – Feb 2025
 - **Engineered Video Parser:** Processed 12s video into attendance logs using full-frame facial analysis.
 - **Refactored Runtime:** Reduced analysis time from 90s to 12s via frame skipping and ROI filtering.
 - **Improved Accuracy:** Used DeepFace to achieve 95% face recognition accuracy.
 - **Integrated YOLOv11n:** Boosted detection speed with YOLOv11n to reach under 30ms inference time.

COURSES

- **Machine Learning:** Statistical Learning, Deep Learning, Neural Language Processing, CNN
- **Curriculum:** Object-Oriented Programming, Data Structures, Computer Networks, Database Systems
- **Mathematics:** Probability, Statistics, Stochastic Processes, Discrete Mathematics, Linear Algebra, Graph Theory

SKILLS

- **Languages:** C, C++, Python, R, HTML, CSS
- **Tools:** Git, GitHub, Jupyter, Power BI, PyCharm, VS Code, Google Colab
- **Libraries:** scipy, pandas, sklearn, matplotlib, streamlit, keras, tensorflow, pytorch

ACHIEVEMENTS

- **Neural Nexus AI/ML International Hackathon Winner:** Won the Neural Nexus AI/ML International Hackathon organized by Graphic Era (Deemed to be University). Created an AI-powered YogAI posture correction system leveraging computer vision and machine learning to analyze and provide real-time feedback on users' yoga postures. The project promoted physical wellness through technology and was awarded a cash prize of 40,000.
- **24-Hour Hackathon Winner:** Won a 24-hour hackathon at Graphic Era Hill University, Haldwani Campus. Engineered an AIML-based fault diagnosis model named FaultExpert, which identifies defective phases and detects issues in production lines.
- **ML Summer School 2025:** Successfully cleared and attended the Machine Learning Summer School 2025, gaining hands-on exposure to advanced topics in machine learning, deep learning, and their practical applications through lectures and workshops.