

# Shikhar Sharma

Gurugram, India | [shikhar.sharma22@st.niituniversity.in](mailto:shikhar.sharma22@st.niituniversity.in) | [LinkedIn](#) | [Portfolio](#)

## Objective

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I am a final-year B. Tech Computer Science student with a specialization in Artificial Intelligence, and hands-on experience in machine learning, data analysis, and system-level application development. I chose Computer Science to build a holistic understanding of computing systems and intelligent machines, and I enjoy learning across domains rather than limiting myself to a narrow focus. Through projects involving multi-modal ML, model integration, and software systems, I have developed practical skills in Python and supervised learning while continuing to strengthen my core computer science foundations. I aspire to build a career in Business Intelligence and Analytics, applying adaptable, data-driven thinking to solve real-world problems.

## Projects

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### Hybrid Host-Based Intrusion Detection System (HIDS)

- Used Python, system call analysis, and machine learning classifiers to build a hybrid intrusion detection system for Windows hosts.
- Tested models on attack vs. normal system call datasets using accuracy and confusion matrices.
- Learned binary classification, data preprocessing, model evaluation, and system-level feature engineering

### Real-Time Speech-To-Text Translation System (Team Project)

- Built a monolithic speech-to-text translation application using Whisper for transcription and Hugging Face Transformers for multilingual translation.
- Developed a React + Vite frontend with Google OAuth and email/password authentication, including a user-specific translation history dashboard.
- Designed MongoDB collections (users and translation\_history) to store login data, source transcription, translated text, language pairs, and timestamps.
- Implemented WebSocket-based communication between the frontend and Flask backend for smoother interaction and faster request-response handling.
- Containerized the application using Docker Compose (frontend + backend) and set up a Jenkins CI/CD pipeline with automated unit testing (PyTest for backend, Vitest for frontend), triggered on every GitHub commit.

### CNN-Based Computer Vision Model for Pixel Localization (PyTorch)

- Built a Convolutional Neural Network (CNN) using PyTorch to identify and localize white pixel regions in predominantly black images.
- Performed image preprocessing and dataset preparation using OpenCV and NumPy before model training.
- Trained the CNN using PyTorch's training loop to understand spatial feature extraction and convolutional learning.
- Gained hands-on experience with deep learning workflows, CNN architectures, and computer vision fundamentals.

## Education

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**B. Tech, Computer Science and Engineering with Specialization in Artificial Intelligence, NIIT University**

**2022 to 2026**

CGPA-7.94

Relevant Modules: Deep Learning and Generative AI, Machine Learning, Artificial Intelligence,

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Computer Vision, Digital Image Processing, Agentic AI and AI Agents

XII, Delhi Public School, Sector 45, Gurgaon (CBSE)

2022

X, Delhi Public School, Sector 45, Gurgaon (CBSE)

2020

## Skills

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- **Data Analysis & Business Intelligence:** Power BI (Basic), Tableau (Basic), SQL (Intermediate), Data Visualization (Matplotlib, Seaborn – Basic), Storytelling & Presentation
- **Programming & Data Handling:** Python (Intermediate), Pandas (Intermediate), NumPy (Intermediate), scikit-learn (Intermediate).
- **Machine Learning & Analytics:** Supervised & Unsupervised Learning, Random Forest, Ensemble Methods, Convolutional Neural Networks (Basic), Feature Extraction
- **Deep Learning & Computer Vision:** PyTorch (Basic), CNN Fundamentals, Image Preprocessing (OpenCV), Neural Network Training Workflows
- **Tools & Environments:** VS Code (Intermediate), Python IDLE (Primarily for ML projects)
- **Foundational Knowledge:** HTML (Intermediate), Jupyter Notebook, Google Colab
- **Languages:** English (Fluent), Hindi (Native), German (A2 Level)

## Certifications

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- Microsoft Power BI Data Analyst Professional Certificate, ONGOING
- Python For Data Science, AI and Development by IBM-Coursera, June 2024

## Positions of Responsibility

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- **Volunteer, Event Curation Team – SiNUsoid Tech Fest 2022, NIIT University**  
Assisted in planning and organizing various technical events during the university's annual fest.
- **Volunteer – Convocation 2022, NIIT University**  
Supported coordination and smooth execution of the convocation ceremony.
- **Volunteer – Nanhi Chhan Event 2022, NIIT University**  
Helped organize a social initiative event on campus.
- **Volunteer – Camp Future 2023, NIIT University**  
Contributed to management and execution of Camp Future 2023, at NIIT University.
- **Participant – Dance Competition, NDIM Cultural Fest 2023**  
Represented NIIT University in inter-college cultural competition.
- **Participant – Dance Competition, LMNIT Cultural Fest 2024**  
Showcased cultural engagement and teamwork through stage performances.
- **Coordinator – Flashmob, NIIT University Cultural Fest 2024**  
Led coordination of performers and event execution for the cultural flashmob.