

Jiya Sinha

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Research Interests: Multimodal Deep Learning (Vision/Audio/Language) · Robust AI · Applied Large Language Models

EDUCATION

Ph.D. in Electrical Engineering (Signal Processing and Communications) <i>Indian Institute of Technology, Kanpur</i> <i>Supervisor: Dr. Tushar Sandhan</i>	2026 – Present
BS in Data Science and Engineering <i>Indian Institute of Science Education and Research (IISER), Bhopal</i> <i>Awarded Proficiency Medal for Best Academic Performance</i>	2022 – 2026 CPI: 8.73/10

RELEVANT COURSES

Deep Learning, Machine Learning, Natural Language Processing, Computer Vision, 3D Deep Learning and Applications, Artificial Intelligence, Machine Learning with graphs, Applied Accelerated Artificial Intelligence, Data Structures and Algorithms, Databases, Probability and Statistics, Linear Algebra, Calculus, Signals and Systems

PUBLICATIONS

- Jiya Sinha**, Aarthi S., & Akshay Agarwal. “Does Reality Matter? A Reality-Enhanced Audio SceneFake Dataset.” *IEEE International Joint Conference on Biometrics (IJCB)*, 2026. **(Accepted)**
- Jiya Sinha**, Poulomi Bhattacharya, & Akshay Agarwal. “Gesture recognition for emergencies: Dataset and cross-condition analysis.” *IEEE International Conference on Automatic Face and Gesture Recognition (FG)*, 2025. **(DOI)**

INTERNSHIPS

Research Intern <i>Trustworthy BiometraVision Lab, IISER Bhopal</i>	September 2024 – January 2025 [Certificate]
- Created a 1,000+ video gesture recognition dataset across diverse environments and devices, enabling robust detection of five dynamic emergency gestures. - Implemented and benchmarked SOTA deep learning models (ViViT, VGG-LSTM, MobileNetV2-LSTM), analyzing performance under varying lighting and device quality. - Co-authored a peer-reviewed paper accepted at IEEE FG2025.	
Summer Intern <i>Advanced Signal and Image Processing Lab, IISER Bhopal</i>	May 2025 – August 2025 [GitHub]
- Designed and implemented GAN-based architectures with custom loss functions to colorize near-infrared (NIR) images to RGB. - Optimized the trade-off between perceptual quality and computational efficiency to facilitate real-world deployment.	

PERSONAL PROJECTS

Graph-Based Makeup Transfer using GCNs <i>PyTorch Geometric, GCNs, CV</i>	[GitHub]
- Developed a facial landmark graph model combining histogram matching with GCN-based refinement for structure-aware makeup transfer. - Designed cross-face and intra-face message passing for stable color propagation across specific facial regions (e.g., lips, eyes). - Trained on the MT dataset and conducted a 54-user study to evaluate structural stability, establishing a baseline for cross-face color propagation.	
Face Recognition Pipeline <i>Python, Scikit-learn, Computer Vision</i>	[GitHub]
- Built a face recognition pipeline using the Yale Face Database with hand-crafted feature extraction and classical ML models. - Implemented preprocessing, feature engineering, and model evaluation utilizing traditional computer vision techniques.	

TECHNICAL SKILLS

Programming: Python

Machine & Deep Learning: PyTorch, PyTorch Geometric, scikit-learn

Data Analysis & Vision: NumPy, Pandas, Matplotlib, OpenCV

CONTACT & LINKS

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GitHub: github.com/sinhajiya