

# NITESH KUMAR SHAH

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## EDUCATION

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**Indian Institute of Technology Madras (IIT Madras)** India  
M.Tech. in Data Science and Artificial Intelligence 2025 – Ongoing  
Department of Data Science and AI  
*Full scholarship (tuition waiver + stipend) from Global Engagement Office, worth INR 21,00,000 (~\$23,667)*

**Indian Institute of Information Technology, Allahabad (IIIT Allahabad)** India  
B.Tech. in Information Technology — Business Informatics 2021 – 2025  
CGPA: 8.15/10

## PUBLICATIONS

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### Journal

- K. Leelasankar, N. Aslam, A. Vemuri, J. Gadde, U. S. Lavu, N. K. Shah, Venkatesan S., “A Comprehensive Bluetooth Security Audit Framework for IoT Devices,” Submitted to *Computers & Security* (Elsevier), **Q1, SCI**, 2025. [Under Review]
- S. Pandey, R. Singh, N. K. Shah, A. Bidhan, ”Integrating FinBERT Sentiment with Financial Stress for Optimized Portfolio Performance,” Accepted in **Academy of Marketing Studies Journal**, 2025. [Link]

### Conference

- N. K. Shah, J. Gadde, N. Singh, C. P. Maurya, S. K. Singh, ”RainGAN-Kathmandu: A Generative Adversarial Framework for Synthetic Rainfall Augmentation in Urban Road Scene Datasets,” Accepted for presentation at **IEEE TENCON Malaysia**, October 27-30, 2025.
- A. Bidhan, N. K. Shah, R. Kumar, V. Gupta, S. Prakash, ”An Efficient ADAS Framework for Cross-Domain Image Translation and Feature Preservation Utilizing CycleGAN,” Presented at the 15th International Conference on Cloud Computing, Data Science and Engineering (**CONFLUENCE 2025**), Noida, India. Will be published in Springer Lecture Notes in Electrical Engineering. [Link]
- N. K. Shah *et al.*, ”A Novel Adaptation of the UNIT Framework for Cross-Domain Climate Data Translation with Enhanced Feature Preservation,” Paper presented at 12th International Conference on Signal Processing and Integrated Networks (**SPIN 2025**). Scheduled for publication via Springer. [Link]

### Datasets

- N. K. Shah, J. Gadde, A. Bidhan, K. Gullapalli, C. P. Maurya, N. Singh, ”Kathmandu Road Dataset: Ratnapark to Tripureshwar,” **Harvard Dataverse**, 2025. [Link]

## RELEVANT COURSEWORK

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Probability and Statistics, Multivariate Calculus, Data Structures, Machine Learning, AI, Image and Video Processing, Big Data Analytics, Cybersecurity, Distributed Computing

## EXPERIENCE

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**Deep Intelligence** Sydney, NSW, Australia (Part-time)  
*AI Architect Intern* May 2025 – Ongoing

- Worked on designing and implementing agentic AI systems for autonomous task execution.
- Utilized AWS services such as SageMaker and EC2 to manage model training and deployment pipelines.

**Finstrats Research** Bengaluru, India (Hybrid)  
*Quantitative Machine Learning Intern* Dec 2024 – May 2025

- Working on RAG-LLM based approach for finding the sentimental data from PDFs
- Worked with quantitative strategies integrating sentiment data and volatility metrics.

**C3iHub, IIT-Kanpur***UG Student Fellowship*Kanpur, India  
Nov 2023 – Dec 2024

- Conducted packet inspection using BT-HCI protocols and Pyshark.
- Created Python scripts for secure Bluetooth communication auditing.
- Submitted a Journal paper on Security Auditing Framework of Bluetooth low energy.

**Maker's Lab, Tech Mahindra***Data Science Intern*Pune, India (Hybrid)  
June 2024 – August 2024

- Worked on diffusion models for unpaired image-to-image translation.
- Studied explainability in AI models focusing on transparency and auditability.
- Contributed to LLM Project INDUS: Data Collection and Translation.

**UNIVERSITY PROJECT**

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**Human-Following Bot (Indian Army)***Deep Learning, Generative Adversarial Networks*Ladakh, India  
Sept 2023 – May 2024

- GAN-based data augmentation and feature preservation so the robot can look into the rainy night.
- Implemented synthetic rain generator (RAIN GAN) and Cycle GAN.
- Achieved FID score of 31.4

**TECHNICAL SKILLS**

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- **Languages:** Python, R, C++
- **Libraries/Tools:** PyTorch, TensorFlow, Keras, Pyshark, Wireshark, Git, Github.
- **Concepts:** ML, DL, GANs, Cybersecurity

**ACHIEVEMENTS**

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- **Merit-cum-Means Scholarship, IIIT-A** – Top 3% of batch (5th/6th semester)
- **NewGenIEDC-IIITA Funded Project** – Human-Following Bot selected by Indian Army
- **1st Position, Electrocombat 2022** – Robotics contest under Tesla, IIITA
- **MILSET Expo Sciences 2021** – Represented Nepal at ESI Asia, Dubai

**LEADERSHIP****& VOLUNTEERING**

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- **Coordinator, SourceWave Wing**, GDSC IIITA Sept 2023 – May 2024
- **Coordinator, Robotics Wing**, Tesla Society IIITA May 2023 – April 2024
- **Head, Media Department**, Aparoksha TechFest IIITA Mar 2024 – Apr 2024

**REFERENCES**

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**Dr. Navjot Singh**

Associate Professor, IIIT Allahabad

navjot@iiita.ac.in — Supervisor: Major Thesis (8th Semester)

**Dr. Surya Prakash**

Asst. Professor, IIIT Allahabad

sprakash@iiita.ac.in — Supervisor: Human-Following Bot

**Prof. Ranjit Singh**

Department of Management Studies, IIIT Allahabad

ranjitsingh@iiita.ac.in — Co-author: Integrating FinBERT Sentiment with Financial Stress for Optimized Portfolio Performance