

# Akbar Ali

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## RESEARCH INTEREST

- Computer Vision
- Image Restoration
- Generative Model
- Hyperspectral Imaging

## EDUCATION

### Indian Institute of Technology IIT Gandhinagar

PhD in Computer Science & Engineering  
Grade : 9.14/10 (CPI)

Gujarat, India

Dec 2022 - Present

### Aliah University

M.Tech in Computer Science & Engineering  
Grade : 9.03/10 (CPI)

West Bengal, India

June 2019 - July 2021

### Aliah University

B.Tech in Computer Science & Engineering  
Grade : 8.97/10 (CPI)

West Bengal, India

June 2015 - July 2019

## WORK EXPERIENCE

### Indian Institute of Technology IIT Ropar

Gujarat, India

Project Associate

1. Volume Estimation of Complex Objects Using Hyperspectral Imaging and Stereo Vision Fusion.

June 2021 - Nov 2022

## PUBLICATIONS

1. **Akbar Ali**, Indra Deep Mastan and Shanmuganathan Raman, “GenCleanAI: Generative Unsupervised Image Restoration in Latent Space”. (Manuscript under review in WACV26) **Sept 2025**
2. **Akbar Ali**, Indra Deep Mastan and Shanmuganathan Raman, “Investigating Robustness of Unsupervised StyleGAN Image Restoration”. (Accepted) **ICIP 2025**
3. **Akbar Ali**, Pankaj Khanna, Subramanian Sankaranarayanan, Shanmuganathan Raman.., “COT-AD: Cotton Analysis Dataset”. (Accepted) **ICIP 2025**
4. **Akbar Ali**, Ranjit Kumar Rout and Saiyed Umer, “Descriptive Predictive Model for Parkinson’s Disease Analysis”. *Springer Nature* (Published) **Feb 2023**

## RESEARCH EXPERIENCE

### 1. Graduate Teaching Fellow, IIT Gandhinagar.

**Aug 2024 - Nov 2024**

- FP 602 Writing course: I mentored 35 students, managing their classwork, examinations, and overall progress. I ensured smooth communication, coordinated assignments, and provided ongoing support to help them meet academic standards.

### 2. Teaching Assistant, IIT Gandhinagar.

**Dec 2022 - Apr 2024**

- Probability, Statistics, and Data Visualization: Managed a batch of 20+ students and conducted lab sessions for Python data science libraries. Conducted exams and evaluations.
- Probability and Randomization: Handled a class of 30+ students and handled various Python tutorial sessions..

### 3. Drone Data Acquisition, IITGandhinagar

**June 2023 - Jan 2024**

- Engaged in Drone Data Acquisition at IIT Gandhinagar, contributing to the Smart Farming Project by collecting drone data, including RGB and multispectral data.

## Experimental Work

### 1. 3D geophysical image translated into photorealistic virtual outcrop geology using generative adversarial networks .

**Feb 2024 - Jan 2025**

- Translated 3D geophysical images into photorealistic virtual outcrop geology using generative adversarial networks(GANs).
- Developed a methodology enabling the generation of diverse crop images at varying altitudes.

### 2. Smart Farming of Cotton Using Aerial Imagery and Computer Vision

**Jun 2023 - Jan 2024**

- We delve into the intricate relationship between weather conditions and crop health and the impact of different insects on cotton fields by harnessing the power of technology to revolutionize cotton farming practices. This holistic approach empowers us to provide farmers with actionable insights for optimized decision-making.
- Conducted weekly aerial image acquisition missions at varying altitudes (10m, 15m, and 115m) from July 1, 2023, to December 30, 2023. This allows us to comprehensively capture the entire growth cycle of the cotton crop, from the initial stages to the development of buds.

## TECHNICAL SKILLS

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- **Artificial Intelligence tools:** Machine learning, Deep learning, Tensorflow, Numpy, Matplotlib, Pytorch.
- **Programming Language:** Python, Linux, Parallel Programming, Supercomputing, GPU Clustering.
- **Editor tools :** MS-Office, Latex, Mendeley.
- **Drone :** Certified drone pilot

## Achievement

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- Qualified for the National level entrance exam UGC-NET (Computer Application), 2023 (3% Acceptance Ratio).
- Secured the Second Rank in the University's Master of Technology (MTech,2021) examination.
- Achieved the top position in the Bachelor of Technology (BTech,2019) final examination at the University.. academic performance.
- Secured the top position in the Aliah University Admission Test (AUAT) 2019, showcasing exemplary academic performance and dedication.

## EXTRACURRICULAR ACTIVITIES

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- **Designation: Leadership Development Initiative (LDI) Leader, Indian Institute of Technology Gandhinagar (IITGN)** **May 2023 - June 2023**  
Led and organized various leadership development events and workshops for IITGN students, covering topics such as communication, teamwork, and conflict resolution.
- **Mentor** **May 2023 - Present**  
Mentored 20+ B.Tech/M.tech cse students in exploring deep learning models for Image restoration & Hyperspectral Imaging , providing guidance on strengthening their foundational understanding of Computer Vision.
- **Community Outreach Volunteer** **August 2019**  
Led a team of volunteers to educate villagers on air and water pollution risks and taught various subjects to young children at a local village school.

## REFEREES

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**Prof. Shanmuganathan Raman [Supervisor]**  
Indian Institute of Technology Gandhinagar

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Gujarat, India

**prof. Indra Deep Mastan (Assistant Professor) [Mentor]**  
Indian Institute of Technology BHU, Varanasi

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