AKBAR ALI

Research Scholar
Department of Computer science and engineering
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EDUCATION

PhD in Computer Science and Engineering **[Dec 2022-Present]**
Indian Institute of Technology Gandhinagar, Gujarat, India
Advisor: **Professor Shanmuganathan Raman**
Thesis: Exploring Deep Learning-Based Techniques for Illumination Correction in Hyperspectral Image Analysis.
CGPA: 8.81/10

MTech in Computer Science and Engineering. **[Aug 2019- Sep 2021]**
Aliah University, Kolkata, India.
Advisor: **Saiyed Umer**
Thesis: Descriptive predictive model of Parkinson's disease
CGPA: 9.31/10

BTech in Computer Science and Engineering. **[Jun 2015-May 2019]**
Aliah University, Kolkata, India
CGPA: 8.97/10

EXPERIENCE

Teaching Assistant, IIT Gandhinagar **[Dec 2022-Present]**

- **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.

Drone Data Acquisition, IIT Gandhinagar **[June 2023-Jan2024]**

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

Project Associate, IIT Ropar **[May 2021-Aug 2022]**

- Collaborated on Stereo Vision projects under the guidance of Prof. Neeraj Goel.
- Conducted research and practical applications in Hyperspectral Imaging.

SKILL SUMMARY

- **Languages:** C, Python
- **Tools and Libraries:** PyTorch, NumPy, OpenCV, Pandas, Matplotlib
- **Technical:** Deep Learning, Machine Learning, Computer Vision, Transfer Learning, Multispectral imaging, HSI

PROJECTS

3D geophysical image translated into photorealistic virtual outcrop geology using generative adversarial networks [Feb 2024-Present]

- Translated 3D geophysical images into photorealistic virtual outcrop geology using generative adversarial networks (GANs) since Feb 2024.
- Developed a methodology enabling the generation of diverse crop images at varying altitudes.

Smart Farming of Cotton Using Aerial Imagery and Computer Vision **[June 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 revolutionise cotton farming practices. This holistic approach empowers us to provide farmers with actionable insights for optimised 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.

Descriptive Predictive Modelling of Parkinson's Disease with Descriptive Insights. **[Jan 2021-July 2021]**

- The project focused on predicting the onset of Parkinson's disease and pre-emptive measures to mitigate its impact. Employed SVM, Random Forest, kNN, and Linear Regression ML algorithms for Parkinson's disease detection
- Authored a research paper titled "Descriptive Predictive Model for Parkinson's Disease Analysis" published in Springer, Singapore 16 February 2023

Achievements

- Secured the Second Rank in the University's Master of Technology (MTech) examination.
- Achieved the top position in the Bachelor of Technology (BTech) final examination at the University.
- I attained the Mukhyamantri Balak/Balika Protsahan Yojana scholarship from the government in recognition of my outstanding academic performance.
- Secured the top position in the Aliah University Admission Test (AUAT) 2019, showcasing exemplary academic performance and dedication.