CONTACT ME AT

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+91 8923501991

EDUCATION

- **Ph.D. in Artificial Intelligence,** National Institute of Technology, Silchar, 2024
- **M.Tech. in Signal Processing & Control,** National Institute of Technology, Hamirpur, 2012
- **B.Tech. in Electronics & Communication Engineering**, GLA Institute of Technology & Management, Mathura, 2009

SOFT SKILLS

- Analytical
- Collaborator
- Communicator
- Emotional Intelligence

CORE COMPETENCIES

- Computer Vision
- Deep Learning
- Machine Learning
- Video Processing
- Image Processing
- Gesture Classification
- Object Detection

RAHUL JAIN

ORCID Google Scholar LikedIn

PROFILE OBJECTIVE

Driven by a passion for advancing research and education, I aim to secure a role in R&D, contributing innovative solutions to challenges in AI, deep learning, and computer vision. Additionally, I seek opportunities in academia to inspire scholars and advance knowledge in my field.

PERSONAL PROFILE

- **Ph.D. in Artificial Intelligence** specializing in dynamic hand gesture recognition. Known for pioneering research **driving advancements** in video a**nalysis** and human-computer interaction through innovative deep learning techniques.
- Experienced Assistant Professor with a **focus on R&D** in image processing, signal analysis, and related domains. Skilled in **curriculum development, instructional delivery, and project supervision**, fostering an environment conducive to **innovation and discovery.**
- Recognized for **developing novel algorithms** for dynamic hand gesture recognition, enhancing accuracy significantly. Proficient in **leveraging deep learning architectures** and pre-trained models for advanced object detection and analysis in video datasets.
- Published extensively in prestigious journals and recipient of the Best Paper Award at IEEE conferences. Committed to **driving R&D forward** through visionary thinking and impactful contributions to gesture recognition and computer vision.
- Equipped with a diverse technical skill set including Python, TensorFlow, and MATLAB. Demonstrates **strong leadership and strategic thinking, fostering collaboration** and **driving meaningful advancements** in AI and deep learning research.

WORK EXPERIENCE

Assistant Professor |University of Petroleum and Energy Studies| Jan 2025- Present

Instruction in Deep Learning, Python, Discrete Mathematics and more

Summary: Offered comprehensive educational guidance in the fields of Computer Vision, and Deep Learning, fostering a conducive learning environment through structured lectures, tutorials, and practical assessments.

Junior Scientist | Smartsoc Solutions Private Limited| May2024- Jan2025

- **Summary:** Developing a real time Driver Drowsiness Detection system using a combination of face detection and time series classification techniques. The system analyzes video to identify drowsy states and issue warnings or alarms to enhance driver safety.

Research Scholar | National Institute of Technology, Silchar | Jul 2019 – April 2024

Conducted Groundbreaking Research in Dynamic Hand Gesture Recognition using Deep Learning Techniques

- **Summary:** Led cutting-edge research initiatives aimed at advancing video analysis and human-computer interaction through dynamic hand gesture recognition.

KEY RESULT AREAS:

➢ **Model Optimization and Customization:**
  - Fine-tuned and personalized a range of deep learning architectures, including VGG-16, VGG-19, ResNet-50, ResNet-101, InceptionV3, Xception, and EfficientNet, to attain superior accuracy in gesture classification tasks.

➢ **Enhancing Model Performance:**
  - Applied ensemble learning methodologies and attention mechanisms to significantly improve the accuracy and robustness of deep learning

TECHNICAL SKILLS

Python	**TensorFlow**
Scikit-Learn	**NumPy**
Matplotlib	**MATLAB**

CERTIFICATIONS

- Python for Computer Vision with OpenCV and Deep Learning
  Udemy

PROJECTS

- Dynamic Hand Gesture Recognition using Deep Learning Techniques
- Sign Language Recognition System
- Object Detection in Videos using Pre-Trained Models

PERSONAL DETAILS

Address: 58/25 Raj Shree Bhawan, Agra Road, Tundla, Firozabad, U.P., India, 283204

Date of Birth: 11th July 1987

Languages: Hindi, English

models, underscoring a dedicated commitment to advancing model efficacy.

- **Architectural Design Proficiency:**
  - Developed a sophisticated two-level architecture tailored for concurrent gesture detection and classification within video streams, demonstrating a profound understanding of intricate architectural design principles.

- **Integration of Pre-Trained Models:**
  - Leveraged pre-trained models such as Faster R-CNN and SSD from the TensorFlow API for seamless object detection within video datasets, showcasing proficiency in incorporating state-of-the-art tools for enhanced analysis capabilities.

Assistant Professor | Hindustan College of Science, Mathura | Jul 2012 - Jul 2019

Instruction in Image Processing, Signal & System, and More

Summary: Offered comprehensive educational guidance in the fields of Image Processing, Signal & System, and related disciplines, fostering a conducive learning environment through structured lectures, tutorials, and practical assessments.

Key Contributions:

- **Curriculum Development and Delivery:**
  Developed and delivered meticulously structured lectures, tutorials, and assessments to facilitate in-depth understanding of Image Processing, Signal & System, and associated subjects.

- **Project Guidance and Supervision:**
  Provided mentorship and supervision for image processing projects, bridging theoretical knowledge with real-world applications to enhance students' practical proficiency.

- **Effective Knowledge Transfer:**
  Ensured effective knowledge transfer through engaging instructional methodologies, fostering student engagement and participation in lectures and tutorials.

- **Practical Application of Concepts:**
  Established expertise in the practical application of theoretical concepts, enabling students to comprehend and apply fundamental principles in diverse contexts.

- **Positive Feedback and Student Success:**
  Received positive feedback for cultivating an enriching learning atmosphere conducive to student success and academic growth.

- **Project Guidance and Skill Development:**
  Guided numerous successful image processing projects, contributing significantly to students' comprehension and skill development in the field.

AWARDS AND RECOGNITION

- Authored 7 articles published in high-impact Science Citation Index (SCI) journals, effectively contributing to the advancement of knowledge in the fields of gesture recognition and computer vision.

- Received the Best Paper Award for the paper titled "Face Recognition Using Computational Efficient Algorithms" at the 2020 4th International Conference on Electronics, Materials Engineering & Nano-Technology (IEMENTech), IEEE, in recognition of exceptional contributions to the field.

- Pioneered the development and implementation of novel algorithms, such as encoded motion image and LMI with ensemble learning, for dynamic hand gesture recognition. These innovations resulted in a 2% and 3% enhancement in accuracy compared to previous methodologies, underscoring a steadfast commitment to advancing the frontiers of computer vision research.

- Established strong academic and technical know-how by qualifying the GATE-2010 examination.
- Successfully completed an eight-day Faculty Development Program focusing on "Universal Human Values and Professional Ethics."
- Attained the 3rd position in a chess competition held at NIT Hamirpur, showcasing skilled strategic thinking and competitive skills.
- Spearheaded a victorious team in both the Master Premier League and NIT Premier League competitions hosted at NIT Silchar, highlighting exceptional teamwork and leadership capabilities.
- Actively organized and participated in numerous workshops and conferences, further enriching knowledge and fostering professional growth.