

Komal Singh

Assistant Professor | Researcher in Medical Imaging & AI
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Professional Summary

Innovative and dedicated Assistant Professor (Visiting Faculty) with over 5 years of experience in academia and research, specializing in machine learning, deep learning, and medical image analysis. Expert in developing AI-driven solutions for early detection of neurodegenerative diseases such as Alzheimer's and Parkinson's. Proven track record of high-impact publications and successful project leadership, aiming to bridge the gap between computational models and clinical applications.

Core Competencies

- Machine Learning & Deep Learning
 - Medical Image Processing
 - Computer Vision
 - Artificial Intelligence
 - Data Science
 - Image Segmentation & Transformation
 - Neuroimaging Analysis
 - Explainable AI (XAI)
 - Ensemble Learning
 - Algorithm Design & Optimization
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Professional Experience

Visiting Faculty

University of Allahabad, India
January 2022 – Present

- Conduct advanced courses in Machine Learning, Artificial Intelligence, and Deep Learning.
- Mentor students in research methodologies and project development.
- Develop comprehensive lecture materials and hands-on lab sessions to enhance learning outcomes.

IT Administrator

Future Focus Infotech Pvt. Ltd., Gurgaon, India
August 2015 – December 2016

- Managed IT infrastructure for the IBM/Maruti project, ensuring system stability and security.
- Provided technical support and implemented network solutions to optimize performance.
- Coordinated with cross-functional teams to streamline IT operations.

Assistant Professor

*Shambhunath Institute of Engineering and Technology, India
August 2011 – July 2013*

- Taught courses in C Programming, emphasizing practical applications and problem-solving skills.
 - Developed curriculum and assessment tools to evaluate student performance effectively.
 - Organized workshops and seminars to enhance student engagement in programming.
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Education

Ph.D. in Computer Vision (Pursuing)

*University of Allahabad, India
January 2019 – Present*

- Research Focus: Medical image analysis using machine learning and deep learning algorithms.

M.Tech. in Computer Technology

*University of Allahabad, India
August 2013 – July 2015*

- Thesis: Developed a machine learning model to predict stock price volatility.

B.Tech. in Computer Science

*Gautam Buddha Technical University, India
August 2007 – June 2011*

- Final Project: Developed a Java-based Student Management System.
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Research Publications

- **"Early Detection and Classification of Alzheimer's through Integration of 3D Local Binary Patterns and SVM classifier"**
IEEE ISACC 2025
 - Achieved 99.01% accuracy in classifying Alzheimer's patients using 3D-LBP features and SVM on the ADNI1 dataset.
- **"Review on Computational Methods for Detection and Classification of Parkinson's Disease"**
Computers in Biology and Medicine, 2025
 - Comprehensive survey highlighting the need for high-quality datasets and explainable AI in PD diagnosis.
- **"An Ensemble Learning Framework for Classification of Alzheimer's Disease using MRI Data"**
Springer Book Chapter

- Proposed an ensemble-based approach combining multiple classifiers to enhance robustness in AD diagnosis.
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Projects

Financial Time Series Analysis

July 2014 – August 2015

- Developed a predictive model for stock price volatility of CNX Nifty using machine learning techniques.
- Individual project focusing on time series data analysis and forecasting.

Student Management System

September 2010 – April 2011

- Created a Java-based application to manage student information efficiently.
 - Led a team of 4 members, overseeing design, development, and deployment phases.
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Certifications

- Certified in Machine Learning and Deep Learning methodologies.
 - Completed specialized training in Medical Image Processing and Computer Vision.
 - Attended workshops on Explainable AI and its applications in healthcare.
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Technical Skills

- **Programming Languages:** Python, MATLAB, R, Java
 - **Frameworks & Libraries:** TensorFlow, Keras, PyTorch, Scikit-learn
 - **Operating Systems:** Windows, Linux
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Professional Affiliations

- Reviewer, Peer-reviewed journals in AI and Biomedical Engineering
 - Active participant in national and international conferences on AI in healthcare
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Languages

- English: Fluent
- Hindi: Native

References

Prof. Ashish Khare

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Dr. Arati Kushwaha

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Dr. Manish Khare

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