

# PRASHANT KUMAR NAG

## Curriculum Vitae

I am an early-career researcher specializing in artificial intelligence, deep learning, and affective computing, with a focus on emotion detection, cognitive appraisal, and explainable AI. My work explores how AI models interpret human emotions in text and how transparent analytical methods can improve understanding, reliability, and human-centered applications. I am committed to developing rigorous, reproducible, and interpretable AI techniques while contributing to research, teaching, and collaborative academic growth.



## RESEARCH INTERESTS

- Core** ● **Affective Computing**  
Computational emotion modeling, appraisal-based emotion reasoning, and human–AI affective interaction
- Core** ● **Text-based Emotion Recognition**  
Sentence-, span-, and context-level models for emotion and emotion-cause detection
- Methods** ● **Explainable AI for NLP**  
Attention-based interpretability, attribution methods, and rule-based cognitive explanations



## EDUCATION

- Jul. 2019**  
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Thesis Submitted:  
06/11/2025 ● **Doctor of Philosophy (Ph.D.) in Computer Applications**  
Maulana Azad National Institute of Technology, Bhopal ● M.P. India  
**Thesis:** *Design of Efficient Artificial Intelligent Deep Learning Models for Human Emotion Detection*  
  
**Specialization:** *Artificial Intelligence, Deep Learning, Natural Language Processing and Affective Computing*  
  
**Supervisor:** Dr. Amit Bhagat  
  
**Co-supervisor:** Dr. R. Vishnu Priya
- Jul. 2012**  
|  
**Jun. 2015** ● **Master of Computer Applications (MCA)**  
National Institute of Technology, Tiruchirappalli ● T. N. India  
**Thesis:** *Automated Attendance using QR Code in Classrooms*
- Jul. 2008**  
|  
**Jun. 2011** ● **Bachelor of Computer Applications (BCA)**  
Devi Ahilya Vishwavidyalaya, Indore ● M.P. India



## TEACHING EXPERIENCE

- Aug. 2016**  
|  
**Apr. 2019** ● **Honorary Faculty, Department of Computer Science**  
Institute for Excellence in Higher Education (IEHE), Bhopal ● M.P. India  
*Undergraduate Computer Science teaching; regular evaluation and practical supervision under the Honorary Faculty role.*  
  
**Courses taught:** *Introduction to Programming, Linux Programming, Computer Networks*



## CONTACT INFO

- Ph.D. — Thesis Submitted
- Maulana Azad National Institute of Technology, Bhopal
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- prashantnag93
- prashantnag93
- EhaIZtAAAAAJ&hl
- HPE-9262-2023
- ResearchInfuser



## TECHNICAL SKILLS

Advanced: R (Quarto, Rmarkdown, etc.), Zotero, Python, WSL2/ Linux Workflow, DVC, Markdown, MS Office and Git

Intermediate: Inkscape, Gimp, LibreOffice, PBS and bash/shell

Basic: C/C++ and JavaScript



## LANGUAGES

English: Professional Working Proficiency

Hindi: Native

- Apr. 2016  
|  
Jun. 2016

●

Computer Faculty (Computer Applications)

Unique Girls College Parasia, Chhindwara 

M.P. India

Undergraduate teaching in Computer Applications; supervision of practical sessions and student evaluation.

Courses taught: Introduction to Programming, Computer Fundamentals, Internet and Web Design
- Nov. 2015  
|  
Apr. 2016

●

Assistant Professor (Computer Science)

Sony College of Management and Technology, Chhindwara 

M.P. India

Undergraduate and postgraduate teaching in Computer Science; assessment and examination duties.

Courses taught: Introduction to Programming, Data Structures, Linux Programming

PUBLICATIONS

- Publication Summary

9 as first/corresponding or co-first authors, 1 as co-author

JOURNAL ARTICLES

- 2025

●

Expanding AI's Role in Healthcare Applications: A Systematic Review of Emotional and Cognitive Analysis Techniques

Prashant Kumar Nag, Amit Bhagat, R. Vishnu Priya

IEEE Access

SCIE · Q1 · IF 3.6 (JCR 2023)

Read
- 2024

●

Yolov5-Based Attention Mechanism for Gesture Recognition in Complex Environment

Deepak Kumar Khare, Amit Bhagat, R. Vishnu Priya, Prashant Kumar Nag, Sunil Malviya

International Journal of Advanced Computer Science & Applications

Scopus · Q3 · IF 0.9 (2024)

Read
- 2023

●

Text-based emotion recognition using contextual phrase embedding model

Vishnu Priya R., Prashant Kumar Nag

Multimedia Tools and Applications

SCIE · Q2 · IF 3.0 (JCR 2023)

Read

CONFERENCE PAPERS

- In Press

●

Leveraging Text Data in Healthcare: A Systematic Review of AI-Driven Emotional Analysis and Patient-Centric Innovations

Prashant Kumar Nag, Amit Bhagat, R Vishnu Priya, Sunil Malviya, Sanjay Mishra

ICHISS2024

Conference Presentation
- 2023

●

Emotional Intelligence Through Artificial Intelligence: NLP and Deep Learning in the Analysis of Healthcare Texts

Prashant Kumar Nag, Amit Bhagat, R. Vishnu Priya, Deepak Kumar Khare

ICAIHI2023

Conference Presentation

Read
- 2021

●

Contextual BI-Directional Attention Flow With Embeddings From Language Models: A Generative Approach to Emotion Detection

Prashant Kumar Nag, Vishnu Priya R

AIR2021

Conference Presentation

Read



## PREPRINTS

2024



### Emotional Intelligence Through Artificial Intelligence : NLP and Deep Learning in the Analysis of Healthcare Texts

Prashant Kumar Nag

arXiv

Read

2024



### A Systematic Review of AI, Emotional Analysis, and Patient-Centric Applications in Healthcare

Prashant Kumar Nag, Amit Bhagat, R Vishnu Priya

TechRxiv

Read

2024



### Advancing Patient Care through Text Data: A Systematic Review of AI, Emotional Analysis, and Patient-Centric Applications in Healthcare

Prashant Kumar Nag, Amit Bhagat, R Vishnu Priya

TechRxiv

Read



## OTHER PUBLICATIONS

2018



### Impact of Digitization on Indian Economy

Prashant Kumar Nag

NCDEIC2018

Conference Presentation



## AWARDS & ACHIEVEMENTS

Jun. 2020



### National Fellowship for Scheduled Caste Students (2020-21)

National Testing Agency (NTA)

India

National Fellowship

*Awarded by the Ministry of Social Justice and Empowerment, Government of India.*

Jun. 2019



### Entrance Examination for Full-Time Ph.D. (with Institute TA)

Maulana Azad National Institute of Technology (MANIT), Bhopal, India

India

Entrance / Competitive Examination

*Qualified the MANIT Ph.D. Entrance Test (2019) and was selected for the Full-Time Ph.D. programme with Institute Teaching Assistantship (TA).*



### National Eligibility Test for Assistant Professor

National Testing Agency (NTA) / University Grants Commission (UGC)

Eligibility Examination (UGC-NET)

- **Jun. 2020 (53.33%):** Qualified for Assistant Professor
- **Dec. 2019 (46.67%):** Qualified for Assistant Professor
- **Jun. 2019 (50.00%):** Qualified for Assistant Professor
- **Dec. 2015 (53.71%):** Qualified for Assistant Professor



### MCA Entrance Examinations

Cleared National Level MCA Entrance Exams

Entrance / Competitive Examinations

- IIT JAM (2011): *Qualified (SC Category)*
- JNU MCA Entrance Exam (2011): *Qualified (SC Category)*
- MCA Entrance Test (BIT) (2011): *AIR 17*
- KIITEE Entrance Exam (2011): *Rank 15 (SC Category)*
- NIMCET (2011, 2012): *Qualified*



## EXPERT LECTURES DELIVERED

Oct. 2023



### Question Bank Development Workshop

Department of Physics & Electronics, IEHE

Bhopal, M.P.

Delivered session

*Topic: Workshop on Question Bank Development and Outcome-Based Assessment Design*

Feb. 2022	<b>National Workshop on Scilab</b> Institute for Excellence in Higher Education (IEHE) <span style="float: right;">📍 Bhopal, M.P.</span> Topic: <i>Computation Through Scilab &amp; Solving differential Equations</i>
Nov. 2019	<b>AICTE Training and Learning (ATAL) Academy FDP</b> Department of Mathematics, Bioinformatics and Computer Applications <span style="float: right;">📍 Bhopal, M.P.</span> Topic: <i>Introduction to Virtual Reality: Concepts, Applications, and Future Trends</i>
Sep. 2019	<b>AICTE Training and Learning (ATAL) Academy FDP</b> Department of Mathematics, Bioinformatics and Computer Applications <span style="float: right;">📍 Bhopal, M.P.</span> Topic: <i>Fundamentals of Naive Bayes Classification and Its Applications in Machine Learning</i>
Aug. 2018	<b>Certificate Course in Cryptography (CCC)</b> Institute for Excellence in Higher Education (IEHE) <span style="float: right;">📍 Bhopal, M.P.</span> Topic: <i>Foundation Course on Cryptography: Principles, Algorithms, and Applications</i>
Feb. 2018	<b>Basic Computer Training</b> RCVP Noronha Academy <span style="float: right;">📍 Bhopal, M.P.</span> Topic: <i>Cloud Computing for Educators: Practical Use of Google Drive, Skype, and Cloud-Based Collaboration Tools</i>
Jan. 2018	<b>NPTL Awareness Workshop and Online Learning</b> NPTL Local Chapter & ICT Cell, IEHE <span style="float: right;">📍 Bhopal, M.P.</span> Topic: <i>Hands-On Workshop on Configuring and Using Moodle for Online Teaching and Assessment</i>

*National Workshop*

*National FDP*

*National FDP*

*National Training*

*National Workshop*



## WORKSHOPS & SEMINARS

Sep. 2025	<b>IEEE Authorship and Open Access Symposium</b> IEEE <span style="float: right;">📍 Online</span>
Jul. 2022	<b>Workshop on Artificial Intelligence and High-Performance Computing</b> NIT Mizoram & IIT Kharagpur <span style="float: right;">📍 Online</span>
Mar. 2020	<b>Six-Day Student Excellence and Learning Program (NPIU-SELP)</b> TEQIP-III at MANIT <span style="float: right;">📍 Bhopal, M.P.</span>
Dec. 2019	<b>AICTE Training and Learning (ATAL) Academy Five-Day Workshop</b> Department of Electronics and Communication Engineering, MANIT <span style="float: right;">📍 Online</span>
Jan. 2018	<b>NPTEL Awareness Workshop and Online Learning</b> NPTEL Local Chapter & ICT Cell, IEHE <span style="float: right;">📍 Bhopal, M.P.</span>
Feb. 2017	<b>National Seminar on Emerging Trends in CS and IT (ETCSIT)</b> Department of Computer Science, IEHE <span style="float: right;">📍 Bhopal, M.P.</span>

*International Symposium*

*National Workshop*

*National Workshop*





*National Workshop*

*National Workshop*

*National Seminar*



## PROFESSIONAL DEVELOPMENT

Nov. 2019	<ul style="list-style-type: none"><li>● <b>Faculty Development Programme on Trends in Virtual Reality and Augmented Reality for Gaming</b> Department of Mathematics, Bioinformatics and Computer Applications, MANIT</li></ul>	National FDP
	 Bhopal M.P.	
Sep. 2019	<ul style="list-style-type: none"><li>● <b>Faculty Development Programme on Analytics of Things and Big Data</b> Department of Mathematics, Bioinformatics and Computer Applications, MANIT</li></ul>	National FDP
	 Bhopal M.P.	
May. 2019	<ul style="list-style-type: none"><li>● <b>Faculty Induction Programme (FIP) under TLC Project</b> National Institute of Technical Teachers' Training and Research, Bhopal</li></ul>	National FDP
	 Bhopal M.P.	
Sep. 2016	<ul style="list-style-type: none"><li>● <b>Faculty Development Programme on Innovative Teaching Methodologies in the Present Context</b> Department of Computer Science, IEHE, Bhopal</li></ul>	National FDP
	 Bhopal M.P.	



## SERVICE & LEADERSHIP






## REVIEWING & EDITORIAL WORK

2025	<ul style="list-style-type: none"><li>● <b>Students' Conference on Electrical, Electronics and Computer Sciences (SCEECS2025)</b> MANIT Student Branch</li></ul>	Meta Reviewer
2024	<ul style="list-style-type: none"><li>● <b>1<sup>st</sup> International Conference on Artificial Intelligence for Innovations in Healthcare Industries (ICAIIHI)</b> ICHISS2024 Technical Program Committee</li></ul>	Reviewer
2024	<ul style="list-style-type: none"><li>● <b>4<sup>th</sup> IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems (IEEE SPICES 2024)</b> IIIT Kottayam</li></ul>	Reviewer
2024	<ul style="list-style-type: none"><li>● <b>7<sup>th</sup> International Conference Recent Trends in Image Processing &amp; Pattern Recognition (RTIP2R 2024)</b> IIIT Bhopal</li></ul>	Reviewer
2024	<ul style="list-style-type: none"><li>● <b>Students' Conference on Electrical, Electronics and Computer Sciences (SCEECS2024)</b> MANIT Student Branch</li></ul>	Meta Reviewer



## ACADEMIC ICT CONTRIBUTIONS

2018	<ul style="list-style-type: none"><li>● <b>TechFest Promotional Teaser (IEHE)</b> ICT Cell, IEHE</li></ul>	Developer
	 Bhopal, MP	
	<i>Created the first-ever promotional video for the departmental TechFest.</i>	
2017   2019	<ul style="list-style-type: none"><li>● <b>Moodle-Based Online Assignment Submission System</b> ICT Cell, IEHE</li></ul>	Coordinator
	 Bhopal, MP	
	<i>Implemented digital submission and trained faculty.</i>	
2017   2019	<ul style="list-style-type: none"><li>● <b>Google Sites for student tasks</b> ICT Cell, IEHE</li></ul>	Coordinator
	 Bhopal, MP	
	<i>Designed and deployed structured Google Sites workflows to eliminate paper-based submissions.</i>	



## EVENT ORGANIZATION & LEADERSHIP

2017  
|  
2019



### TechFest (Computer Forum) – Event Coordination

Department of Computer Science, IEHE

📍 Bhopal, MP

*Assisted in planning, sessions, publicity.*

Coordinator



## OPEN SOURCE PROJECTS

2024



### MANIT Thesis Quarto Extension (manit-thesis)

Developer & Maintainer

*Quarto extension that applies MANIT-approved thesis formatting through a reusable template for fully reproducible dissertation authoring.*

🐙 GitHub

2024



### MANIT Presentation Template (manit-presentation)

Developer

*Quarto presentation theme (reveal.js/beamer) aligned with MANIT branding, designed for research talks, conference presentations, and academic seminars with automated slide structuring, code highlighting, and reusable layouts.*

🐙 GitHub

2024



### MANIT Pre-Thesis Template (manit-pre-thesis)

Developer

*Quarto document template for MANIT PhD Pre-Thesis / Synopsis reports with standardized academic sections and automated formatting.*

🐙 GitHub



## REFERENCES



### Dr. Amit Bhagat

Associate Professor, Department of Mathematics, Bioinformatics and  
Computer Applications  
Maulana Azad National Institute of Technology, Bhopal

📍 M.P. India

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### Dr. R. Vishnu Priya

Assistant Professor, Department of Computer Applications  
National Institute of Technology, Tiruchirappalli

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vishnupriya@nitt.edu

📞 +91 9486072557