

# PRASHANT KUMAR NAG

## Curriculum Vitæ

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 | 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
- 📍 Bhopal, Madhya Pradesh, India
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- ⌚ prashantnag93
- 👉 EhalZtAAAAAJ&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

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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

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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 3.9 (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 · Q2 · CiteScore 4.2 (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 2.6 (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  
*ICAIIHI2023*

*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 | <ul style="list-style-type: none"><li>● <b>Emotional Intelligence Through Artificial Intelligence : NLP and Deep Learning in the Analysis of Healthcare Texts</b><br/><u>Prashant Kumar Nag</u></li></ul>   | <a href="#">arXiv</a><br> <a href="#">Read</a>    |
| 2024 | <ul style="list-style-type: none"><li>● <b>A Systematic Review of AI, Emotional Analysis, and Patient-Centric Applications in Healthcare</b><br/><u>Prashant Kumar Nag, Amit Bhagat, R Vishnu Priya</u></li></ul>   | <a href="#">TechRxiv</a><br> <a href="#">Read</a> |
| 2024 | <ul style="list-style-type: none"><li>● <b>Advancing Patient Care through Text Data: A Systematic Review of AI, Emotional Analysis, and Patient-Centric Applications in Healthcare</b><br/><u>Prashant Kumar Nag, Amit Bhagat, R Vishnu Priya</u></li></ul> | <a href="#">TechRxiv</a><br> <a href="#">Read</a> |

## OTHER PUBLICATIONS

- |      |  |                                |
|------|--|--------------------------------|
| 2018 | <ul style="list-style-type: none"><li>● <b>Impact of Digitization on Indian Economy</b><br/><u>Prashant Kumar Nag</u><br/>NCDEIC2018</li></ul> | <i>Conference Presentation</i> |
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## AWARDS & ACHIEVEMENTS

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|-----------|--|--|
| Jun. 2020 | <ul style="list-style-type: none"><li>● <b>National Fellowship for Scheduled Caste Students (2020-21)</b><br/>National Testing Agency (NTA)  India<br/><i>Awarded by the Ministry of Social Justice and Empowerment, Government of India.</i></li><li>● <b>National Eligibility Test for Assistant Professor</b><br/>National Testing Agency (NTA) / University Grants Commission (UGC)<ul style="list-style-type: none"><li>· Jun. 2020 (53.33%): Qualified for Assistant Professor</li><li>· Dec. 2019 (46.67%): Qualified for Assistant Professor</li><li>· Jun. 2019 (50.00%): Qualified for Assistant Professor</li><li>· Dec. 2015 (53.71%): Qualified for Assistant Professor</li></ul></li><li>● <b>MCA Entrance Examinations</b><br/>Cleared National Level MCA Entrance Exams<ul style="list-style-type: none"><li>· IIT JAM (2011): Qualified (SC Category)</li><li>· JNU MCA Entrance Exam (2011): Qualified (SC Category)</li><li>· MCA Entrance Test (BIT) (2011): AIR 17</li><li>· KIITEE Entrance Exam (2011): Rank 15 (SC Category)</li><li>· NIMCET (2011, 2012): Qualified</li></ul></li></ul> | <i>National Fellowship</i><br><br><i>Eligibility Examination (UGC-NET)</i><br><br><i>Entrance / Competitive Examinations</i> |
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## EXPERT LECTURES DELIVERED

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| Oct. 2023 | <ul style="list-style-type: none"><li>● <b>Question Bank Development Workshop</b><br/>Department of Physics &amp; Electronics, IEHE  Bhopal, M.P.<br/>Topic: <i>Workshop on Question Bank Development and Outcome-Based Assessment Design</i></li></ul> | <i>Delivered session</i> |
| Feb. 2022 | <ul style="list-style-type: none"><li>● <b>National Workshop on Scilab</b><br/>Institute for Excellence in Higher Education (IEHE)  Bhopal, M.P.<br/>Topic: <i>Computation Through Scilab &amp; Solving differential Equations</i></li></ul>            | <i>National Workshop</i> |

Nov. 2019	<ul style="list-style-type: none"> <li> <b>AICTE Training and Learning (ATAL) Academy FDP</b>            Department of Mathematics, Bioinformatics and Computer Applications   Bhopal, M.P.            Topic: <i>Introduction to Virtual Reality: Concepts, Applications, and Future Trends</i> </li> </ul>	National FDP
Sep. 2019	<ul style="list-style-type: none"> <li> <b>AICTE Training and Learning (ATAL) Academy FDP</b>            Department of Mathematics, Bioinformatics and Computer Applications   Bhopal, M.P.            Topic: <i>Fundamentals of Naive Bayes Classification and Its Applications in Machine Learning</i> </li> </ul>	National FDP
Aug. 2018	<ul style="list-style-type: none"> <li> <b>Certificate Course in Cryptography (CCC)</b>            Institute for Excellence in Higher Education (IEHE)   Bhopal, M.P.            Topic: <i>Foundation Course on Cryptography: Principles, Algorithms, and Applications</i> </li> </ul>	
Feb. 2018	<ul style="list-style-type: none"> <li> <b>Basic Computer Training</b>            RCVF Noronha Academy   Bhopal, M.P.            Topic: <i>Cloud Computing for Educators: Practical Use of Google Drive, Skype, and Cloud-Based Collaboration Tools</i> </li> </ul>	National Training
Jan. 2018	<ul style="list-style-type: none"> <li> <b>NPTL Awareness Workshop and Online Learning</b>            NPTL Local Chapter &amp; ICT Cell, IEHE   Bhopal, M.P.            Topic: <i>Hands-On Workshop on Configuring and Using Moodle for Online Teaching and Assessment</i> </li> </ul>	National Workshop
<b>WORKSHOPS &amp; SEMINARS</b>		
Sep. 2025	<ul style="list-style-type: none"> <li> <b>IEEE Authorship and Open Access Symposium</b>            IEEE   Online         </li> </ul>	International Symposium
Jul. 2022	<ul style="list-style-type: none"> <li> <b>Workshop on Artificial Intelligence and High-Performance Computing</b>            NIT Mizoram &amp; IIT Kharagpur   Online         </li> </ul>	National Workshop
Mar. 2020	<ul style="list-style-type: none"> <li> <b>Six-Day Student Excellence and Learning Program (NPIU-SELP)</b>            TEQIP-III at MANIT   Bhopal, M.P.         </li> </ul>	National Workshop
Dec. 2019	<ul style="list-style-type: none"> <li> <b>AICTE Training and Learning (ATAL) Academy Five-Day Workshop</b>            Department of Electronics and Communication Engineering, MANIT   Online         </li> </ul>	National Workshop
Jan. 2018	<ul style="list-style-type: none"> <li> <b>NPTEL Awareness Workshop and Online Learning</b>            NPTEL Local Chapter &amp; ICT Cell, IEHE   Bhopal, M.P.         </li> </ul>	National Workshop
Feb. 2017	<ul style="list-style-type: none"> <li> <b>National Seminar on Emerging Trends in CS and IT (ETCSIT)</b>            Department of Computer Science, IEHE   Bhopal, M.P.         </li> </ul>	National Seminar
<b>PROFESSIONAL DEVELOPMENT</b>		
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   Bhopal M.P.         </li> </ul>	National FDP

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>	 Bhopal M.P.	National FDP
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>	 Bhopal M.P.	National FDP
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>	 Bhopal M.P.	National FDP

## 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 (ICAIHI)</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>	 Bhopal, MP	Developer
2017   2019	<ul style="list-style-type: none"> <li><b>Moodle-Based Online Assignment Submission System</b> ICT Cell, IEHE</li> </ul>	 Bhopal, MP	Coordinator
2017   2019	<ul style="list-style-type: none"> <li><b>Google Sites for student tasks</b> ICT Cell, IEHE</li> </ul>	 Bhopal, MP	Coordinator

### EVENT ORGANIZATION & LEADERSHIP

2017   2019	<ul style="list-style-type: none"> <li><b>TechFest (Computer Forum) – Event Coordination</b> Department of Computer Science, IEHE</li> </ul>	 Bhopal, MP	Coordinator
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## 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.*



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.*



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.*



## REFERENCES

- **Dr. Amit Bhagat**

Associate Professor, Department of Mathematics, Bioinformatics and Computer Applications

Maulana Azad National Institute of Technology, Bhopal



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- **Dr. R. Vishnu Priya**

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National Institute of Technology, Tiruchirappalli



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