

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 techniques, and rule-based cognitive explanations for deep NLP models

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
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Jul. 2015

● **Master of Computer Applications (MCA)**

National Institute of Technology, Tiruchirappalli

T. N. India

Thesis: *QR Code-Based Automated Attendance System for Classrooms*

Jul. 2008
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Aug. 2011

● **Bachelor of Computer Applications (BCA)**

Devi Ahilya Vishwavidyalaya, Indore

M.P. India

Aug. 2016
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Apr. 2019

TEACHING EXPERIENCE (3+ years)

● **Faculty – Computer Science**

Institute for Excellence in Higher Education, Bhopal

M.P. India

*Undergraduate Computer Science teaching across multiple academic sessions, delivering lectures, supervised practicals, conducting evaluations, and mentoring students. Completed a total of **1,948** lectures between **2016 and 2019** as part of continuous teaching engagement.*

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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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, including practical supervision, evaluations, and student academic support.
Courses taught: Introduction to Programming, Computer Fundamentals, Internet and Web Design
 - **Assistant Professor – Computer Science**
Sony College of Mgmt. and Technology, Chhindwara  M.P. India
Undergraduate and postgraduate teaching in Computer Science; responsible for lectures, practical sessions, assessments, 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

- Apr. 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
- Nov. 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
- Sep. 2023
- **Text-Based Emotion Recognition Using Contextual Phrase Embedding Model**
Vishnu Priya R., Prashant Kumar Nag
Multimed Tools Appl

SCIE · Q1 · IF 3.6 (JCR 2023)

 Read

Scopus · Q3 · IF 0.9 (2024)

 Read

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
International Conference on Healthcare Innovation and Smart Systems (ICHISS 2024) (Conference Presentation)
- Dec. 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
2023 International Conference on Artificial Intelligence for Innovations in Healthcare Industries (ICAIIHI) (Conference Presentation)
- Jun. 2021
- **Contextual BI-Directional Attention Flow With Embeddings From Language Models: A Generative Approach to Emotion Detection**
Prashant Kumar Nag, Vishnu Priya R
AIR '21: Proceedings of the 2021 5th International Conference on Advances in Robotics (Conference Presentation)

AIP Conference Proceedings

IEEE Xplore

 Read

ACM

 Read



PREPRINTS

- Jul. 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
- Mar. 2024 • **Emotional Intelligence Through Artificial Intelligence : NLP and Deep Learning in the Analysis of Healthcare Texts**
Prashant Kumar Nag
arXiv
Read
- Dec. 2024 • **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

- Mar. 2018 • **Impact of Digitization on Indian Economy**
Prashant Kumar Nag
2nd National Conference on "Digital Economy: Impact and Challenges"
(Conference Presentation)

IEHE Bhopal



AWARDS & ACHIEVEMENTS

- Jun. 2020 • **National Fellowship for Scheduled Caste Students (2020-21)**
National Testing Agency India
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 Bhopal, M.P.
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 / University Grants Commission
Qualified for Assistant Professor
Jun. 2020 (53.33%) Dec. 2019 (46.67%) Jun. 2019 (50.00%)
Dec. 2015 (53.71%)
- **MCA Entrance Examinations**
Cleared National Level MCA Entrance Exams
IIT JAM (2011) JNU MCA (2011) NIMCET (2011, 2012)
BIT MCA (2011): AIR 17 KIITEE MCA (2011): Rank 15 (SC)

National Fellowship

Entrance / Competitive Examination

Eligibility Examination (UGC-NET)

Entrance / Competitive Examinations



EXPERT LECTURES DELIVERED

- Oct. 2023 • **Question Bank Development Workshop**
Department of Physics & Electronics, IEHE Bhopal, M.P.
Topic: Workshop on Question Bank Development and Outcome-Based Assessment Design
- Feb. 2022 • **National Workshop on Scilab**
Institute for Excellence in Higher Education (IEHE) Bhopal, M.P.
Topic: Computation Through Scilab & Solving differential Equations

Delivered session

National Workshop

Nov. 2019	<ul style="list-style-type: none"> AICTE Training and Learning (ATAL) Academy FDP Dept. of Mathematics, Bioinformatics and Computer Applications Bhopal, M.P. Topic: <i>Introduction to Virtual Reality: Concepts, Applications, and Future Trends</i> 	National FDP
Sep. 2019	<ul style="list-style-type: none"> AICTE Training and Learning (ATAL) Academy FDP Dept. of Mathematics, Bioinformatics and Computer Applications Bhopal, M.P. Topic: <i>Fundamentals of Naive Bayes Classification and Its Applications in Machine Learning</i> 	National FDP
Aug. 2018	<ul style="list-style-type: none"> Certificate Course in Cryptography (CCC) Institute for Excellence in Higher Education (IEHE) Bhopal, M.P. Topic: <i>Foundation Course on Cryptography: Principles, Algorithms, and Applications</i> 	
Feb. 2018	<ul style="list-style-type: none"> Basic Computer Training RCPV Noronha Academy Bhopal, M.P. Topic: <i>Cloud Computing for Educators: Practical Use of Google Drive, Skype, and Cloud-Based Collaboration Tools</i> 	National Training
Jan. 2018	<ul style="list-style-type: none"> NPTL Awareness Workshop and Online Learning NPTL Local Chapter & ICT Cell, IEHE Bhopal, M.P. Topic: <i>Hands-On Workshop on Configuring and Using Moodle for Online Teaching and Assessment</i> 	National Workshop

WORKSHOPS & SEMINARS

Sep. 2025	<ul style="list-style-type: none"> IEEE Authorship and Open Access Symposium IEEE Online 	International Symposium
Jul. 2022	<ul style="list-style-type: none"> Workshop on Artificial Intelligence and High-Performance Computing NIT Mizoram & IIT Kharagpur Online 	National Workshop
Mar. 2020	<ul style="list-style-type: none"> Six-Day Student Excellence and Learning Program (NPIU-SELP) TEQIP-III at MANIT Bhopal, M.P. 	National Workshop
Dec. 2019	<ul style="list-style-type: none"> AICTE Training and Learning (ATAL) Academy Five-Day Workshop Dept. of Electronics and Communication Engineering, MANIT Online 	National Workshop
Jan. 2018	<ul style="list-style-type: none"> NPTEL Awareness Workshop and Online Learning NPTEL Local Chapter & ICT Cell, IEHE Bhopal, M.P. 	National Workshop
Feb. 2017	<ul style="list-style-type: none"> National Seminar on Emerging Trends in CS and IT (ETCSIT) Department of Computer Science, IEHE Bhopal, M.P. 	National Seminar

PROFESSIONAL DEVELOPMENT

Nov. 2019	<ul style="list-style-type: none"> AICTE Training And Learning (ATAL) Academy FDP on “Augmented Reality (AR)/Virtual Reality (VR)” Department of MBC, MANIT Bhopal M.P. 	National FDP
Sep. 2019	<ul style="list-style-type: none"> AICTE Training And Learning (ATAL) Academy FDP on “Internet of Things (IoT)” Department of MBC, MANIT Bhopal M.P. 	National FDP

- May. 2019
- **Faculty Induction Programme (FIP) under TLC Project**
NITTTR
- Sep. 2016
- **Faculty Development Programme on Innovative Teaching Methodologies in the Present Context**
Department of Computer Science, IEHE

National FDP

National FDP

SERVICE & LEADERSHIP

REVIEWING & EDITORIAL WORK

- 2025
- **Students' Conference on Electrical, Electronics and Computer Sciences (SCEECS2025)**
MANIT Student Branch
- 2024
- **1st International Conference on Artificial Intelligence for Innovations in Healthcare Industries (ICAIHI)**
ICHISS2024 Technical Program Committee
- 2024
- **4th IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems (IEEE SPICES 2024)**
IIIT Kottayam
- 2024
- **7th International Conference Recent Trends in Image Processing & Pattern Recognition (RTIP2R 2024)**
IIIT Bhopal
- 2024
- **Students' Conference on Electrical, Electronics and Computer Sciences (SCEECS2024)**
MANIT Student Branch

Meta Reviewer

Reviewer

Reviewer

Reviewer

Meta Reviewer

EVENT ORGANIZATION & LEADERSHIP

- 2024
- **6th International Conference on communication and Intelligent Systems (ICCIS 2024)**
Soft Computing Research Society
- 2024
- Bhopal, MP
- Served as a Session Coordinator in the Technical Session: TSo4 - Emerging Techniques*
- 2017
- **TechFest (Computer Forum) – Event Coordination**
Department of Computer Science, IEHE
- 2019
- Bhopal, MP
- Coordinated the departmental TechFest under the Computer Forum, assisting in event planning, session management, and publicity activities.*

Session Coordinator

Coordinator

ACADEMIC ICT CONTRIBUTIONS

- 2018
- **TechFest Promotional Teaser (IEHE)**
ICT Cell, IEHE
- 2019
- Bhopal, MP
- Created the first-ever promotional video for the departmental TechFest.*
- **Moodle-Based Online Assignment Submission System**
ICT Cell, IEHE
- 2019
- Bhopal, MP
- Configured Moodle's assignment and MCQ modules, prepared structured student data, and trained ICT staff and faculty. Adopted by the Departments of Chemistry, Mathematics, and Forensic Science for digital submissions and MCQ assessments.*

Media Designer

Coordinator

2017
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2019

- **Google Sites-Based Student Workflow System**
ICT Cell, IEHE  Bhopal, MP
Designed and implemented structured Google Sites workflows to digitize event registration, share schedules and instructions, and significantly reduce paper-based processes across student activities.

Coordinator

2017
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2019

ACADEMIC LEADERSHIP

- **Board of Studies – Computer Science**
Department of Computer Science, IEHE  Bhopal, MP
Contributed to curriculum review and syllabus restructuring, aligning course contents with emerging trends in computer science and industry requirements.

Member

2024

OPEN SOURCE PROJECTS

- **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.
- **MANIT Presentation Template (manit-presentation)**
Developer & Maintainer 
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.
- **MANIT Pre-Thesis Template (manit-pre-thesis)**
Developer & Maintainer 
Quarto document template for MANIT PhD Pre-Thesis / Synopsis reports with standardized academic sections and automated formatting.

2024

REFERENCES

- **Dr. Amit Bhagat**
Associate Professor, Department of Mathematics, Bioinformatics and Computer Applications
Maulana Azad National Institute of Technology, Bhopal  M.P. India
- **Dr. R. Vishnu Priya**
Assistant Professor, Department of Computer Applications
National Institute of Technology, Tiruchirappalli  T.N. India

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