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
|
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
|
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
|
Aug. 2011

Bachelor of Computer Applications (BCA)
Devi Ahilya Vishwavidyalaya, Indore 📍 M.P. India

💻 TEACHING EXPERIENCE (3+ years)

Aug. 2016
|
Apr. 2019

Faculty – Computer Science
Institute for Excellence in Higher Education (IEHE), 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
🗺 Bhopal, Madhya Pradesh, India
✉ prashantnag.workmail@gmail.com
📞 +91 7999459648
🏠 prashantnag93.github.io
🆔 0000-0002-1601-1455
in 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

Last updated on 2025-12-04.

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*

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; 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
<u>Prashant Kumar Nag</u>, Amit Bhagat, R. Vishnu Priya
IEEE Access

SCIE · **Q1** · IF **3.6** (JCR 2023)
🔖 Read

Nov. 2024

Yolov5-Based Attention Mechanism for Gesture Recognition in Complex Environment
Deepak Kumar Khare, Amit Bhagat, R. Vishnu Priya, <u>Prashant Kumar Nag</u>, Sunil Malviya
International Journal of Advanced Computer Science & Applications

Scopus · **Q3** · IF **0.9** (2024)
🔖 Read

Sep. 2023

Text-Based Emotion Recognition Using Contextual Phrase Embedding Model
Vishnu Priya R., <u>Prashant Kumar Nag</u>
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
<u>Prashant Kumar Nag</u>, Amit Bhagat, R Vishnu Priya, Sunil Malviya, Sanjay Mishra
International Conference on Healthcare Innovation and Smart Systems (ICHISS 2024) (Conference Presentation)

AIP Conference Proceedings

Dec. 2023

Emotional Intelligence Through Artificial Intelligence: NLP and Deep Learning in the Analysis of Healthcare Texts
<u>Prashant Kumar Nag</u>, Amit Bhagat, R. Vishnu Priya, Deepak Kumar Khare
2023 International Conference on Artificial Intelligence for Innovations in Healthcare Industries (ICAIIHI) (Conference Presentation)

IEEE Xplore
🔖 Read

Jun. 2021

Contextual BI-Directional Attention Flow With Embeddings From Language Models: A Generative Approach to Emotion Detection
<u>Prashant Kumar Nag</u>, Vishnu Priya R

AIR '21: Proceedings of the 2021 5th International Conference on Advances in Robotics (Conference Presentation)

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

IEHE Bhopal

2ⁿᵈ National Conference on "Digital Economy: Impact and Challenges" (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, M.P.

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 — **National Workshop on Scilab**
Institute for Excellence in Higher Education (IEHE) 📍 Bhopal, M.P.

National Workshop

Topic: *Computation Through Scilab & Solving differential Equations*

Nov. 2019 — **AICTE Training and Learning (ATAL) Academy FDP**
Department of Mathematics, Bioinformatics and Computer Applications

National FDP

📍 Bhopal, M.P.

Topic: *Introduction to Virtual Reality: Concepts, Applications, and Future Trends*

Sep. 2019 — **AICTE Training and Learning (ATAL) Academy FDP**
Department of Mathematics, Bioinformatics and Computer Applications

National FDP

📍 Bhopal, M.P.

Topic: *Fundamentals of Naive Bayes Classification and Its Applications in Machine Learning*

Aug. 2018 — **Certificate Course in Cryptography (CCC)**
Institute for Excellence in Higher Education (IEHE) 📍 Bhopal, M.P.

Topic: *Foundation Course on Cryptography: Principles, Algorithms, and Applications*

Feb. 2018 — **Basic Computer Training**
RCVP Noronha Academy 📍 Bhopal, M.P.

National Training

Topic: *Cloud Computing for Educators: Practical Use of Google Drive, Skype, and Cloud-Based Collaboration Tools*

Jan. 2018 — **NPTL Awareness Workshop and Online Learning**
NPTL Local Chapter & ICT Cell, IEHE 📍 Bhopal, M.P.

National Workshop

Topic: *Hands-On Workshop on Configuring and Using Moodle for Online Teaching and Assessment*

🖥️ WORKSHOPS & SEMINARS

Sep. 2025 — **IEEE Authorship and Open Access Symposium**
IEEE 📍 Online

International Symposium

Jul. 2022 — **Workshop on Artificial Intelligence and High-Performance Computing**
NIT Mizoram & IIT Kharagpur 📍 Online

National Workshop

Mar. 2020 — **Six-Day Student Excellence and Learning Program (NPIU-SELP)**
TEQIP-III at MANIT 📍 Bhopal, M.P.

National Workshop

Dec. 2019 — **AICTE Training and Learning (ATAL) Academy Five-Day Workshop**
Department of Electronics and Communication Engineering, MANIT

National Workshop

📍 Online

Jan. 2018 — **NPTEL Awareness Workshop and Online Learning**
NPTEL Local Chapter & ICT Cell, IEHE 📍 Bhopal, M.P.

National Workshop

Feb. 2017 — **National Seminar on Emerging Trends in CS and IT (ETCSIT)**
Department of Computer Science, IEHE 📍 Bhopal, M.P.

National Seminar

🎓 PROFESSIONAL DEVELOPMENT

Nov. 2019 — **AICTE Training And Learning (ATAL) Academy FDP on "Augmented Reality (AR)/Virtual Reality (VR)"**
Department of Mahtematics, Bioinformatics and Computer Applications, MANIT
📍 Bhopal M.P.
National FDP

Sep. 2019 — **AICTE Training And Learning (ATAL) Academy FDP on "Internet of Things (IoT)"**
Department of Mahtematics, Bioinformatics and Computer Applications, MANIT
📍 Bhopal M.P.
National FDP

May. 2019 — **Faculty Induction Programme (FIP) under TLC Project**
National Institute of Technical Teachers' Training and Research, Bhopal
📍 Bhopal M.P.
National FDP

Sep. 2016 — **Faculty Development Programme on Innovative Teaching Methodologies in the Present Context**
Department of Computer Science, IEHE, Bhopal 📍 Bhopal M.P.
National FDP

👥 SERVICE & LEADERSHIP

📋 REVIEWING & EDITORIAL WORK

2025 — **Students' Conference on Electrical, Electronics and Computer Sciences (SCEECS2025)**
MANIT Student Branch
Meta Reviewer

2024 — **1st International Conference on Artificial Intelligence for Innovations in Healthcare Industries (ICAIIHI)**
ICHISS2024 Technical Program Committee
Reviewer

2024 — **4th IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems (IEEE SPICES 2024)**
IIIT Kottayam
Reviewer

2024 — **7th International Conference Recent Trends in Image Processing & Pattern Recognition (RTIP2R 2024)**
IIIT Bhopal
Reviewer

2024 — **Students' Conference on Electrical, Electronics and Computer Sciences (SCEECS2024)**
MANIT Student Branch
Meta Reviewer

💻 ACADEMIC ICT CONTRIBUTIONS

2018 — **TechFest Promotional Teaser (IEHE)**
ICT Cell, IEHE 📍 Bhopal, MP
Created the first-ever promotional video for the departmental TechFest.
Media Designer

2017 | 2019 — **Moodle-Based Online Assignment Submission System**
ICT Cell, IEHE 📍 Bhopal, MP
Implemented digital submission and trained faculty.
Coordinator

2017 | 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

👥 EVENT ORGANIZATION & LEADERSHIP

2017
|
2019

TechFest (Computer Forum) – Event Coordination
Department of Computer Science, IEHE   📍 Bhopal, MP
*Coordinated the departmental TechFest under the Computer Forum,
assisting in event planning, session management, and publicity activities.*

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 & 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.*

🔗 GitHub

2024

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.*

🔗 GitHub

📇 REFERENCES

Dr. Amit Bhagat
Associate Professor, Department of Mathematics, Bioinformatics
and Computer Applications
Maulana Azad National Institute of Technology, Bhopal
📍 M.P. India

✉ am.bhagat@gmail.com
  amitbhagat@manit.ac.in
📞 +91 9827721214

Dr. R. Vishnu Priya
Assistant Professor, Department of Computer Applications
National Institute of Technology, Tiruchirappalli
📍 T.N. India

✉ vissaru@yahoo.co.in
  vishnupriya@nitt.edu
📞 +91 9486072557