

MANJU BHARDWAJ

Associate Professor

Department Of Computer Science

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EDUCATIONAL QUALIFICATIONS:

- *PhD from Department of Computer Science, University of Delhi (India)*
- *MCA from Department of Computer Science, University of Delhi (India)*
- *BSc(H) Mathematics from Miranda House, University of Delhi (India)*

TEACHING EXPERIENCE

- *Teaching students at undergraduate level in Maitreyi College (Delhi University) as Associate Professor in Department of Computer Science since September, 1996.*
- *Taught "Programming and Data Structures" to M.Sc (Computer Science) as guest faculty in South Asian University (SAU), Delhi from August to November, 2018.*
- *Taught papers on Programming in C/C++ and Data Mining under Co-operative teaching (DU) to M.Sc(Applied Operations Research) students in University of Delhi South Campus from 1996 to 2006.*

PAPERS TAUGHT

- *Computer System Architecture*
- *Operating Systems*
- *Linux and Shell scripting*
- *Computer Fundamentals*
- *Working with MS-Office*
- *Programming in C, C++, Python*
- *Programming with Visual Basic*
- *HTML/Javascript*
- *Database Systems*
- *Data Structures*
- *Computer Graphics*
- *Algorithms*
- *Computer Networks*
- *Data Mining*

AREA OF INTEREST

- *NLP*
- *Sentiment Analysis*

➤ *Classification Ensembles*

AWARD/GRANTS RECEIVED:

1. *Awarded National Education Excellence Award 2021 (Computer Science) by IMRF on November 11, 2021*
2. *Received Travel grant from University Grants commission (UGC), India to present the paper titled "Accurate classification of biological data using ensembles" at pre-PhD workshop of ICDM 2015 conference held in Atlantic city, USA (Nov 2015). Partial support also provided by the conference organizers as ICDM student travel award.*

LIST OF PUBLICATIONS

JOURNAL PUBLICATIONS

1. Manju Bhardwaj, Priya Mishra, Shikha Badhani and Sunil K. Muttoo. "**Sentiment analysis and Topic modeling of COVID-19 tweets of India**". International Journal of System Assurance Engineering and Management. Published Online, Aug 2023 .
<https://doi.org/10.1007/s13198-023-02082-0>
2. Manju Bhardwaj, Vasudha Bhatnagar, and Kapil Sharma. "**Cost-effectiveness of classification ensembles.**" In Pattern Recognition (Elsevier). Volume 57, Pp. 84-96, May 2016. Print ISSN 0031-3203. <https://doi.org/10.1016/j.patcog.2016.03.017>
3. Manju Bhardwaj and Vasudha Bhatnagar. "**Towards an optimally pruned classifier ensemble**". International Journal of Machine Learning and Cybernetics (Springer Berlin Heidelberg). Volume 6, Issue 5, Pp. 699-718, Oct 2015.. ISSN 1868-8071.
<https://doi.org/10.1007/s13042-014-0303-8>
4. Vasudha Bhatnagar, Manju Bhardwaj, Shivam Sharma and Sufyan Haroon. "**Accuracy-Diversity based Pruning of Classifier Ensembles**" in Progress in Artificial Intelligence (Springer), Volume 2, Issue 2-3 (pp. 97-111), June 2014. ISSN 2192-6352.
<https://doi.org/10.1007/s13748-014-0042-9>
5. Rishi Das Roy, Manju Bhardwaj, Vasudha Bhatnagar, Kausik Chakraborty and Debasis Dash. "**How do eubacterial organisms manage aggregation-prone proteome?**" in F1000Research, Jan 2014. DOI:10.12688/f1000research.4307.1

PAPERS ACCEPTED/PRESENTED IN CONFERENCES

1. Manju Bhardwaj, Priya Mishra, Shikha Badhani and S.K. Muttoo. "**Sentiment Analysis of Covid-19 Tweets of India**" in 2nd International Conference on Recent Trends in Engineering, Technology and Business Management (ICRTETBM-2023) held at Amity University, NOIDA, India from February 22-24, 2023.
2. Manju Bhardwaj, Shikha Badhani "Lexicon-Based Sentiment Analysis of Covid-19 Tweets of India" in the Conference on "The Expanding Frontiers of Knowledge" organized by the Centre for Research, Maitreyi College from August 11 -13, 2022.

3. Manju Bhardwaj, Shikha Badhani. "Pre- and post-COVID Era - Internationalization of educational ecosystem" in the conference "Connecting Germany and South Asia – The Future of Higher Education and Research Cooperation" held online from 18 to 22 October 2021.
4. Manju Bhardwaj, Debasis Dash, and Vasudha Bhatnagar. "**Accurate classification of biological data using ensembles.**" In 2015 IEEE International Conference on Data Mining Workshop (ICDMW), pp. 1486-1493. IEEE, held in Atlantic City, USA on 14-17 November, 2015. Print ISBN 978-1-4673-8492-6.
5. Vasudha Bhatnagar, Manju Bhardwaj and Ashish Mahabal. "**Comparing SVM ensembles for imbalanced datasets**" in 10th International Conference on Intelligent Systems Design and Applications (ISDA) (IEEE, Pp. 651-657) held in Cairo, Egypt on November 29-December 1, 2010. (IEEE). ISSN 2164-7143. Print ISBN 978-1-4244-8134-7.
6. Vasudha Bhatnagar, Eman Zaman, Yayati Rajpal and Manju Bhardwaj. "**VisTree : Generic Decision Tree Inducer and Visualizer**" in 6th International Workshop on Databases in Networked Information Systems (DNIS) (LNCS, Volume 5999, 2010, Pp. 225-243) held in Aizu, Japan on March 29-31, 2010. Print ISBN 978-3-642-12037-4.
7. Manju Bhardwaj, Trasha Gupta, Tanu Grover and Vasudha Bhatnagar. "**An Efficient Classifier Ensemble using SVM**" in Proceedings of International Conference on Methods and Models in Computer Science(ICM2CS 2009) (IEEE sponsored) (Pp. 240-246) held in JNU, Delhi, India on 4-5 December, 2009. Print ISBN 978-1-4244-5051-0.

MAGAZINE ARTICLE

1. Published an article on "Statistical Learning with WEKA" in June 2022 Linux-magazin ([ISSN-1432-640X](https://www.linux-magazin.de)) (Translated to German)
(<https://www.linux-magazin.de/ausgaben/2022/06/weka/>)

PAPER REVIEWER/ PROGRAM COMMITTEE MEMBER

1. Paper Reviewer for IEEE Access journal.
2. Member of Program Committee for Big Data Analytics (BDA 2018) conference held from December 18-21, 2018 in Warangal, India.
3. Member of Organizing Committee in International Conference On Big Data Analytics (BDA 2012) held in Delhi, India from December 24-26, 2012.

STUDENT PROJECTS

1. "Reinforcement learning approach in robotics: A comprehensive study" from 1st June, 2023 to 31st July, 2023 under the Summer Internship Programme (2022-23)
2. "Know What They Say: An AI based Communication Bridge Between Deaf and Hearing" from 1st June, 2023 to 31st July, 2023 under the Summer Internship Programme (2022-23)
3. "Sentiment analysis of Indian tweets during Covid-19" from 20th April, 2022 to 19th June, 2022 under the Summer Internship Programme (2021-2022)

4. “Skittles-An online shopping Website” from 25th May 2020 to 25th July 2020 under the Summer Internship programme (2020-2021)
5. “Lexicon Approach for Sentiment Analysis” from 15th May 2019 to 15th July 2019 under the Summer Internship programme (2019-2020)

ADDITIONAL RESPONSIBILITIES:

Besides teaching, additional responsibilities taken up in College and University:

- Worked as **College Coordinator for the NAAC accreditation cycle (2021) for SSR preparation** and peer team visit
- **Paper Setting and Paper evaluation** work in University of Delhi
- Active participant in **designing syllabus and planning guidelines** for UG courses in Computer Science conducted by University of Delhi under **FYUP, CBCS and LOCF**
- Being the founder member of the department, served as **Teacher-Incharge** of Deptt of Computer Science for nearly 15 academic years (1996-97 to 2007-2008, 2011-2012, 2012-2013, 2016-17, 2017-18)
- Additionally, Convenor/member of various committees in college from time-to-time:
 - **NAAC peer team during NAAC team visit** in 2016
 - **GeM/Purchase committee**
 - **Admission committee**
 - **Computerization committee**
 - **Website committee**
 - **Time-Table committee**
- Conducting **Computer Literacy programs** within college for faculty members, support staff and students
- **Program coordinator with ICT Academy** (A Government of India Initiative) for conducting FDPs and training programs in college (2019-21)
 - Organized two employability enhancing “Digital Literacy program” for girl students from economically weaker sections, conducted free of cost by ICT Academy in collaboration with Reliance (July 2019, August 2021)

WORKSHOP/WEBINAR ORGANIZATON & PARTICIPATION

1. Participated and completed the NEP 2020 Orientation & Sensitization Programme under Malaviya Mission Teacher Training Programme (MM-TTP) of University Grants Commission (UGC) organized by Centre for Professional Development in Higher Education (UGC-MMTTC), University of Delhi from 5th December 2023 to 14th December 2023
2. Participated in the One-Day Online Workshop sponsored by Science and Engineering Research Board on “Introduction to Machine Learning and Recommender Systems” organized on December 09, 2023 by Department of Computer Science, University of Delhi
3. Resource Person in the 30 hours Certificate Course on “Introduction to Python Programming” organized by Department of Computer Science in collaboration with Short Term Courses Committee, Maitreyi College, University of Delhi from 5 August to 23 September 2023
4. Resource Person for a session on “Role of IQAC Coordinator” on August 10, 2023 in the Five Day Interdisciplinary Online Faculty Development Programme (FDP) on Institutional Initiatives for Effective Assessment and Accreditation in the context of NEP-2020 from 07-08-2023 to 11-08-2023 organised at S.S & N College, Narasaraopet, by Sri Subbaraya and Narayana College, Narasaraopet, Palnadu District in collaboration with APCCE
5. Participated in Workshop on “e-Filing of Income Tax” organized by the Department of Computer Science in collaboration with Department of Commerce and Department of Economics, Maitreyi College, University of Delhi, India under the aegis of IQAC, Maitreyi

- College and W20 (Women 20) for India's G20 Presidency- Empowering Women in Financial Literacy, held on 28th July 2023
6. Participated in the workshop on "Stress Management" organized by Department of Computer Science, Maitreyi College in collaboration with ICT Academy on 27 June, 2023
 7. Participated in the webinar on "Artificial Intelligence and its Applications" organized by Department of Computer Science, Maitreyi College on 29th June, 2023
 8. Invited Speaker for conducting a session on "Roles and Responsibilities of IQAC Coordinator" on 16th May 2023 in a 3-day Residential training program for strengthening Assessment and Accreditation in GDCs and PACs organized by Commissionerate of Collegiate Education, AP in collaboration with P.R. Government College (A), Kakinada
 9. Resource person for the Certificate Course for College students on "ICT TOOLS AND APPLICATIONS" organized by the Department of Computer Science, Maitreyi College, University of Delhi, from 3rd to 16th January 2023
 10. Resource person for the Certificate Course for College students on "ICT TOOLS AND APPLICATIONS" organized by the Department of Computer Science, Maitreyi College, University of Delhi, from 3rd to 15th October 2022.
 11. Member, Organizing Team of the National Webinar on "AI & NLP: PAST, PRESENT AND FUTURE" on 28 February 2022, organized by Department of Computer Science, Maitreyi College, University of Delhi.
 12. Coordinator for Power Seminar on "Employability Skills for the Future" conducted by Department of Computer Science, Maitreyi College in collaboration with ICT Academy on 18th September, 2021
 13. Member, Organizing team for National Webinar on "Machine Learning and its applications" conducted by Department of Computer Science, Maitreyi College on August 21, 2021
 14. Resource person in one-week National Online Faculty Development Program on "Digital Pedagogy to Enhance Teaching and Learning Experience" jointly organized by Guru Angad Dev Teaching Learning Centre, SGTB Khalsa College, University of Delhi under the PMMMNMTT scheme and Maitreyi College from December 15-21, 2020
 15. Member, Organizing team for International webinar on "Network based approaches to explore Biological Data" conducted by Department of Computer Science, Maitreyi College on July 24, 2020
 16. Participated in the Third JNU Workshop for Empowering Teaching through Online Mode (JNU-WETOM III) on Theme 'Online Assessment and Evaluation' held on June 13-14, 2020
 17. Resource person for two-day TechnoUpdate 1.1 Workshop on Google sheets and Google Drive for Non-teaching staff organized by Department of Computer Science, Maitreyi College from May 11-12, 2020.
 18. Resource person in 3-month Skill Development Certificate course on "Applications of ICT Tools in Teaching & Learning Indian Languages" conducted by Enabling Unit, Maitreyi college from January 31, 2020 to April 30, 2020
 19. Participated in webinar on "Accelerating Experiential Learning in Engineering" organized by ICT Academy in the series "Season I : Technology for Future" held on April 12, 2020.
 20. Participated in webinar on "Introduction to VMWare Cloud" organized by ICT Academy in the series "Season I : Technology for Future" held on April 11, 2020.
 21. Participated in webinar on "Robotic Process Automation: Basics and Beyond" organized by ICT Academy in the series "Season I : Technology for Future" held on April 10, 2020.
 22. Participated in webinar on "Future of AI inspired by Customer Use Cases for AI-ML" organized by ICT Academy in the series "Season I : Technology for Future" held on April 9, 2020.
 23. Resource person in National workshop "Applications of ICT tools in Teaching and Learning Indian Languages" organized by Maitreyi College, University of Delhi, held from January 14-20, 2020
 24. Participated in BRIDGE 2019 conference organized by ICT Academy held in AICTE Auditorium, Delhi on December 11, 2019.

25. Participated in the poster session and presented a paper titled "Lexicon based Sentiment Analysis of Text Data" in NAAC sponsored National Seminar on Assessment and Accreditation of Best Practices in Higher Education Institutions under NAAC Framework organized by IQAC, Maitreyi College on November 5-6, 2019
26. Attended the National Conference on "Intellectual Property Rights (IPR): Challenges and Prospects" organized by Department of Botany, Maitreyi College held on October 22-23, 2019
27. Resource Person for "Computer Workshop on spreadsheet handling" for BA(H) Hindi IIIrd Year students of Maitreyi College from 22-24 May 2019
28. Resource Person for "Computer Workshop on Document creation and handling" for BA(H) Hindi IIIrd year students of Maitreyi College from December 18-21, 2018
29. Program coordinator with ICT Academy (A Government of India Initiative) for conducting FDPs and training programs in college
30. Organized an employability enhancing "Digital Literacy program" for girl students from economically weaker sections, conducted free of cost by ICT Academy in collaboration with Reliance July-August 2019
31. Attended a 1-day workshop on "AWS Educate Program" held in Guru Nanak Institute of Management, Delhi on 28th June, 2019
32. Resource person for Computer Literacy Program for Non-teaching staff of Maitreyi College from 13-15 September 2018
33. Member of Advisory committee in one-week Interdisciplinary course on "Disabilities Studies: Perspectives and Emerging Trends" organized by Enabling Unit, Maitreyi College in collaboration with TLC, Ramanujan College (under PMMMNMTT scheme) from Dec 17-23, 2018.

FACULTY DEVELOPMENT PROGRAMS (FDP)/WORKSHOPS ATTENDED:

1. Participated in FDP on Microsoft Azure Data Fundamentals (Online FDP) conducted by ICT Academy from March 28 – 30, 2022
2. Participated in a 2-week online FDP on "Comprehensive e-Learning to e-Training guide for Administrative Work" conducted by Ramanujan College, University of Delhi under PMMMNMTT scheme, from May 25 - June 05, 2020.
3. Participated in a 2-week FDP on "Managing Online Classes and Co-creating MOOCs" conducted by Ramanujan College, University of Delhi under PMMMNMTT scheme, from April 20-May 6, 2020
4. Participated in a 3-day FDP on "Data Science with Python" organized by IITM, Delhi from December 19-21, 2019.
5. Participated in a 3-day FDP on "Personality Development" held in Maitreyi College (Delhi University) from July 23-25, 2019.
6. Attended a 2-day FDP on "Big Data Analytics" held in SPM College (Delhi University) from 4-5 Dec 2018.

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