

Dr. Pragati Agrawal

CONTACT INFORMATION	Assistant Professor Computer Science and Engineering, Maulana Azad National Institute of Technology Bhopal, Madhya Pradesh, INDIA - 462003	(+91)9482840445 pragati.a.in@ieee.org , pragati@manit.ac.in https://www.linkedin.com/in/pragati-agrawal-919b341b/ https://www.manit.ac.in/content/dr-pragati-agrawal
RESEARCH INTERESTS	Machine Learning, Artificial Intelligence, Time Series Analysis, Energy Efficiency, Green Computing, Distributed Systems, Operating Systems.	
TEACHING EXPERIENCE	Maulana Azad National Institute of Technology, Bhopal, Madhya Pradesh, India Assistant Professor in Department of Computer Science and Engineering, January 2019 to Present. • Courses: Theory of Computation, Discrete Structures, Graph Theory, Machine Learning, Operating Systems, Compiler Design, Parallel & Distributed Algorithms, Optimization Techniques, Principles of Programming Languages, Algorithm Design and Analysis. Indian Institute of Information Technology Pune, Pune, Maharashtra, India Assistant Professor in Department of Computer Science and Engineering, July 2018 to December 2018. • Courses: Operating Systems and C Programming College of Engineering Pune, Pune, Maharashtra, India Assistant Professor in Department of Computer Engineering and Information Technology, July 2016 to June 2018. • Courses: Theory of Computation, Discrete Structure & Graph Theory, Operating Systems and Advance Operating Systems International Institute of Information Technology Bangalore, Bangalore, Karnataka, India Teaching Assistant, January 2013 to April 2015. • Courses: Introduction to Automata Theory & Computability, Data Modeling and Operating Systems Maulana Azad National Institute of Technology, Bhopal, Madhya Pradesh, India Assistant Professor in Department of Computer Science & Engineering and Information Technology, February 2011 to June 2011. • Courses: Communication Networks	

**University Institute of Technology, Rajiv Gandhi Proudyogiki Vishwavidyalaya,
Bhopal, Madhya Pradesh, India**

Lecturer in Computer Science & Engineering Department, February 2010 to February 2011.

- Courses: Data Structure & Algorithms, Theory of Computation and Wireless Communications

EDUCATION

**International Institute of Information Technology Bangalore, Bangalore,
India**

Ph.D. in Information Technology, June 2016

- Dissertation Topic: Algorithmic Approaches to Energy-Efficient Scheduling
- Advisor: Prof. Shrisha Rao
- CGPA: 3.65 out of 4

Thakral College of Technology, Bhopal, India

B.E. in Computer Science and Engineering, June 2009

- Honors degree with 80% marks from Rajiv Gandhi Technical University, Bhopal.
- Topper of Computer Science Batch 2005-2009 at Thakral College of Technology, Bhopal.

RESEARCH
PROJECT

Title: Development of Miniaturized Pressure Regulators (Non-moving type) for low flow rate application

Duration: Jan 2022 (Ongoing)

Funding Agency: Indian Space Research Organization (ISRO), Department of Space

Budget: INR 12,27,000/-

Title: Detection of fake tweets related to COVID-19

Duration: June 2020 to June 2021

Funding Agency: Covid-19 research projects by NIT Council

Budget: Nil

Title: Approximation and Search Algorithms for Scheduling under Constraints.

Duration: August 2019 to August 2021

Funding Agency: SEED-Money grant by MANIT Bhopal

Budget: INR 5,00,000/-

PUBLICATIONS

Varsha Kushwah, Pragati Agrawal, *Hybrid model for air quality prediction based on LSTM with random search and Bayesian optimization techniques*, Earth Science Informatics, volume 18, number 1, pp. 1–17, January 2025, <https://doi.org/10.1007/s12145-024-01514-0>.

Swaim Prabha Dwivedi, Sweta Jain, and Pragati Agrawal, *Review of Using Various Deep Learning Techniques and Cycle-GANs with Transformer for Disease Detection and Classification in Plant Leaves*. 2024 International Conference on Integrated Circuits, Communication, and Computing Systems (ICIC3S). Vol. 1. IEEE, June 2024.

Sreemoyee Biswas, Vrashti Nagar, Nilay Khare, Priyank Jain, Pragati Agrawal, *LD-CML: a novel ai-driven approach for privacy-preserving anonymization of quasi-identifiers*. Data and Metadata, volume 3, pp. 287–287, June 2024. <https://doi.org/10.56294/dm2024287>

Akash Pratim Bora, Pragati Agrawal, Sumit H Dhawane, *Vegetable Oil Based Epoxy*

Composites. In Vegetable Oil-Based Composites: Processing, Properties and Applications (pp. 107-131). 2024. Singapore: Springer Nature Singapore.

Pragati Agrawal, Gnanaprakash R., Sumit Dhawane, *Prediction of Biodiesel Yield Employing Machine Learning: Interpretability Analysis via Shapley Additive Explanations*, Elsevier, FUEL, November 2023. <https://doi.org/10.1016/j.fuel.2023.130516>.

Varsha Kushwah, Pragati Agrawal, *Decomposition Techniques and Long Short Term Memory Model with Black Widow Optimization for Stock Price Prediction* Multimedia Tools and Applications, volume 8, number 1, pp. 1–29, 2023. <https://doi.org/10.1007/s11042-023-17062-6>

Hussain Manasi, Amit Kumar, Varsha Kushwah, Pragati Agrawal, *A comparative study of the various optimizations applied on an LSTM for the application of Stock Price Predictions*, 3rd International Conference on Secure Cyber Computing and Communications, IEEE, May 2023.

Sonal Agrawal, Pragati Agrawal, *Detection of Pneumonia Cases from X-ray Chest Images using Deep Learning Based on Transfer Learning CNN and Hyperparameter Optimization*, 3rd International Conference on Secure Cyber Computing and Communications, IEEE, May 2023.

Dhruvi Thakkar, Pragati Agrawal, *Hybrid feature selection and Optimized Deep CNN for Heart disease Prediction*, 2nd International Conference on Paradigm Shifts in Communications Embedded Systems, Machine Learning and Signal Processing (PCEMS) (pp. 1-6), IEEE, April 2023.

Ayush Anand, Raghavendra Kulkarni, Pragati Agrawal, *Fake News Identification: An Effective Combined Approach using ML and DL Techniques*, 2nd International Conference on Paradigm Shifts in Communications Embedded Systems, Machine Learning and Signal Processing (PCEMS) (pp. 1-6), IEEE, April 2023.

Sreemoyee Biswas, Anuja Fole, Nilay Khare, Pragati Agrawal, *Enhancing correlated big data privacy using differential privacy and machine learning*, Springer, Journal of Big Data 10, volume 10, number 1, pp. 30, March 2023.

Akash Pratim Bora, Pragati Agrawal, Sumit H Dhawane, *Chapter Vegetable oil-based epoxy composites. Chapter in Vegetable Oil Based Composites- Processing, Properties and Applications*, Springer Nature, January 2022.

Vivek Ranjan, Pragati Agrawal, *Fake News Detection: GA-Transformer And IG-Transformer Based Approach*, Confluence 2022, International Conference on Cloud Computing, Data Science & Engineering, January 2022, Virtual.

Sreemoyee Biswas, Nilay Khare, Pragati Agrawal, Priyank Jain *Machine learning concepts for correlated Big Data privacy*, Journal of Big Data, volume 8, number 1, pp. 1–32, 2021.

Pragati Agrawal, Shrisha Rao, *Energy-efficient scheduling: Classification, bounds, and algorithms*, Sādhanā, volume 46, number 1, pp. 1–13, February 2021.

Pragati Agrawal, Shrisha Rao, *Energy-Minimal Scheduling of Divisible Loads*, 4th International Workshop on Energy-Efficient Data Centres (E2DC 2015), co-located with ACM E-Energy 2015, July 2015, doi:10.1145/2768510.2768528.

Pragati Agrawal, Damien Borgetto, Carmela Comito, Georges Da Costa, Jean-Marc Pierson, Payal Prakash, Shrisha Rao, Domenico Talia, Cheikhou Thiam, Paolo Trunfio, *Scheduling and Resource Allocation. Chapter 8 in Large Scale Distributed Systems and Energy Efficiency: A Holistic View (J.-M. Pierson, ed.)*, Wiley Series in Parallel and Distributed Computing (No. 6079), pp. 225–262, March 2015. ISBN 978-1118864630.

Pragati Agrawal, Shrisha Rao, *Energy-Aware Scheduling of Distributed Systems*, IEEE Transactions on Automation Science and Engineering, volume 11, number 4, pp. 1163–1175, October 2014, doi:10.1109/TASE.2014.2308955.

Shrisha Rao, Pragati Agrawal, *Solar Energy for Information Technology: Challenges and Possibilities*, Current Science, Vol. 104, No. 1, pp. 21–22, 10 January 2013.

Pragati Agrawal, Shrisha Rao, *Energy-Aware Scheduling of Distributed Systems Using Cellular Automata*, IEEE International Systems Conference, March 2012, Vancouver, doi:10.1109/SysCon.2012.6189481.

CONFERENCE TALKS

Machine Learning Assisted Modeling and Simulation of Biofuel Production, International Conference on Sustainable Energy and Environment (ICSEE) 2024 , Bhopal (Madhya Pradesh, India), February 24, 2024.

Energy-Minimal Scheduling of Divisible Loads, 4th International Workshop on Energy-Efficient Data Centres (E2DC 2015), co-located with ACM E-Energy 2015, Bangalore (Karnataka, India), July 14, 2015.

Energy-Aware Scheduling of Distributed Systems, ACM INDIA Annual event, Indian Institute of Technology Delhi (IITD), Delhi, India, February 16, 2014.

COMPUTER SKILLS

Operating Systems: Mac OS, Linux, Windows, DOS.

Languages: Python, C, C++, Java.

Database: Oracle (SQL, PL/SQL)

Technical Computing: MATLAB

Productivity Packages: L^AT_EX 2_ε

INDUSTRIAL TRAINING

inLysa Softwares:

Industrial training in inLysa Softwares, Bhopal.

Training was focused on Dot Net Technology which imparted knowledge of C# language, ADO.net, HTML (Web Designing), ASP.NET and SQL server.

CONFERENCES ATTENDED

- ❑ IEEE International Conference on Computing, Analytics and Security Trends (CAST-2016), COEP, Pune, Maharashtra, India, December 19-21, 2016.
- ❑ Data Center IT Summit, Bangalore (Karnataka, India), July 15, 2015.
- ❑ 4th International Workshop on Energy-Efficient Data Centres (E2DC 2015), co-located with ACM E-Energy 2015, Bangalore (Karnataka, India), July 14, 2015.
- ❑ Data center dynamics, 4th Annual DCD Converged Bangalore Conference (Bangalore Converged and Cloud Conference 2014), Sheraton Bangalore Hotel, Bangalore (Karnataka, India), September 18, 2014.
- ❑ ACM INDIA Annual event, IITD, Delhi, India, Feb 14-16, 2014.
- ❑ DatacenterDynamics Converged Bangalore 2012 Conference and Expo, Vivanta by TAJ, Bangalore (Karnataka, India), November 20, 2012.
- ❑ IEEE international conference CICON 2010: International Conference On Computational Intelligence And Communication Networks, R.G.P.V., Bhopal (Madhya Pradesh, India), November 26-28, 2010.

RELEVANT SKILLS	Languages: English, Hindi
PROFESSIONAL MEMBERSHIP	Senior member of the IEEE IEEE Women in Engineering IEEE Young Professionals Association for Computing Machinery (ACM) Women Techmakers Community AnitaB.org International Association of Engineers (IAENG).
REFERENCES	Prof. Shrisha Rao, Professor and Dean (Faculty), International Institute of Information Technology Bangalore, Bangalore, (080)41407722, srao@iiitb.ac.in Prof. Nilay Khare, Professor, Department of Computer Science and Engineering and Dean Research and Consultancy, Maulana Azad National Institute of Technology, Bhopal, (0755)4051319, nilay.khare@rediffmail.com Prof. Deepak Singh Tomar, Professor and Head, Department of Computer Science and Engineering, Head Center of Artificial Intelligence, Maulana Azad National Institute of Technology, Bhopal, (0755)4051304, deepaktomar@manit.ac.in