

## Faculty Profile:



Name : Dr. Karan Pathak  
Designation: : Assistant Professor  
Highest Qualification : Ph.D.  
Email Address : [karanp@srmist.edu.in](mailto:karanp@srmist.edu.in)

### PUBLICATIONS:

- Published a research paper titled "**Mathematical Modeling of Coronavirus Vaccine Supply Chain Inventory System with Warehouse Center Using Deep Learning and Artificial Bee Colony**" in the *International Journal of Mechanical Engineering*.
- Published a research paper titled "**A study of Covid-19 Pandemic on Beer Industry Supply Chain Inventory Management using Travelling Salesman Problem for Simulated Annealing**" in the *International Academy of Ecology and Environmental Sciences*.
- Published a research paper titled "**Optimizing Two-Warehouse Inventory for Shelf-Life Stock with Time-Varying Bi-Quadratic Demand Under Shortages and Inflation**" in the *Mathematical Modelling of Engineering Problems*.
- Published a research paper titled "**Enhancing Two-Warehouse Inventory Models for Perishable Goods: Time-Price Dependent Demand, Inflation, and Partial Backlogging**" in the *IAENG International Journal of Applied Mathematics*.
- Published a research paper titled "**An Inventory Model for Deteriorating goods with Exponential Demand, Variable Holding Costs, and Partial Backlogging across Two-Warehouses in an Inflationary Environment**" in the *IAENG International Journal of Applied Mathematics*.

## **PATENTS:**

- Published a patent titled "**The Importance of the Virtual Supply Chain Towards the Facilitation of Short-Term Business Collaborations**".
- Published a patent titled "**Supply Chain Optimization KIOSK**".
- Published a patent titled "**Scanning and Identification of Public with Ambulance Device using Aadhar Card Databank**".
- Published a patent titled "**Machine Learning for Email Spam Filtering**".

## **CONFERENCES:**

- Presented a paper titled "A Study of COVID-19 Pandemic on White Wine Industry Supply Chain Inventory Management Using Simulated Annealing" at the 2021 AIMT Summer Conference (Virtual) on Interdisciplinary Research in Applied Mathematics, Management, and Technology (IRAMMT), held from June 20–21, 2021. The conference was organized by the American Institute of Management and Technology (AIMT), USA, a subsidiary of The Global Knowledge Foundation (GKF), Inc., USA.
- Presented a paper titled "Effect of Inflation on a Two-Warehouse Inventory Model for Deteriorating Items with Time-Varying Demand and Shortages" at the 2022 USTM-AIMT Summer International Conference, held from August 5–6, 2022, at the University of Science and Technology, Meghalaya, India.
- Participated and presented the paper titled "Supply Chain Inventory Model Using Optimization Technique" at the DPRC-2022, held from March 24–26, 2022, at SRM Institute of Science and Technology, Kattankulathur-603 203, Tamil Nadu, India.
- Presented a paper titled "Effect of Inflation on a Two-Warehouse Inventory Model for Deteriorating Items with Time-Varying Demand and Shortages" at the 2022 USTM-AIMT Summer International Conference, held from August 5–6, 2022, at the University of Science and Technology, Meghalaya, India.
- Attended a one-day National e-Conference on "BioFabrication of Applied Science for Future Development", organized by the Department of Biotechnology, Shivchhatrapati College, Aurangabad, Maharashtra, India, on August 14, 2021.
- Attended a one-day National e-Conference on "BioFabrication of Applied Science for Future Development", organized by the Department of Biotechnology, Shivchhatrapati College, Aurangabad, Maharashtra, India, on August 14, 2021.
- Participated in the International Virtual Conference on Recent Trends in Applied Mathematics (ICRTAM–2022), organized by the Department of Science and Humanities (Mathematics), Sri Ramakrishna Institute of Technology, Pachapalayam, Coimbatore, held on October 7, 2022.
- Attended the "International E-Conference of Young Researchers in Algebra and Number Theory–2023", held on January 12–13, 2023, at the Faculty of Sciences Dhar El Mahraz, Fez.

### **WEBINAR / WORKSHOP / LECTURE SERIES:**

- Attended a one-day webinar on "An Overview of Mathematical Sciences – TRB Aspirants", organized by the Department of Mathematics, Kongu Engineering College, Perundurai, on October 25, 2021.
- Participated in a one-day national webinar on "Wavelet Transform and Cosmology", organized by the Department of Applied Mathematics, SSTC, Bhilai, on August 27, 2021.
- Attended a one-day online National Level Seminar on "Application of MATLAB Software in Engineering", under the Department of Science & Technology, Gujarat Council of Science & Technology (Govt. of Gujarat), organized by the Applied Sciences and Humanities Department, Parul Polytechnic Institute, Faculty of Engineering & Technology, Parul University, Limda, on September 3, 2021.
- Attended a one-day online National Level Seminar on "Physics: Breath of Engineering", under the Department of Science & Technology, Gujarat Council of Science & Technology (Govt. of Gujarat), organized by the Applied Sciences and Humanities Department, Parul Polytechnic Institute, Faculty of Engineering & Technology, Parul University, Limda, on September 24, 2021.
- Participated in the International Webinar on 5G Network and its Real Time Applications in India (IW5GNRI'20), organized by the Department of Computer Science and Engineering, held on 19-12-2020, at Madanpalle Institute of Technology and Science, India.
- Participated in the International Workshop on Recent Trends in Applied Mathematics and Research Methodology, organized by the Department of Mathematics, held from January 19–21, 2022, at SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu, India.
- Attended a five-day workshop on "Computational Tools for Research in Science and Technology 2021", held virtually at Amity University Uttar Pradesh, Noida, from May 24–29, 2021.
- Participated in the International Workshop on Numerical and Analytical Techniques in Engineering Problems (IWNATEP-2022), organized by the Department of Mathematics, held from January 19–21, 2022, at SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu, India.
- Participated in the international workshop on "System Modelling and Artificial Intelligence", organized by the Department of Mathematics & Statistics, School of Basic Sciences, Manipal University Jaipur, from July 26–30, 2021.
- Participated in the two-day e-workshop on "Future Trends and Research Scope in Industrial IoT", organized by the Department of Computer Engineering & Information

Technology, Sankalchand Patel College of Engineering, affiliated with Sankalchand Patel University, Visnagar, from September 30 to October 1, 2021.

- Participated in the International Workshop on Numerical and Analytical Techniques in Engineering Problems (IWNATEP-2022), organized by the Department of Mathematics, held from January 19–21, 2022, at SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu, India.
- Participated in the e-Short Term Training Programme on Formal Languages and Automata Theory, organized by the Department of Mathematics, held from December 14-19, 2020, at SRM Institute of Science and Technology, Kattankulathur, Tamil Nadu, India.
- Actively participated in the Lecture Series for Undergraduate Students on "Mathematics: Core Topics of Algebra and Analysis", organized by the Uttarakhand Science Education and Research Centre (USERC), Dehradun, under the Department of Information and Science Technology, Government of Uttarakhand, from August 2–7, 2021.
- Attended the International Webinar Series on "Scientific Tactics to Tackle Health", organized by the Department of Biotechnology & IQAC, Shivchhatrapati College, Aurangabad, Maharashtra, India, held on January 12–13, 2022.
- Participated in the IP Awareness/Training Program under the National Intellectual Property Awareness Mission on August 18, 2022, organized by the Intellectual Property Office, India.

#### **FDP's:**

- Attended a six-day Faculty Development Programme (FDP) on "Mathematics & Statistics in Emerging Fields", conducted by the Department of Mathematics, KPRIET, from July 5–10, 2021.
- Participated and successfully completed the AICTE Training and Learning (ATAL) Academy Online Elementary Faculty Development Programme (FDP) on "Recent Advancements in Artificial Intelligence", conducted by Sant Gadge Baba Amravati University, from July 12–16, 2021.
- Participated and successfully completed the AICTE Training and Learning (ATAL) Academy Online Elementary Faculty Development Programme (FDP) on "Industry-Oriented FDP on Data Science", conducted by MSME-Technology Development Centre (PPDC), Meerut, from July 19–23, 2021.
- Participated in the virtual workshop on "Research Methodology and Hands-on Learning", organized by the School of Tribal Resource Management, KISS Deemed to be University, from August 2–6, 2021.
- Participated and successfully completed the AICTE Training and Learning (ATAL) Academy Online Elementary Faculty Development Programme (FDP) on "Mathematical Tools and Recent Advances in Applied Mathematics (MTRAAM)", conducted by Madan Mohan Malaviya University of Technology, Gorakhpur, from August 16–20, 2021.

- Participated and successfully completed the AICTE Training and Learning (ATAL) Academy Online Elementary Faculty Development Programme (FDP) on "Predictive Modelling Using Data-Science Techniques", conducted by the Indian Institute of Technology Guwahati, from September 6–10, 2021.
- Participated in the one-week Faculty Development Programme (FDP) on "Contemporary Trends and Approaches of English Language Teaching & Soft Skills", organized by the Department of English & Foreign Languages and the Department of CDC & Placement, SRM Institute of Science and Technology, Delhi-NCR Campus, Ghaziabad, from May 16–21, 2022.
- Participated in the six-day international Faculty Development Programme (FDP) on "Role of Optimization in Computational Mathematics, Supply Chain Management & Engineering", organized by the Department of Mathematics, SRM Institute of Science and Technology, Delhi-NCR Campus, Ghaziabad, from May 23–28, 2022.
- Participated in one-week online Faculty Development Programme (FDP) on "Recent Research Areas and Their Applications in Mathematics", organized by the Department of Mathematics, Vel Tech Multi Tech, from October 10–15, 2022.
- Participated in the One-Week Online Faculty Development Programme (FDP) on "Research & Innovation: Proposed Writing Tools, Techniques, and Funding", organized by SRM Institute of Science and Technology, Delhi-NCR Campus, in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MHMMTTC), Hansraj College, University of Delhi, from March 11–16, 2024.

**SKILL TRAINING PROGRAM:**

- Successfully cleared the assessment for the qualification of Software Developer - Product Development, with a duration of 480 hours, earning 14 credits at NCrF/NSQF Level 5. The training was conducted by the IT-ITeS Sector Skill Council at the Training Centre, SRM Institute of Science & Technology, Ghaziabad, Uttar Pradesh.

Work Experience: 2yrs