MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
(Deemed University)

(Declared under Distinct Category by Ministry of Education Government of India)
NAAC ACCREDITED WITH A++ GRADE

AI Insights

Centre For Artificial Intelligence

Departmental Newsletter: October to December 2024

Editorial Member's

Dr. Rajni Ranjan Singh Makwana, HoD,
Centre for Artificial Intelligence

Faculty Coordinator's:

Dr. Tej Singh, Assistant Professor,
Centre for Artificial Intelligence

Dr. Sanjeev K Dwivedi, Assistant Professor,
Centre for Artificial Intelligence

CENTRE FOR ARTIFICIAL INTELLIGENCE

Contents:

1. Activities Organized (Workshop/Conference/FDP/STC) at the Institute level

2. Award/Prize/ Recognition by Faculty Members

3. Talk delivered outside the Institute

4. FDP/STC attended (Outside the institute)

5. Activities Organized (Workshop/Conference/FDP/STC) at the Institute level

6. NPTEL/ATAL/COURSERA/INTERNSHALA Course Attended

7. Patent file

8. Publications

9. Student Club Activities

10. Students' achievement in extracurricular activity at National or International level

11. Extension Activity of the Institute

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Activities Organized (Workshop/Conference/FDP/STC) at the Institute level

- **Dr. Shubha Mishra** and **Dr. Tej Singh**, Assistant Professor, Centre for Artificial Intelligence, organized a 4-day Programming Workshop "Code Carnival" for AIDS/AIML I Year from 11-14 November 2024.

- **Dr. Shubha Mishra** and **Dr. Rahul Kumar**, Assistant Professor, Centre for Artificial Intelligence, organized a 4-day Web Development Workshop "Web Canvas" for AI/AI&R I Year from 02-05 December 2024.

- **Dr. Sunil Kumar Shukla** and **Dr. Shweta Chauhan** organized a two day workshop on "visit to the World Telecommunication Standardization Assembly (WTSA) 2024 and the India Mobile Congress (IMC)" from 23-24 December 2024.

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- **Dr. Sunil Kumar Shukla** and **Dr. Shweta Chauhan** visited the four-day event, World Telecommunication Standardization Assembly (WTSA) 2024 and the India Mobile Congress (IMC) 2024, in Bharat Mandapam, New Delhi, India by the Department of Telecommunications, Government of India from October 15 to 18, 2024.

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- **Dr. Shweta Chauhan** (representative) from MITS Gwalior and Dr. Rakesh Kumar Sharma (representative) from SPU Mandi has signed a Memorandum of Understanding (MoU) between Sardar Patel University, Mandi, and Madhav Institute of Technology & Science (MITS), Gwalior, on October 24, 2024.

MEMORANDUM OF UNDERSTANDING (MOU)
between

SARDAR PATEL UNIVERSITY, MANDI (HIMACHAL PRADESH)
And
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.)
(DEEMED UNIVERSITY)

Sardar Patel University, Mandi and Madhav Institute of Technology & Science, Gwalior have recognised the importance of close cooperation in the field of higher education establishing hereby a formal Understanding of collaboration and relationship which is intended to further the academic objectives of each institution as per the recommendations of the National Education Policy, 2020. This Memorandum of Understanding (hereinafter called as the 'MoU') is entered into on this the day of 24th October,2024 by and between Sardar Patel University, Mandi, the first Party represented herein by its Vice Chancellor and Madhav Institute of Technology & Science, Gwalior, the second party, represented herein by its Vice Chancellor.

First Party: Sardar Patel University Mandi

Sardar Patel University (SPU), Mandi, is nestled in the lap of the Himalayan ranges in the heartland district of Himachal Pradesh Mandi and is situated on the banks of the mighty Beas River. Sardar Patel University, Mandi, is second state university. It came into existence on April 1, 2022, as a State Government University, vide H.P. State Government Notification No. EDN-A-Ka (1)-17/2021, dated February 28, 2022. Sardar Patel University, Mandi, has the 2 (f) status of U.G.C. and has jurisdiction over five districts of Himachal Pradesh, comprising Mandi, Kullu, Lahaul and Spiti, Chamba, and Kangra. 119 Colleges and Institutions in these five districts are affiliated with SPU Mandi. The U.G., P.G., and Research programs are being offered in the University Campus. Besides the regular courses, the University plans to introduce some regionally relevant courses that are of greatest significance for the mountainous region.

Madhav Institute of Technology & Science, Gwalior

WHEREAS, The Madhav Institute of Technology & Science, Gwalior is a Deemed to be University declared under Distinct Category by Ministry of Education, Government of India. The Institute is providing value based education in Engineering & Technology from the year of inception i.e. 1957. The Institute is offering regular 18 Bachelors, 10 Masters and Doctoral Degrees Programmes in Engineering & Technology, Architecture & Planning, Computer Application and Management. The institute is accredited by the National Assessment and Accreditation Council (NAAC) with A++ Grade (CGPA 3.53) for 5 years from 2023. Many of the programmes are accredited by the National Board of Accreditation (NBA).

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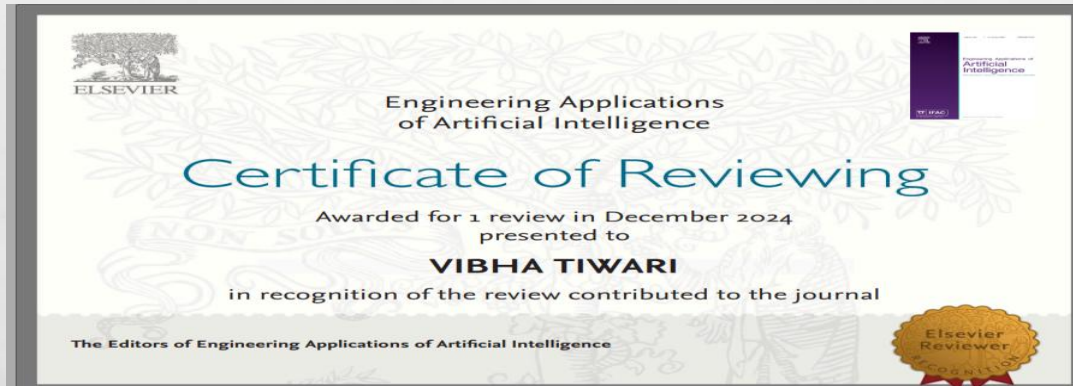# Award/Prize/ Recognition by Faculty Members

- **Dr. Sunil Kumar Shukla** recognized as Top 5 % topper category in NPTEL course on "Machine Learning and Deep Learning - Fundamentals and Applications", July-October 2024.
- **Dr. Sunil Kumar Shukla** invited as session chair in IEEE International Conference on Sustainable Power and Energy (ICSPE 2024) organized by The Department of Electrical Engineering, OP Jindal University, Raigarh, India.
- **Dr. Sunil Kumar Shukla** has Successfully completed AICTE-QIP-PG Certificate Program in "Data Science and Quantum Computing" during 17 july-28 December from ABV-IIITM Gwalior.

Award/Prize/ Recognition by Faculty Members

- **Dr. Vibha Tiwari** is recognized as an NPTEL Star: Motivated Learner from IIT Madras for July-December .

- **Dr. Vibha Tiwari** recognized as Top 5 % topper category in NPTEL course on "Fundamentals of Artificial Intelligence, July-October 2024.

- **Dr. Tej Singh,** in recognition of their contribution to a manuscript in 2024 for the International Journal of Machine Learning and Cybernetics.

- **Dr. Vibha Tiwari** awarded a certificate of recognition for her contribution to a manuscript in 2024 for the Journal "Engineering Applications for Artificial Intelligence" by Elsevier.

- **Dr. Sunil Kumar Shukla** is recognized as an NPTEL Star: Motivated Learner from IIT Madras for July-December.

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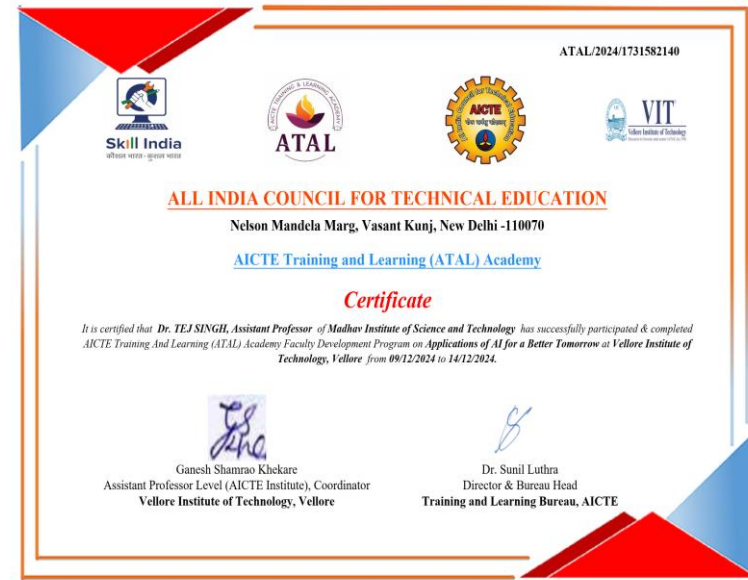
FDP/STC attended (Outside the institute)

- **Dr. Tej Singh**, Assistant Professor at Madhav Institute of Science and Technology, successfully participated in and completed the AICTE Training And Learning (ATAL) Academy Faculty Development Program on Applications of AI for a Better Tomorrow at Vellore Institute of Technology, Vellore, from 09/12/2024 to 14/12/2024.
- **Dr. Vibha Tiwari,** Assistant Professor at Madhav Institute of Science and Technology, successfully participated in and completed one week STTP on Generative AI: A Comprehensive approach to research writing, proposal development and funding, Organized by department of social work, Nehru Arts and Science College, Tamilnadu.
- **Dr. Sanjeev Kumar Dwivedi** completed faculty development programme on Theory of Computation orgnaized by NPTEL-AICTE.
- **Dr. Shubha Mishra** attended a National Level FDP on Recent Advancements in AI & IoT- Industry perspective organized by Department of Computer Applications, Periyar Maniammai Institute of Science & Technology (PMIST), Vallam, Thanjavur in association with Pantech Solutions from 25-30 November 2024.

FDP/STC attended (Outside the institute)

- **Mr. Ashish Singh**, Assistant Professor at Madhav Institute of Science and Technology, successfully participated in and completed the Faculty Development Program on Big Data Computing by NPTEL-AICTE.
- **Mr. Khemchand Shakywar**, Assistant Professor at Madhav Institute of Science and Technology, successfully participated in and completed the Faculty Development Program on Big Data Computing by NPTEL-AICTE.
- **Ms. Pooja Tripathi**, Assistant Professor at Madhav Institute of Science and Technology Successfully completed the Faculty Development Program On Cyber Security and Privacy by NPTEL-AICTE.
- **Mrs. Geetika Hazra**, Assistant Professor at Madhav Institute of Science and Technology, successfully participated in and completed the Faculty Development Program on Cyber Security and Privacy by NPTEL-AICTE.
- **Mrs. Geetika Hazra**, Assistant Professor at Madhav Institute of Science and Technology, for participating in the One-Week Short Term Training Program (STTP) on "AI Enhanced Research Writing : Tools, Techniques and Best Practices for Academics"

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- **Dr. Shweta Chauhan** attended a AICTE ATAL 6th Day Faculty Training Program on Advanced Analytics for Next Generation Industrial Processes organized by Atal Bihari Vajpayee Indian Institute of Information Technology and Management, Gwalior from 23-28 December 2024.

Periyar Maniammai Institute of Science & Technology
(Deemed to be university) , Vallam , Thanjavur

CERTIFICATE OF COMPLETION

FACULTY DEVELOPMENT PROGRAMME

Cert No PMPSFDP1595

proudly presented to

Dr.Shubha Mishra

MADHAV INSTITUTE OF TECHNOLOGY AND SCIENCE

for successful participation and completion of
ONE WEEK NATIONAL LEVEL FACULTY DEVELOPMENT PROGRAMME on
RECENT ADVANCEMENTS IN AI & IOT – INDUSTRY PERSPECTIVE
organised by Department of Computer Applications ,
Periyar Maniammai Institute of Science & Technology (PMIST), Vallam,
Thanjavur in association with Pantech Solutions
during the Period 25/11/2024 – 30/11/2024.

Dr. G. Preethi
Co- Convenor, AP(SG) , PMIST

Mr. M. Anand
Co- Convenor, AP(SG) , PMIST

Dr. D. Ruby
HoD/CA, PMIST

Dr. D. Maghesh Kumar
Dean / FCSA, PMIST

Mr.Senthilkumar.M R
Director – Technical , Pantech Group

CERTIFICATE
OF PARTICIPATION

This Certificate is Proudly Presented to

Dr Vibha Tiwari

Assistant Professor, Centre for Artificial Inteligence, Madhav Institute of Technology and Science, Gwalior

For Participating in the One-Week Short Term Training Program (STTP) on

"Generative AI: A Comprehensive Approach to Research Writing, Proposal Development, and Funding"– Jointly organised by the Department of Social Work, Nehru Arts and Science College, Tamil Nadu, India & Event Organiser: RSP Science Hub, Coimbatore, Tamil Nadu, India during 25th – 30th November, 2024.

Dr. P. Nathiya
STTP Convener,
HoD, Department of Social Work,
Nehru Arts and Science College,
Coimbatore, Tamil Nadu, India.

Dr. B. Anirudhan
STTP Patron,
Principal,
Nehru Arts and Science College,
Coimbatore, Tamil Nadu, India.

NASC & STTP16027

NPTEL-AICTE
Faculty Development Programme
(Funded by the MoE, Govt. of India)

This certificate is awarded to

POOJA TRIPATHI

for successfully completing the course

Cyber Security and Privacy

with a consolidated score of   57   %

Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras

(Jul-Oct 2024)

Roll No: NPTEL24CS121S1059200605   Duration of NPTEL course : 12 Weeks

The candidate has studied the above course through MOOCs mode, has submitted online assignments and passed proctored exams.
This certificate is therefore acceptable for promotions under CAS as per AICTE notifications dated 16ᵗʰ Nov, 2023, similar to other refresher / orientation courses.
F.No. AICTE / RIFD / FDP through MOOCs / 2023

NPTEL-AICTE
Faculty Development Programme
(Funded by the MoE, Govt. of India)

This certificate is awarded to

KHEMCHAND SHAKYWAR

for successfully completing the course

Big Data Computing

with a consolidated score of   55   %

Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras

(Aug-Oct 2024)

Roll No: NPTEL24CS130S459200789   Duration of NPTEL course : 8 Weeks

The candidate has studied the above course through MOOCs mode, has submitted online assignments and passed proctored exams.
This certificate is therefore acceptable for promotions under CAS as per AICTE notifications dated 16ᵗʰ Nov, 2023, similar to other refresher / orientation courses.
F.No. AICTE / RIFD / FDP through MOOCs / 2023

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Talk delivered outside the Institute

- **Dr. Mir Shahnawaz Ahmad**, delivered an expert talk on "Machine Learning and IoT Security" in ATAL Faculty Development Programme on "IoT & Smart Infrastructure Development and Security", organized by Samrat Ashok Technological Institute, Polytechnic College, Vidisha (MP), during 11 - 16 Nov. 2024.

- **Dr. Shweta Chauhan**, as the keynote speaker at the webinar on "Evolution of NLP: From Rule-Based Systems to Deep Learning," held on December 2, 2024, at JCDM College of Engineering, Sirsa.

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NPTEL/ATAL/COURSERA/INTERNSHALA Course Attended

- **Dr. Vibha Tiwari** completed **two** NPTEL-AICTE courses: (1) Fundamentals of Artificial Intelligence, Elite+silver, Topper 5% . (2) Introduction to Machine Learning, Elite Category from IIT Madras, India, from July to December 2024.
- **Dr. Abhishek Bhatt** completed **three** NPTEL-AICTE courses: (1) Introduction to Machine Learning. (2) Data Science for Engineers, and (3) Advanced R Programming for Data Analytics in Business from IIT Madras, India, from July to December 2024.
- **Dr. Shweta Chauhan** completed the Applied Generative AI Certification course offered by Infosys Springboard on November 24, 2024.
- **Dr. Sanjeev Kumar Dwivedi** completed NPTEL-AICTE course: Theory of Computation, with a consolidated score of 90%, from IIT Madras, India, from July to December 2024.
- **Mr. Ramnaresh Sharma** completed NPTEL-AICTE course: Ethical Hacking, from IIT Madras, India, from July to December 2024.
- **Mrs Geetika Hazra** completed NPTEL-AICTE course: Cyber Security and Privacy, from IIT Madras, India, from July to December 2024.
- **Dr. Shweta Chauhan** completed the Principles of Generative AI Certification course offered by Infosys Springboard on November 24.

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NPTEL/ATAL/COURSERA/INTERNSHALA Course Attended

- **Dr. Shweta Chauhan** completed the Generative AI Landscape, Principles of Generative AI Certification, Introduction to OpenAI GPT Models, Prompt Engineering, AI-First Software Engineering, OpenAI Generative Pre-trained Transformer 3 (GPT-3) for developers offered by Infosys Springboard.
- **Mr. Ashish Singh** completed NPTEL-AICTE course: Big Data Computing, from IIT Madras, India, from July to December 2024.
- **Dr. Hardev Singh Pal** completed NPTEL-AICTE course: Control System, from IIT Madras, India, from July to December 2024.
- **Dr. Pawan Dubey**, completed NPTEL-AICTE course: Industrial Robotics : Theories for Implementation, from IIT Madras, India, from July to December 2024.

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Elite

NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

ABHISHEK BHATT

for successfully completing the course

Introduction to Machine Learning

with a consolidated score of **71** %

| Online Assignments | 20.71/25 | Proctored Exam | 50.51/75 |

Total number of candidates certified in this course: 6812

Jul-Sep 2024
(8 week course)

Prof. Haimanti Banerji
Coordinator, NPTEL
IIT Kharagpur

Indian Institute of Technology Kharagpur

FREE ONLINE EDUCATION
swayam

Roll No: NPTEL24CS81S336200159 | To verify the certificate | No. of credits recommended: 2 or 3

Elite

NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

DR SANJEEV KUMAR DWIVEDI

for successfully completing the course

Theory of Computation

with a consolidated score of **90** %

| Online Assignments | 22.88/25 | Proctored Exam | 66.75/75 |

Total number of candidates certified in this course: 2121

TOP
TOPPER
1%

Prof. B. V. Ratish Kumar
Chairman, Centre for Continuing Education
IIT Kanpur

Jul-Sep 2024
(8 week course)

Prof. Satyaki Roy
NPTEL Coordinator
IIT Kanpur

Indian Institute of Technology Kanpur

FREE ONLINE EDUCATION
swayam

Infosys
Navigate your next

| | | | | | | | | | | **COURSE COMPLETION CERTIFICATE** | | | | | | | | | | |

The certificate is awarded to

Dr. Shweta Chauhan

for successfully completing the course

Prompt Engineering

on November 20, 2024

Infosys | Springboard

Congratulations! You make us proud!

Issued on: Wednesday, November 20, 2024
To verify, scan the QR code at https://verify.onwingspan.com

Thirumala Arohi
Executive Vice President and Global Head
Education, Training & Assessment (ETA)
Infosys Limited

NPTEL ONLINE CERTIFICATION
(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत-कुशल भारत

This certificate is awarded to

PAWAN DUBEY

for successfully completing the course

Industrial Robotics : Theories for Implementation

with a consolidated score of **53** %

| Online Assignments | 18.31/25 | Proctored Exam | 34.5/75 |

Total number of candidates certified in this course: 413

Jul-Oct 2024
(12 week course)

Prof. Haimanti Banerji
Coordinator, NPTEL
IIT Kharagpur

Indian Institute of Technology Kharagpur

FREE ONLINE EDUCATION
swayam

Roll No: NPTEL24ME117S859200768 | To verify the certificate | No. of credits recommended: 3 or 4

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Patent file

- **Dr. Vibha Tiwari et al.** granted design patent titled "ELECTRONIC HEALTH MONITORING DEVICE" received on 19/09/2024 Design No. 430983-001, Intellectual Property, India.

- **Dr. Hardev Singh Pal et al.** granted a design patent titled "AI BASED DEVICE FOR CLOUD DATA SECURITY" received on 10/09/2024 Design No. 429992-001, Intellectual Property, India.

Publications

- **Sanjeev Kumar Dwivedi et. al,** "REPACA: Robust ECC based Privacy-Controlled Mutual Authentication and Session Key Sharing Protocol in Coalmines Application with Provable Security," Peer-to-Peer Networking and Applications, Volume 17, pages 4264–4285, October 2024. [SCIE, Impact Factor- 3.3] https://doi.org/10.1007/s12083-024-01806-8

- **Dr. Shubha Mishra et. al**, "Anomaly Detection Model Utilizing SVM & XGBoost for Network Intrusion Detection" 1st International Conference on Intelligent Systems using Semiconductors for Robotics & IoT (ICISRI-2024) from 29-30 November 2024 at Poornima Institute of Engineering & Technology, Jaipur Rajasthan

- **Dr. Vibha Tiwari et. al**, "Securing IoT Networks in Healthcare for Enhanced Privacy in Wearable Patient Monitoring Devices " in ICISAA 2024, IEEE International Conference on Intelligent Systems and Advance Applications at Dr. D. Y. Patil Institute of Technology, Main Campus, Sant Tukaram Nagar, Pimpri, Pune during October 25 -26, 2024.

- **Dr. Shweta Chauhan** presented a paper "Handwritten Digits Prediction System using Convolution Neural Network for MNIST Dataset" at 1st International Conference on Advances in Computing, Communication and Networking- ICAC2N @ ITS Engineering College, Gr. Noida on 17th Dec 2024.

Publications

- Dr. Shweta Chauhan presented a paper "Evaluating Frequency and Predication Based Word Embedding Models for Natural Language Processing" at 9th International Conference on Micro-Electronics, Electromagnetics and Telecommunications ICMEET - 2024 by National Institute of Technology Mizoram, India , on 20 th december 2024.

- Sunil Kumar Shukla et.al, A reliable protection scheme for high resistance fault detection in wind generator-integrated HVDC transmission system using ensemble of kNN, Electrical Engineering (Springer), 1-13, Nov. 2024 [SCIE, Impact Factor- 1.7]: https://doi.org/10.1007/s00202-024-02831-9.

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Student Club Activities

- Bandish: The Music Club of MITS, under the coordinator ship of Dr. Arun Kumar and Dr. Mir Shahnawaz Ahmad, organized The Art of Music: A Musical Workshop during 9 - 11 Oct., 2024, where 80 students participated and learnt various musical instruments and musical techniques.

Students' achievement in extracurricular activity at National or International level

- The students of Bandish: The Music Club of MITS, under the coordinatorship of Dr. Arun Kumar and Dr. Mir Shahnawaz Ahmad, participated in Abhivyakti 2024, organized by Air Force at Air-force station Gwalior on 13 Oct., 2024, and won First prize in the Music Band Competition, with a cash prize of 15,000/-.

- Avinash Gupta, Ojashav Saxena, Rohit Gupta, Vibha Tiwari, Sunil Shukla, Arnav Khamparia Presented a paper titled "Optimized Neural Networks for Liver Tumor Segmentation Using MONAI" in ICSISCET 2024 - (6th International Conference on Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology) e organized by Madhav Institute of Technology & Science, Gwalior, India Technically Sponsored by Soft Computing Research Society during October 26-27, 2024.

- Dhruve Kiyawat, Vibha Tiwari, Tijil Dubey Presented a paper titled "Enhancing Flower Classification with a Deep Learning Approach Using VGG19 and ImageNet" in 2nd IEEE international conference on "Innovations in High-Speed Communication and Signal Processing" (IHCSP 2024) technically sponsored by IEEE (MP section) and co-sponsored and IEEE computer society and IETE at MANIT, Bhopal from 6th to 8th December 2024.

- Sarang Banakhede, Vibha Tiwari, Varnit Kumar Presented a paper titled "A Comprehensive Study of Pre-trained Deep Learning Models in Skin Disease Classification" in International Conference on Applied Machine Learning and Data Analytics AMLDA-2024, on 20th and 21st December 2024 at Vardhaman College of Engineering, Shamshabad – 501 218 Hyderabad, Telangana, India.

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