MAHARAJA SURAJMAL INSTITUTE OF TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

What's Inside?

- Vision, Mission, PSOs
- Research Publications
- Design Patent Registered

- Patents Published
- Papers Presented
- Faculty Achievements

- Student Achievements
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- FDP's Attended

TECHBYTE
N e w s l e t t e r

Maharaja Surajmal Institute of Technology was established in 2001 with the approval of AICTE for conducting B.Tech courses in IT, CSE, ECE, and EEE, and is affiliated to Guru Gobind Singh Indraprastha University, New Delhi.

We are a team of 28 full time faculty members, 5 technical assistants and more than 800 undergraduate students. We have devoted ourselves to surmount all, challenges to impart and inculcate the best principles, processes, and practices in TechByte learning, teaching and research work in IT.

Vision

To build a culture of innovation and research in students and make them capable to solve upcoming challenges of human life using computing.

Mission

M1. To develop 'educational pathways' so that students can take their career towards success.

M2. To imbibe curiosity and support innovativeness by providing guidance to use the technology effectively.

M3. To inculcate management skills, integrity, honesty and human values through curricular, co-curricular and extra-curricular activities.

Program Specific Outcomes

PSO 1: Ability to understand the principles and working of hardware and software aspects in information technology.

PSO 2: Ability to explore and develop innovative ideas to solve real world problem using IT skills.

PAPERS PRESENTED

1. Jyoti Arora, Meena Tushir and Poonam Bansal, "Detection of Lung Tumor Using Enhanced Image Classification", Presented paper in International Conference on Artificial Intelligence and Speech Technology, Dec. 2022.

2. Meena Siwach, Suman Mann, Deepa Gupta, "A practical implementation of Driver Drowsiness Detection using Facial Landmarks", Presented paper in 10th International conference on Reliability, infocom technologies and optimization (ICRITO-2022), Amity University, Noida, 13-14 October 2022 -IEEE, Scopus

3. Chittranjan Chandwani, Bhavay Malhotra, Pratham Agarwal, Suman Mann, "Bitcoin Price prediction using machine learning and deep learning algorithms", 10th International conference on Reliability, infocom technologies and optimization (ICRITO-2022), Amity University, Noida, 13-14 October 2022 -IEEE, Scopus

4. Deepa Gupta, Suman Mann, "Framework To Include IOT And Cloud Computing", Presented paper in 10th International conference on Reliability, infocom technologies and optimization (ICRITO-2021), Amity University, Noida, 13-14 October 2022 -IEEE, Scopus.

5. Dhruv Rathee, Suman Mann, " Daltonizer: A CNN-based framework for Monochromatic and Dicromatic color-Blindness" International Conference on Artificial Intelligence and Speech Technology , Dec, 2022.

RESEARCH PUBLICATIONS

1. Tripti Sharma, Priya Dalal, "Real-Time Object Detection using Web Camera through Caffe", vol. 9, no. 11, pp. 299–313, 2022, ISSN: 1869-9391.

2. Tripti Sharma et al., "ReLeC: A Reinforcement Learning-Based Clustering-Enhanced Protocol for Efficient Energy Optimization in Wireless Sensor Networks," Wireless Communications and Mobile Computing, Article ID 3337831, 16 pages, 2022.

3. Tripti Sharma et al., "Image Captioning Generator Text-to-Speech", International Journal of Next-Generation Computing", vol 13, no 3, pp.449-458, 2022.

4. Neetu Anand, Tripti Sharma, Kumar Gaurav, "Face Recognition for Examinee Verification", International Journal of Next-Generation Computing", vol 13, no 3, pp. 386-395, 2022.

5. Suman Mann, Nitish Pathak, Neelam Sharma, Raju Kumar, Rabins Porwal, Sheelesh Kr Sharma, Saw Mon Yee Aung, "Study of Energy-Efficient Optimization Techniques for High-Level Homogeneous Resource Management", Wireless Communications and Mobile Computing, vol.2022, Article ID 1953510, 12 pages, 2022.

6. Suman Mann, et al., "Time series forecasting for number of hospitalizations caused due to COVID-19 in the United Kingdom" International Journal of Health Sciences, 6(S2), 2022.

7. Prabhjot Kaur, et al., "Fast and Robust Fuzzy-based Hybrid Data-level Method to Handle Class Imbalance", International Journal of Advanced Computer Science and Applications, Vol. 13, No. 6, pp. 65-74, 2022. ISSN: 2156-5570, 2022.

8. Anupama Kaushik, Sonika Malik, Prabhjot Kaur, et al., "Higgs Boson Detection by Different Machine Learning Algorithms", NeuroQuantology, Vol. 20, No. 15, pp. 6714-6725, 2022.

9. Prabhjot Kaur, et al., "Authentication mechanisms used in Wireless Body Area Networks: a study," The 3rd International Conference on Distributed Sensing and Intelligent Systems (ICDSIS 2022), Hybrid Conference, Sharjah, United Arab Emirates, 2022, pp. 282-291, doi: 10.1049/icp.2022.2478.

10. Sonika Malik, Anupama Kaushik, Prabhjot Kaur, "Improving Scalability Using Inference Algorithms", NeuroQuantology, Vol. 20, No. 19, pp. 1056-1071, 2022.

11. Sonika Malik, et al., "Capturing Racial & Gender Inequities on Social Media Platforms using Machine Learning", EAI Endorsed Transactions on Creative Technologies, 9(31), e4-e4, 2022.

12. Sonika Malik, et al., "Knowledge-Infused Text Classification for the Biomedical Domain", International Journal of Information System Modeling and Design (IJISMD), 13(10), 1-15, 2022.

13. Sonika Malik, "Movie Recommender System using Machine Learning" EAI Endorsed Transactions on Creative Technologies, 9(3), 2022.

14. Sonika Malik, Anupama Kaushik, et al., "Saliency-based Training for Improving Interpretability in CodeSwitched Language Tasks", NeuroQuantology, Vol. 20, No. 15, pp. 6147-6157, 2022.

15. Sonika Malik, et al., "Smart Hand Sign Recognition using Deep Convolution Neural Network", Vol. 9, No. 6, pp.510-519, 2022.

16. Jyoti Arora, et al., "Sentiment Analysis Of YouTube Comments Section to Find the Popularity of Electric Vehicles", GIS Science Journal, Vol. 9, Issue 6, pp. 482-486, 2022. SCOPUS Indexed ISSN: 1869-9391.

17. Jyoti Arora, et al., "Analysis Of Different Cnn Transfer Learning Light Networks For Face Mask Detection", GIS Science Journal, Vol. 9, Issue 6, pp. 730-739, 2022. SCOPUS Indexed ISSN: 1869-9391.

18. Jyoti Arora, et al., "MCBC-SMOTE: A Majority Clustering Model for Classification of Imbalanced Data." Computers, Materials & Continua, vol. 73(3), pp. 4801-4817, 2022. (SCIE)

19. Deepshikha Yadav, Suman Mann, et al., "Waste management model for COVID-19: recommendations for future threats", International Journal of Environmental Science Technology, 2022.

20. Sandeep Singh, et al., "Optimal Volterra-based nonlinear system identification using arithmetic optimization algorithm assisted with Kalman filter" Evolving Systems, 1-23, 2022. (SCI)

21. Sandeep Singh, et al., "Nonlinear System Identification Using Adaptive Volterra Model Optimized with Sine Cosine Algorithm", Arabian Journal for Science and Engineering, 1-12, 2022. (SCI)

22. Sandeep Singh, et al., "Interference management in backhaul constrained 5G HetNets through coordinated multipoint", Computers and Electrical Engineering, 100, 107982, 2022. (SCIE)

23. Ashish Kumari, et. al., "A TCAD Approach to Analyze the Performance of Dual Gate Dielectric Modulated Vertical Tunnel Field Effect Transistor Based Biosensor," MAPAN, 2022, pp. 337-344, ISSN 9703950.

24. Priya Dalal, Tripti Sharma, "Real-Time Object Detection in Videos using YOLO v3", vol. 9, no. 11, pp. 314–328, 2022, ISSN: 1869-9391.

DESIGN PATENT REGISTERED

1. The invention entitled "INTERNET OF THINGS BASED CAMERA FOR HEALTHCARE MANAGEMENT" has been granted on 15th December, 2022 by Government of India to the patentee Dr. Tripti Sharma and Ms. Priya Dalal, Department of IT, MSIT.

2. The invention entitled "ENERGY SAVER SMART SHOES" has been granted on 23rd December, 2022 by Government of India to the patentee Dr. Tripti Sharma, Department of IT, MSIT.

PATENTS PUBLISHED

1. Dr. Sonika Malik, Dr. Jyoti Khurana, Mr. Surender Singh, Ms. Mamta Gahlan, Ms. Preeti Rathee, Mr. Akshay Singh et al., "THE IMPLEMENTATION OF A DEEP LEARNING ALGORITHM FOR IMAGE-BASED RECOGNITION IN INTERNET OF THINGS", patent published on 18th November 2022 with application number 202241062894.

2. Dr. Sonika Malik et. al. "INTERNET OF THINGS (IOT) WITH AI-BASED RAILWAY CROSSING TRAFFIC MONITORING USING DEEP LEARNING", patent published on 14th October 2022 with application number 202241056842.

STUDENT ACHIEVEMENTS

1. Monalika Kapoor, Muskaan Gupta and Gautam Garg (IT Department, 2019-2023 batch) won Smart India Hackathon 2022 held on 25th and 26th August 2022 and won a cash prize of Rs. One Lakh Only.

2. Monalika Kapoor (IT Department, 2019-2023 batch) won UNESCO India Africa Hackathon (UIAH) 2022 held from 22nd November to 25th November 2022.

3. Kavya Jain (IT Department, 2020-2024 batch) got 2nd position in Badminton in the 17th Annual Sports Day meet 2022 held at GGSIPU.

STAR PERFORMERS

1. Arijit Kundu(2018-2022 batch) got placed in **Amazon, Dublin** with a package of **1.2 Cr P.A.**

2. Priyal(2018-2022 batch) got placed in **Amazon, India** with a package of **45.64LPA.**

3. Harshita Chopra(2018-2022 batch) got placed in **Adobe** with a package of **43.11 LP.A.**

4. Akshit Aggarwal(2018-2022 batch) got placed in **Adobe** with a package of **24 LP.A.**

FACULTY ACHIEVEMENTS

1. Dr. Tripti Sharma received the International Academic Excellence Award 2022 during Global Edu-Conclave 2022 held virtually on 25th December 2022 organized by International Institute of Organized Research - I2OR and Green ThinkerZ in association with Centre for Smart Modern Construction, Western Sydney University, Australia, The Intelligent Indian, Sustainable Cosmos, Wakelet, IJRECE, TRJ, SusCos Academy, and Elsevier's Mendeley.

2. Dr. Tripti Sharma received the India's Top 100 Educator Award by the FOXCLUES in recognition of her selfless contribution and for being a role model to everyone in the society.

3. Dr. Suman Mann was invited as a keynote speaker in IEEE 10th International Conference on Reliability, Infocom Technologies and Optimization (ICRITO'2022) (TRENDS AND FUTURE DIRECTIONS) held at Amity University, Noida on 14-10-2022. She delivered a lecture on "Machine learning technique.

4. Dr. Suman Mann was invited as chief Speaker in the conference conducted by TEFX (Technology Education and Future) held at Regional Science Centre, Dehradun on 10th September 2022.

1. The Department of Information Technology has organized a two day seminar on "WEB3 and Metaverse" on 28th and 29th September, 2022 from 10:00 am to 12:00 pm under the guidance of Mr. Priya Dalal (Assistant Professor) and Ms. Priyanka (Assistant Professor), at MSIT. The speaker of the seminar was Mr. Kanishk Khurana, the Google Developer Student Clubs (GDSC) Lead at GTBIT and Software Engineer at Lumos Labs.

2. A webinar on the topic "Discover the Power of Machine Learning and AI" was conducted by Ms. Ashish Kumari and Mr. Akshay Singh, Assistant Professors in the Department of Information Technology, MSIT on 8th October 2022. The speaker was Ms. Harshita Chopra, Research Associate (ML) at Adobe. The speaker talked about the importance of AI in our day-to-day life. Almost all devices around us use AI these days ranging from Medicine, Military, and Transportation; everything is now dependent on AI, which makes life easier. She discussed better internships in Machine Learning using MATLAB and advised us to build strong relationships with people in the same industries using Linkedin, etc. to get the opportunity in the field of Machine Learning. She talked about the importance of good communication skills and theoretical knowledge as they play an important role in the interview to land into a good company with a great salary package. The webinar concluded with highlights on various sectors that contain job opportunities in Machine learning & AI.

3. A Seminar was organized by Ms. Saba Khanum on the topic "How to do well in GD/PI?" on 14th October, 2022 from 12:00 to 2:00 PM, at MSIT. Students of IT-3, 2nd and 3rd year have attended this seminar. The speaker of the seminar was Mr. Amit Podhar, MBA from IIM, worked for US based MNC-Priminus Telecom for 2 years and headed Bull Eye for 3 years. Group discussion (GD),

Mr. Podhar explained minute details of GD and PI which every student should be aware of. His explanation includes points viz. focus on Content, Team approach, Leadership skills, Communication skills, Analytical & logical reasoning.

4. The Department of Information Technology has organized a Seminar on Solana Campus Connect on 12th November 2022 in collaboration with Google Developer Student Clubs MSIT to give students insights into Web 3.0 under the guidance of Ms. Priya Dalal (Assistant Professor) and Ms. Priyanka (Assistant Professor), at MSIT. The speaker at the event was Mr. Aman Sanduja, Founder of Moving (in stealth), on a mission to democratize information and make it seamless for people to access Web3 applications, and an expert on topics like Blockchain, Web3, Defi, DAOs, and NFTs.

5. A seminar was organized by the Times Management group for IT 5th Sem on 14th November 2022 under the guidance of Dr. Tripti Rathee and Dr. Bharti Sharma on the topic "Career in Govt. Jobs". The students got to know about the career opportunities in the government sector. The students were explained how to manage the time effectively while preparing for a government job. Mr. Anil explained how to crack SSC, DSSSB. The students were advised to practice Good Nonverbal Communication. They should research the type of exam in which they are appearing.

6. The Department of Information Technology has organized Orientation'22 on 17th November 2022 in collaboration with Google Developer Student Clubs MSIT to provide students insights to the society, its working culture and information about the recruitment drive under the guidance of Mr. Priya Dalal (Assistant Professor) and Ms. Priyanka (Assistant Professor), at MSIT.

7. An expert lecture on "Introduction to Data Analytics" was organized on 9th December 2022 by the IT department under the guidance of Dr. Renu Dalal (Assistant Professor) and Ms. Nidhi Goel (Assistant Professor). This is an upcoming and blooming career option for engineering students. Mr. Rohit Pahwa having more than 9 years of experience and is currently working as a Data Science Expert in DUCAT Technologies. He helped the students unveil the buzz around machine learning and AI.

8. The Department of IT organized a "CV Writing" workshop on 12th December 2022 in seminar hall 406 for 2nd-year students under the guidance of Ms. Ashish Kumari and Dr. Renu Dalal (Assistant Professors, MSIT). Mr. Rohit Premchandani from T.I.M.E, an expert in preparing students for CAT, GMAT, and IIMs, was the seminar's special guest speaker. He discussed issues such as what a CV or resume is, the many sorts of CVs, the contents of a CV, and the dos and don'ts of CV writing, among other things. Overall, the session was educational, and the speaker explained the subjects and answered each student's questions.

9. A Workshop on Topic "Introduction to Machine Learning" was organized on 13th December 2022 in seminar hall by IT department under the guidance of Ms. Ashish Kumari (Assistant Professor). Mr. Atul Dhingra, Engineering Manager at Standard AI, USA, was the workshop's special guest speaker. The specialist has worked on cutting-edge Machine Learning and Deep Learning algorithms to solve challenging problems in Autonomous cars and Biometrics for more than ten years. He has been instrumental in the development of sophisticated machine learning manufacturing systems on a big scale. Mr. Atul provided the knowledge on machine learning (ML), the significance of ML, its future potential, the value of data in ML, and some explanations of neural networks. He also showed us how to build a machine learning model and how to get established in the industry. Numerous student queries were finally answered.

10. A Workshop on Topic "Introduction to Machine Learning" was organized on 13th December 2022 in seminar hall by IT department under the guidance of Ms. Ashish Kumari (Assistant Professor). Mr. Atul Dhingra, Engineering Manager at Standard AI, USA, was the workshop's special guest speaker. The specialist has worked on cutting-edge Machine Learning and Deep Learning algorithms to solve challenging problems in Autonomous cars and Biometrics for more than ten years. He has been instrumental in the development of sophisticated machine learning manufacturing systems on a big scale. Mr. Atul provided the knowledge on machine learning (ML), the significance of ML, its future potential, the value of data in ML, and some explanations of neural networks. He also showed us how to build a machine learning model and how to get established in the industry. Numerous student queries were finally answered.

11. A Webinar on Topic "Introduction to Machine Learning" was organized on 27th December 2022 by IT department under the guidance of Ms. Nidhi Goel (Assistant Professor) and Dr. Renu Dalal (Assistant Professor). The session gave the students an introduction to the world of Data Analytics and Machine Learning. It was collaborated with Ducat Technologies. The session helped the students to learn about python and its use in the Modern era.

12. The Google Developer Student Clubs of Maharaja Surajmal Institute of Technology, Delhi in association with the IT Department MSIT, organized HACK-A-MINER, the inaugural hybrid hackathon on 23rd December 2022 and 24th December 2022 under the guidance of Mr. Priya Dalal (Assistant Professor) and Ms. Priyanka (Assistant Professor), at MSIT. The hackathon was organized in collaboration with two organizations "SOCIAL" and "All About Programming". It drew 1300+ registrations, out of which 200 were shortlisted. The teams had to stick to the tracks to grab exciting cash prizes and pitch their ideas to mentors and judges to win the 24-hour nonstop coding competition on Open Innovation.

FDP'S ATTENDED

1. Dr. Tripti Sharma, Dr. Suman Mann, Dr. Prabhjot Kaur, Dr. Anupama Kaushik, Dr. Sonika Malik, Dr. Jyoti Khurana, Ms. Meena Siwach, Mr. Surender Singh, Ms. Mamta Gahlan, Mr. Praveen Kumar, Ms. Ashish Kumari, Mr. Akshay Singh, Ms. Priya Dalal, Ms. Priyanka, Ms. Nidhi Goel and Ms. Renu Dalal attended a Two Week "Industrial Training Programme" on "Deep Learning" from 21st Nov to 3rd Dec, 2022 organized by III cell and department of CSE in association with Brain Mentors Pvt. Ltd. at MSIT.

2. Dr. Anupama Kaushik, Dr. Sonika Malik, Mr. Surender Singh, Ms. Ashish Kumari, Mr. Akshay Singh, Ms. Priya Dalal, Ms. Priyanka, Ms. Nidhi Goel and Ms. Renu Dalal attended a one Week FDP on "Entrepreneurship, Innovations & Digital Skills in New Era of AI" from 25th to 29th July, 2022 conducted by Moradabad Institute of Technology, Moradabad.

3. Dr. Prabhjot Kaur and Dr. Anupama Kaushik has done SWAYAM NPTEL online certification on "Introduction to Internet of Things" of 12 weeks from July-October 2022.

4. Ms. Priya Dalal, Ms. Priyanka, Ms. Nidhi Goel and Ms. Renu Dalal attended a one Week FDP on "Inculcating Universal Human Values in Technical Education" from 27th June to 1st July, 2022 conducted by AICTE.

5. Ms. Priya Dalal attended a one Week FDP on "Advancements of Cyber Security" from 22nd to 28th August, 2022 conducted by Dr. B.C.Roy Engineering College, Durgapur.

6. Ms. Priya Dalal attended a one Week FDP on "Use of Tools and Techniques in Research based Project " from 11th to 17th October, 2022 conducted by Central Project Research Committee, GNIOT.

7. Ms. Nidhi Goel and Ms. Renu Dalal attended one Week FDP on "Optimization Techniques in Machine Learning and its Application" organized by Chandigarh University from 18th July to 22nd July 2022.

8. Ms. Nidhi Goel attended a 4 Week course on "Python for Data Science" from Jul-Aug 2022 conducted by Swayam.

9. Ms. Nidhi Goel participated in the workshop Designing and Modelling of IoT, AI and ML Systems organized by All India Council of Technical Education (AICTE), ATAL Academy, Arm Education and STMicroelectronics from 1st August to 5th August 2022.

CHIEF EDITOR:

Dr. Tripti Sharma
(Head of Department, IT)

EDITOR:

Mr. Akshay Singh
(Assistant Professor, IT)

DESIGNED BY:
Sunaina Rustagi
(3rd Year, IT)