



Nutan Maharashtra Vidya Prasarak Mandal's (NMVPM's)

**NUTAN MAHARASHTRA INSTITUTE OF
ENGINEERING AND TECHNOLOGY (NMiet)**

An Autonomous Institute from 2025-26

Under Administrative Support - Pimpri Chinchwad Education Trust (PCET)



Approved by AICTE

Accredited by NAAC &
NBA

Affiliated to SPPU

“Samarth Vidya Sankul”, Vishnupuri, Talegaon Dabhade, Taluka Maval, District Pune - 410507

Tel. No. 02114 - 231666

E-mail : nmietalegaon@gmail.com

Web : www.nmiet.edu.in

AICTE ID - 1-8618657

AISHE ID - C-41640

DTE ID - 6310

UNIVERSITY ID - CEGP013890

Electronics & Telecommunication Engineering

R&D Department Summary (2022 – Till Date)

Sr. No.	Research Category	2022	2023	2024	2025	2026	Total
1	SCI/WOS Publications	-	03	05	07	01	16
2	Scopus Journal Articles	05	03	11	14	07	40
3	Scopus Conference Papers	02	-	06	03	1	12
4	Scopus Book / Book Chapters	-	-	03	02	-	05
5	Patents	07	01	02	-	02	12
6	Funded Research Projects	-	01	-	02		03

B.1.SCI/WOS Journal/Conference Publications

S.N	YE AR	FACULTY	TITLE	NAME OF JOURNAL / CONFERENCE
1	2026	Dr. Sagar V. Joshi	Enhancing forensic human identification using panoramic dental radiographs with a binarized Simplicial convolutional neural networks approach	Knowledge-Based Systems
2	2025	Dr. Sagar V. Joshi	Mathematical models for cognitive systems using differential geometry and reinforcement learning	Journal of Interdisciplinary Mathematics
3	2025	Dr. Sagar V. Joshi	Discrete Algebra-Based Neural Models for Secure Information Transmission	Journal of Discrete Mathematical Sciences & Cryptography
4	2025	Dr. Sagar V. Joshi	Traffic Flow Optimization in Smart Cities Using Queueing Theory and Dynamical System Analysis	Journal of Information & Optimization Sciences
5	2025	Dr. Sagar V. Joshi	Multi-Sensor System for Optimum Irrigation and Plant Disease Detection Using Multilayer Perceptron Model on Mango Plant	IEEE Sensors Applications Symposium (SAS)
6	2025	Dr. Sagar V. Joshi	Classifying Alzheimer's Disease Using a Finite Basis Physics Neural Network	Microscopy Research and Technique
7	2025	Dr. Sushma Bhosle	Dynamic Neural Architecture Search: A Pathway to Efficiently Optimized Deep Learning Models	Journal of Information & Optimization Sciences
8.	2025	Prof. Sarika B Patil	Machine Learning Applications in Hospital Pharmacy for Predicting Drug Shortages and Supply Chain Optimization	Research Journal of Pharmacy and Technology
9	2024	Dr. Vilas Deotare	An adaptive elliptical curve cryptography-rivest-shamir-adleman-based encryption for iot healthcare security model with blockchain technology	Journal of mechanics in medicine and biology
10	2024	Dr. Sagar V. Joshi	Mitigating DDoS Attacks with an Intrusion Detection and Prevention System Based on 2-Player Bayesian Game Theory	Journal of Discrete Mathematical Sciences & Cryptography
11	2024	Dr. Ashwini Shinde	Novel technique of vibration minimization during hard machining	Engineering Reports
12	2024	Mrs. Bhagayashri Warhade	Millimeter Wave Massive MIMO Systems Using Hybrid Beamforming	International Journal of Electrical and Electronics Research
13	2024	Mrs. Bhagayashri Warhade	Massive MIMO Issues and Solutions- An Overview	8th International Conference on Computing, Communication, Control and Automation (ICCUBEA)
14	2023	Dr. Sagar V. Joshi	Clinical Outcomes of Patients With Suspicious (LI-RADS 4) Liver Observations	Clinical Gastroenterology and Hepatology
15	2023	Dr. Sagar V. Joshi	Stage Migration as a Surrogate of Survival in Hepatocellular Carcinoma Treated with Transarterial Chemoembolization	Hepatology Communications
16	2023	Dr. Sagar V. Joshi	Risk of Hepatocellular Carcinoma in Patients with Indeterminate (LI-RADS 3) Liver Observations	Clinical Gastroenterology and Hepatology

B.2.Scopus Journal Publications

S.N	Year	Faculty	Title	Name of Journal
1	2026	Dr. Sagar V. Joshi	Enhancing forensic human identification using panoramic dental radiographs with a binarized Simplicial convolutional neural networks approach	Knowledge-Based Systems
2	2026	Dr. Amol Sonawane	Enhancing secure access in RF communications through advanced elliptic curve encryption	Journal of Discrete Mathematical Sciences and Cryptography
3	2026	Dr. Amol Sonawane	Enhancing digital communication security with wavelet transforms for efficient data encryption	Journal of Discrete Mathematical Sciences and Cryptography
4	2026	Dr. Amol Sonawane	Security challenges in mobile ad hoc networks: Investigating vulnerabilities and proposing robust solutions for secure communication	Journal of Discrete Mathematical Sciences and Cryptography
5	2026	Dr. Amol Sonawane	Implementing robust frequency hopping techniques for secure radio communication using elliptic curves	Journal of Discrete Mathematical Sciences and Cryptography
6	2026	Dr. Sarika N. Patil	Artificial Intelligence and the Evolution of Musical Intonation	Journal of Visual and Performing Arts
7	2026	Dr. Harsha Sarode	Mobile-based health education interventions for improving tuberculosis knowledge in rural communities	Indian Journal of Tuberculosis
8	2025	Dr. Vilas Deotare	A novel joint adaptive network for multimodal image registration and segmentation using 3D transformer-based residual registration with segmentation network	Signal, Image and Video Processing
9	2025	Dr. Sagar V. Joshi	Mathematical models for cognitive systems using differential geometry and reinforcement learning	Journal of Interdisciplinary Mathematics
10	2025	Dr. Sagar V. Joshi	Time Series Analysis in Electrical Load Forecasting	Panamerican Mathematical Journal
11	2025	Dr. Sagar V. Joshi	Stochastic Processes in the Analysis of Electrical Load Forecasting	Advances in Nonlinear Variational Inequalities
12	2025	Dr. Sagar V. Joshi	Big Data Analytics for Audience Sentiment Forecasting in Film Production and Distribution	ShodhKosh: Journal of Visual and Performing Arts
13	2025	Dr. Sagar V. Joshi	Application of Linear Algebra in Image Processing for Medical Electronics	Communications on Applied Nonlinear Analysis
14	2025	Dr. Sagar V. Joshi	Personalized Interior Design Assistants: Voice-Based AI Agents with Visual Reasoning Capabilities	ShodhKosh: Journal of Visual and Performing Arts
15	2025	Dr. Sagar V. Joshi	Discrete algebra-based neural models for secure information transmission	Journal of Discrete Mathematical Sciences and Cryptography
16	2025	Dr. Sagar V. Joshi	Classifying Alzheimer's Disease Using a Finite Basis Physics Neural Network	Microscopy Research and Technique
17	2025	Dr. Ashwini Shinde	Optimizing EV Energy Management Using Monarch Butterfly and Quantum Genetic Algorithms	International Journal of Basic and Applied Sciences

18	2025	Dr.Sonawane A.D	Computational Mathematics for Electromagnetic Field Simulation	Advances in Nonlinear Variational Inequalities
19	2025	Jadhav K.B	Device-to-Device (D2D) Wireless Communication Using Blockchain and Onion Routing	International Journal of Computer Networks and Applications
20	2025	Dr. Sagar V. Joshi	Machine Learning Applications in Hospital Pharmacy for Predicting Drug Shortages and Supply Chain Optimization	Research Journal of Pharmacy and Technology
21	2025	Dr. Vilas Deotare	A novel enhanced lemurs optimization-based hybrid attention network for classifying arrhythmia from ECG signal using optimal weighted feature	Australian Journal of Electrical and Electronics Engineering
22	2024	Dr. Vilas Deotare	An Adaptive Elliptic Curve Cryptography and RSA-Based Encryption Model for IoT Healthcare Security using Blockchain Technology	Journal of Mechanics in Medicine and Biology
23	2024	Dr. Sagar V. Joshi	Mitigating DDoS attacks with an intrusion detection and prevention system based on 2- player Bayesian game theory	Journal of Discrete Mathematical Sciences and Cryptography
24	2024	Dr. Sagar V. Joshi	Enhancing Diagnostic Accuracy: A Hybrid Approach to Mitigate Speckle and Rician Noise in Medical Images	Advances in Nonlinear Variational Inequalities
25	2024	Dr. Ashwini Shinde	Exploring the effectiveness of decision trees for comprehensive detection of crop diseases in agricultural environments	Smart Agriculture: Harnessing Machine Learning for Crop. Management
26	2024	Dr. Ashwini Shinde	Comparative research on block design-based protocol and blowfish for secured key generation and data sharing on cloud	Soft Computing
27	2024	Dr. Ashwini Shinde	Novel technique of vibration minimization during hard machining	Engineering Reports
28	2024	Dr. Ashwini Shinde	SEM and TEM images' dehazing using multiscale progressive feature fusion techniques	Indonesian Journal of Electrical Engineering and Computer Science
29	2024	Dr. Amol Sonawane	4G based SAR analysis for anatomically based human head model using mobile phone antenna	Multidisciplinary Science Journal
30	2024	Dr. Amol Sonawane	Soft computing approach for feature extraction of palm biometric	Multidisciplinary Science Journal
31	2024	Dr. Harsha Sarode	An Computational Framework for Enhanced Early Detection of Diabetic Retinopathy with Transfer Learning Methods	Panamerican Mathematical Journal
32	2024	Mrs. Bhagayashri Warhade	Millimeter Wave Massive MIMO Systems using Hybrid Beamforming	International Journal of Electrical and Electronics Research
33	2023	Dr. Vilas Deotare	Machine Learning Approach for Intelligent Transport System in IOV-Based Vehicular Network Traffic for Smart Cities	International Journal of Intelligent Systems and Applications in Engineering

34	2023	Dr. Sagar V. Joshi	Evaluation of Healthcare Management Protocols and Their Implications for the Quality of Patient Care.	Health Leadership and Quality of Life
35	2023	Dr. Amol Sonawane	PI Controller Based Power Factor Correction Circuit for Plug-in Hybrid Electric Vehicle Using Solar Charging Module	Electric Power Components and Systems
36	2022	Dr. Sagar V. Joshi	Examining the Effect of Occupational Health and Safety Practices on Improving Workplace Safety Outcomes	Health Leadership and Quality of Life
37	2022	Dr. Ashwini Shinde	Performance analysis of machine learning algorithm of detection and classification of brain tumor using computer vision	Advances in Engineering Software
38	2022	Dr. Amol Sonawane	SAR Analysis Using a Dipole Antenna in a Non-layered and Multi-layered Human Head Model	International Journal on Recent and Innovation Trends in Computing and Communication
39	2022	Dr. Bokade G.U	An ArmurMimus multimodal biometric system for Khosher authentication	Concurrency and Computation: Practice and Experience
40	2022	Dr. Bokade G.U	Template security scheme for multimodal biometrics using data fusion technique	International Journal of Biometrics

B.3. Scopus Conference Publications

S.N	Year	Faculty	Title	Name of Conference
1	2026	Mrs. More Lata	Speech Database Creation for Marathi Impaired Speech	Lecture Notes in Networks and Systems
2.		Dr. Harsha Sarode	Implementation Of Machine Learning Techniques For Predictive Security Analytics	Smart Innovation, Systems and Technologies
3	2025	Mrs. Bhagayashri Warhade	Analysis of Antenna Array Patterns for Hybrid Beamforming of Massive MIMO	Lecture Notes in Electrical Engineering
4		Dr. Patil Sarika .N	Edge-Enabled Deep Learning Architecture for Traffic Sign Recognition and Driver Behavior Analysis	2025 9th International Conference on Computing, Communication, Control and Automation, ICCCBEA 2025
5		Dr. Ashwini Shinde	Modified Chaotic Map Approach for Medical Record Security	Proceedings - ICNEWS 2024: 2nd International Conference on Networking, Embedded and Wireless Systems: Wireless Technology - Building a Digital World
6	2024	Dr. Ashwini Shinde	Hybrid Deep Learning Models for Accurate Early Detection of Lung Cancer from MRI Scans	2024 3rd International Conference on Artificial Intelligence, Computational Electronics and Communication System, AICECS 2024
7		Dr. Ashwini Shinde	Detection of Cervical Spinal Cord Compression	7th Edition Global Conference on Wireless and Optical Technologies, GCWOT 2024
8		Dr. Ashwini Shinde	Facial Expression Recognition in ATM Surveillance System	Lecture Notes in Networks and Systems
9	2024	Dr. Jadhav K.B.;	Enhancing Secure Data Transfer In Wireless Networks Using Onion Routing And Blockchain Technology	2024 Global Conference on Communications and Information Technologies, GCCIT 2024
10		Mrs. Bhagayashri Warhade	Massive MIMO Issues and Solutions- An Overview	2024 8th International Conference on Computing, Communication, Control and Automation, ICCUBEA 2024
11		Dr. Sagar V. Joshi	Exploratory Analysis of Kidney Disease Data Set—A Comparative Study	Smart Innovation, Systems and Technologies
12	2022	Dr.Amol Sonawane	Half Wave Dipole Antenna Performance Parameter Measurement and Comparison at 900 and 1800 MHz Frequency	2022 International Conference on Industry 4.0 Technology, I4Tech 2022

B.4. Scopus Book/Book Chapters

S.N	Year	Faculty	Title	Name of Journal/Conference
1	2025	Dr. Vilas Deotare	Augmented Reality in Sustainable Farming: Exploring Use Cases for Precision Agriculture	Augmented Reality and Sustainability: Goals and Challenges
2.		Dr. Sagar V. Joshi	Predicting Indian higher education university brand evangelism using social exchange Theory and student psychological contracts	Elevating Brand Loyalty With Optimized Marketing Analytics and AI
3	2024	Dr. Vilas Deotare	Data-Centric AI Approaches for Machine Translation	Data-Centric Artificial Intelligence for Multidisciplinary Applications
4		Dr. Vilas Deotare	Machine-Learning Techniques for Effective Text Mining	Data-Centric Artificial Intelligence for Multidisciplinary Applications
5		Dr. Ashwini Shinde	Exploring the effectiveness of decision trees for comprehensive detection of crop diseases in agricultural environments	Smart Agriculture: Harnessing Machine Learning for Crop. Management

B.5. Patents

S.N	Patent Application No	Status of Patent (Published/Granted)	Inventor/s Name	Title
1	473115-001	Granted	<ol style="list-style-type: none"> 1. Dr.Vilas Deotare 2. Mrs.Sarika N.Patil 3. Dr. Chandrakant Kokane 4. Dr. Sagar Joshi 5. Shendge Prathamesh Datta 6. Shivam Singh 7. Mrs. Sushma Bhosle 8. Mrs.Neeta Karhadkar 9. Dr. Nitin Dhawas 10. Mr. Pritam Ahire 	Smart Toilet with Automatic Flush
2	202521118277	Published	Dr. Vilas Deotare	A System and Method for Secure and Wireless File Transfer
3	412987-001	Granted	<ol style="list-style-type: none"> 1. Mrs. Harsha Jitendra Sarode, 2. Dr. Sagar Joshi 3. Dr. Vilas Deotare, 4. Dr. Ramchandra Jahagirdar 5. Dr. Nitin Dhawas, 6. Mrs. Bhagyashri Warhade, 7. Mr. Deepak Patil, 8. Mrs. Sarika B. Patil 	AI Based Digital Clock
4	412986-001	Granted	<ol style="list-style-type: none"> 1. Mrs. Harsha Jitendra Sarode, 2. Dr. Sagar Joshi, 3. Dr. Vilas Deotare, 4. Mrs. Sarika B. Patil, 5. Mrs. Neeta Karhadkar, 6. Mrs. Sarika Nilesh Patil, 7. Mrs.Sushma Bhosle, 8. Mr. Mahesh Chinchole 	AI Based Optical Fiber Cable Fault Detection Device
5	2023210389 61	Published	Dr. Vilas Vasudeo Deotare	Wrong Posture Detector
6	202121059138	Published	<ol style="list-style-type: none"> 1. Nutan Maharashtra Institute of Engineering and Technology 2. Dr. Vilas Deotare 3. Dr. Lalitkumar Wadhwa 4. Mr. Rajesh Sarvadnya 5. Amol Deshpande 6. Mr. Harshal Chaudhari 7. Harshal Khachane 8. Dhiraj Bukan 9. Tanuja Patil 10. Dipali Shende 11. Prema B. Sahane 12. . Milind Ovhall 	Smart and Intelligent Lamp Pole with Insect Killer, Weather Station, WiFi, and EV Charging Station

7	202221054222	Published	<ol style="list-style-type: none"> 1. Nutan Maharashtra Institute of Engineering and Technology 2. Dr. Vilas Vasudeo Deotare 3. Dr. Lalitkumar Wadhwa 4. Mr. Harshal Chaudhari 5. Ms. Nikita Namdev Deshmukh 6. Ms. Akshada Uttamkalokhe 7. Ms. Namrata Udham Singh 8. Mr. Sagar Dadasaheb Dede 9. Mr. Pankaj Sandesh Patil 10. Mr. Omkar Jeetendra Kalekar 11. Ms. Ruchika Shashikant Kalagate 	Smart Bottle Using Bluetooth Module
8	202221052080	Published	<ol style="list-style-type: none"> 1. Nutan Maharashtra Institute of Engineering and Technology (NMIET) 2. Dr. Vilas Vasudeo Deotare 3. Dr. Lalitkumar Wadhwa 4. Mr. Harshal Chaudhari 5. Ms. Nikita Namdev Deshmukh 6. Ms. Akshada Uttam Kalokhe 7. Ms. Namrata Udham Singh 8. Mr. Sagar Dadasaheb Dede 9. Mr. Pankaj Sandesh Patil 10. Mr. Omkar Jeetendra Kalekar 11. Ms. Ruchika Shashikant Kalagate 12. Ms. Sejal Chandrashekhar Mate 	An Oxygen Level Detector
9	202131062314	Granted	Mrs. Harsha Jitendra Sarode	Vowifi Cell Capacity Evaluation Using IEEE 802.11ax For Vbr Traffic.
10	202121008304	Published	<ol style="list-style-type: none"> 1. Karhadkar, Neeta Pramod 2. Sarode, Harsha Jitendra 3. Patil, Sarika Babaso 4. Deotare, Vilas Vasudeo 5. Wadhwa, Lalitkumar 	Salt Intake Control System And Method Using Digitalmeasuring Spoon With Blood Pressure Meter
11	202221052081	Published	<ol style="list-style-type: none"> 1. Nutan Maharashtra Institute of Engineering and Technology (NMIET) 2. Dr. Vilas Vasudeo Deotare 3. Dr. Lalitkumar Wadhwa 4. Mr. Pankaj Sandesh Patil 5. Mr. Omkar Kalekar 6. Ms. Ruchika Shashikant Kalagate 7. Mr. Harshal Chaudhari 8. Ms. Nikita Namdev 	Waste Segregater Smart Bin

			<p>Deshmukh</p> <p>9. Ms. Akshada Uttam kalokhe</p> <p>10. Ms. Namrata Udham Singh</p> <p>11. Mr. Sagar Dadasaheb Dede</p> <p>12. Ms. Sejal Chandrashekhar Mate</p> <p>13. Dipali Shende</p> <p>14. Sanskruti Hemant Patil</p> <p>15. Mrunmayee Sampat</p>	
12	202121057198	Published	<p>1. Nutan Maharashtra Institute of Engineering and Technology</p> <p>2. Deotare, Vilas</p> <p>3. Wadhwa, Lalitkumar</p> <p>4. Bhoite, Pranita Deepak</p> <p>5. Bhor, Om Sakharam</p> <p>6. Sawant, Harshada Sandip</p> <p>7. Shende, Dipali</p> <p>8. Deotare, Vishwesh</p> <p>9. Shinde, Sagar</p>	An Electric Auto Toggle Holder

B.6 Funded Research Projects (In Process)

S.N	Principal Investigator	Co- principal Investigator	Amount	Funding Agency
1	Dr. Ashwini Shinde	Dr. Vilas Deotare	1000000	Anusandhan National Research Foundation (ANRF)
2	Dr. Vilas Deotare	Dr. Sagar Joshi Dr. Neeta Karhadkar	1,800,000	Ministry of Micro, Small and Medium Enterprises (MSME)
3.	Prof. Ravindra Gahane	Dr. Aparna Pande	300000	Dr. Babasaheb Ambedkar Technological University