1. **Research Grants**

| **S.No** | **No. & Title of the project** | **Co-Ordinators** | **Research Grant** | **Funding Agency** | **Year of Sanction** | **Current Status** |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | IBITF/TD/Administrative Approval/3rd Cohort/2024-25/0909:- AI Chatbot for insurance and claim assistance  | Dr. Pradeep Singh & Dr. N K Nagwani | Rs.1845600/- | IIT Bhilai Innovation and Technology Foundation | 2025 | Ongoing |
| 2. |  Letter No407/F2SS-)$/2025 SmartAgroGuard: An Approach to Precision Agriculture through Advanced Paddy Crop Disease Detection  | Dr. Pradeep Singh | Rs.500000/- | STATE PLANNING COMMISSION CHHATTISGARH | 2025 | Ongoing |
| 3. | Custom RISC V Instructions for GPGPU | Dr. Sonal Yadav | 101520/- | VividSparks IT Solutions Pvt. Ltd. | 2025 | Ongoing(2027) |
| 4. | **IIT MANDI iHub/RD/2024-25/03:** Path Rakshak (Guardian of the Road) - A System for Enhancing Public Transport Safety with Real-time Ambiance and Driver Monitoring | Dr. Karnati Mohan, Dr. Pradeep Singh | 15,70,300/- | IIT Mandi iHub | 2025 | Ongoing (2027) |
| 5. | 1(2)2023/India AI | Dr. Pradeep Singh & Dr. Bikesh Kumar Singh | Rs.22,92,112/- | Ministry of Electronics and Information Technology (MeitY) f | 2024 | Ongoing |
| 6. | **CCOST/1769/CCOST/MRP/2024:** Automated elephant tracking & early alert system for minimizing human-animal contact in chhattisgarh. | Dr. Dilip Singh Sisodia | 4,71,000/- | CCOST | 2024 | Ongoing(2026) |
| 7. | Price Forecasting of Hot Rolled Coil (HRC) Ex-Yard Prices in Mumbai via Machine Learning  | Dr. Pradeep Singh (PI), Dr. Naresh K Nageani (Co-PI), Dr. Nitesh K Bharadwaj (Co-PI) | 3,30,000/- | BigMint Technologies Pvt. Ltd. Raipur (CG) | 2024 | Ongoing (2025) |
| 8. | **IIBH/IBITF/2024-25/0159: B**lockchain Based Framework for Insurance Sector | Dr. Preeti Chandrakar | 29,33,840/- | IBITF | 2024 | Ongoing(2027) |
| 9. | **NITRR/Seed Grant/2024-25/01:** Design and Development of AI-enabled Models for Analyzing EEG Signals and Classifying Schizophrenia. | Dr. Karnati Mohan | 4,35,000/-  | SEED (NITRR) | 2024 | Ongoing (2027) |
| 10. | **NITRR/Seed Grant/2024-25/05:** End-to-end Security and Performance Enhancement in Submarine Network | Dr. Madhukrishna Priyadarsini | 4,99,500/- | SEED (NITRR) | 2024 | Ongoing (2027) |
| 11. | **NITRR/SeedGrant/2024-25/04** Contrast Enhancement Using the Stable DiffusionMethod for Low-light Images/Videos for the Wearable Devices of Army Personnel for the Night Vision Systems | Dr. ShailendraKumar Tripathi | 1,50,000/- | SEED (NITRR) | 2024 | Ongoing (2027) |
| 12. | **NITRR/Seed Grant/2024-25/03**Security, Privacy and Forensics Analysis of Next Generation Digital Devices | Dr. Nitesh KBharadwaj | 5,00,000/- | SEED (NITRR) | 2024 | Ongoing (2027) |
| 13. | **NITRR/Seed Grant/Dean(R&C)/2024/919**Blender 3D implementation on FPGA using POSIT number system | Dr. Sonal Yadav | 5,00,000/- | SEED (NITRR) | 2024 | Ongoing (2027) |
| 14. | **DST/SHRIC/SHRI-13/2022:** Digitizing and Preserving the Heritage of Sirpur for Future Generation. | Dr. Manu Vardhan | 51,52.686/- | DST | 2023 | Ongoing(2026) |
| 15. | **MTR/2023/MATRICS/000016:** Exploiting side information in neural collaborating filtering models for improving recommendation quality. | Dr. Dilip Singh Sisodia | 60,00,00/- | SERB | 2023 | Ongoing(2026) |
| 16. | **LP/10/MMG/RAC/2023-24:** Artificial Intelligence Based AI Automated Intelligent Document processing Tool for Bio Data/Application Information Verification Against Candidate Entered Information In Database. | Dr. Dilip Singh Sisodia, Dr. Deepak Singh (Co-PI) | 18,60,000/- | DRDO | 2023 | Ongoing (2024) |
| 17. | **CG/2023/SBC/363: V-App:** A Dedicated Mobile/Web Application UNICEF supported volunteer programs. | Dr. Deepak singh, Dr. Govardhan Bhatt (Co-PI) | 3,75,000/- | UNICEF | 2023 | Ongoing (2024) |
| 18. | **TEQIP letter of 18th June 2019:** Epileptic seizure detection in EEGs Using Machine Learni ng techniques. | Prof. D.K. Prabhakar, Prof. P. Mahanto, Prof. R.R. Janghel, Prof. N.K. Nagwani, & Prof. S. P. Sahu | 2, 30, 000/- | TEQIP Research Grant | 2019 | Completed (2021) |
| 19. | **NITRR/Seed Grant/2019-20/001:** Design of Remote User Authentication Schemes for Different Application Areas Using Cryptographic Approach. | Dr. Preeti Chandrakar | 5,00,000/- | SEED (NITRR) | 2019 | Completed (2022) |
| 20. | **NITRR/Rr/IT/2015/052 CCOST:**Development of Framework For Web Based Intelligent Dictionary For Learning Chhattisgarhi Language. | Prof. P.K. Mishra, Prof. S. Pandey, & Prof. N.K. Nagwani | 4, 00,000/- | CCOST | 2015 | Completed (2019) |
| 21. | **No.1103/CCOST/MRP/2015:** Modeling of autonomous software agents’ behavior to defend HTTP request attacks. | Dr. Dilip Singh Sisodia | 4,90,000/- | CCOST | 2015 | Completed (2020) |
| 22. | **No. 8057/CCOST/MRP/13:** Predictive and Visual Analysis of the Price Distribution Information of Rice and Wheat Across India. | Prof. Shrish Verma, Prof. N. K. Nagwani, & Dr. Kesari Verma | 4, 50,000/- | CCOST | 2013 | Completed (2017) |

**Abbreviations:**

SERB: Science and Engineering Research Board, CCOST: Chhattisgarh Council of Science & Technology, SEED: Science for Equity Empowerment and Development Division, DST: Department of Science & Technology

1. **Patent Details:**

| **S.No.** | **Name of Inventor** | **Title of Patent** | **Patent No.** | **Organization** | **Award Date** |
| --- | --- | --- | --- | --- | --- |
| 1. | Manu Vardhan, Shubham Sharma, Amit Kumar | System for plant disease detection and method thereof | 554484 | The Patent Office, Government of India | 2024 |
| 2. | Rajesh K Shukla, Dr. Dilip Singh Sisodia, Dr. Deepak Singh, Manish Maheshwari | Device for Tracking Endangered Animal | 366791-001 | The Patent Office, Government of India | 2023 |
| 3. | Arepalli Peda Gopi, Dr. K. Jairam Naik | Fish Pond Water Quality Monitoring Device | 375537-001 | The Patent Office, Government of India | 2022 |
| 4. | Dr. Aakanksha Sharaff, Samson Anosh Babu Parisapogu, Supriya Agrahari, Md. Khaja Mohiddin | A Vehicle Anti-Theft System and A method Thereof, | AU 2021101396 A4 | AUSTRALIAN PATENT OFFICE | 2021 |
| 5. | Sharma, Abhishek Mishra, Devesh Nayyar, Anand Bagga, Jaspal Sharaff, Aakanksha Miri, Rohit Mohiddin, Md. Khaja Sharma, Suraj Pinjarkar, Latika Saritha, S. K. | Iot based gas leakage prevention system | AU2021101582A4 | AUSTRALIAN PATENT OFFICE | 2021 |
| 6. | Chandra Srivastava, Sharad; Srivastava, Sumit; Sharaff, Aakanksha; Sharma, Suraj; Shrivas, Akhilesh Kumar; Saritha, S. K.; Tandan, S. R.; Jain, Swati; Sinha, Upasana; Nayyar, Anand and Sharma, Abhishek, | Home automation based on user detection using internet of things | 2021100439 | AUSTRALIAN PATENT OFFICE | 2021 |

**3. Distinction Earned by Faculty Members** (National and International Awards, Professional Societies)

1. **Dr. Pradeep Singh:** Included in World’s Top 2% Researchers and Influential Scientists 2023 & 2024, by Stanford University in the field of Artificial Intelligence & Image Processing - (The list was prepared by Scientists from Stanford University USA & Published by Elsevier)
2. **Dr. Dilip Singh Sisodia:** Included in the World Ranking of Top 2% Scientists/researchers in 2024, 2023, 2022 (The list is prepared by Scientists from Stanford University USA & Published by Elsevier) and also obtained Best faculty award 2023 at NITRR, Best researcher award 2024 at NITRR.

**4. Best Paper Awards**

| **S.No.** | **Author names** | **Paper Title** | **Organization** | **Date** |
| --- | --- | --- | --- | --- |
| 1. | Aakanksha Sharaff, Rakhi Seth, Samuel Robin Roy, and Mahendra Kumar Sahu | Predicting Climate Temperature using Hybrid Models.  | International Conference on Interdisciplinary Horizons: Integrating AI in Science,Management, and Technology ICON-AI-SMT’25. Springer 2025 | 2025 |
| 2. | Peda Gopi Arepalli, Jairam Naik K, Jitendra Kumar Rout | Aquaculture Water Quality Classification with Sparse Attention Transformers: Leveraging Water and Environmental Parameters | ACM--2024 13th International Conference on Software and Computer Applications (ICSCA 2024), Bali Island, Indonesia | 2024 |
| 3. | Deepti Sisodia, Dilip Singh Sisodia and Deepak Singh. | Evaluating Feature Importance to Investigate Publishers Conduct for Detecting Click Fraud | In Proceedings of 4th International Conference on Machine Intelligence and Signal Processing (MISP202), Lecture Notes in Electrical Engineering | March 12-14, 2022 |
| 4. | Rahul Shrivastava, D. S. Sisodia, N. K. Nagwani | On Diverse and Serendipitous Item Recommendation: A Reinforced Similarity and Multi-Objective Optimization-based Composite Recommendation Framework | In Proceedings of 4th International Conference on Machine Intelligence and Signal Processing (MISP202), Lecture Notes in Electrical Engineering | March 12-14, 2022 |
| 5. | Sapna Singh Kshatri, Deepak Singh Dilip Singh, Sisodia | Multiple aggregation model using Ensembles Classifier for feature selection: A Homogeneous Approach | In Proceedings of IEEE International Conference on Technology, Research and Innovation for Betterment of Society (TRIBES-2021) | December 17 - 19, 2021 |
| 6. | Rikhi Ram Jagat, Dilip Singh Sisodia, Pradeep Singh | Semi-Supervised Self-Training Approach for Web Robots’ Activity Detection in Weblog | In proceedings of International Conference on Evolutionary Computing and Mobile Sustainable Networks (ICEMSN 2021), Lecture Notes in Data Engineering and Communications Technologies | September 28-29, 2021 |
| 7. | Aakanksha Sharaff, Kshitij Surendra Ukey, Rajkumar Choure, Arham Couradiya andG. R. Sinha | Automatic dimension detection of fish images: Data Driven Approach Towards Disruptive Technologies | Proceedings of International Conference on Machine Intelligence and Data Science Applications MIDAS | 2020 |
| 8. | Aakanksha Sharaff and Ashutosh Kumar | Performance enhancement of gene mention tagging using deep learning and biomedical named entity recognition | In Frontiers of Intelligent Computing: Theory and Applications (FICTA 2020) | 2020 |
| 9. | Aakanksha Sharaff and Bharati Patel | Biological management of rice crop by using contour based masking technique | In 2020 First International Conference on Power, Control and Computing Technologies (ICPC2T) (pp. 267-272). IEEE | 2020 |

**5. Campus Placement Status**

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**6. Publication Status**

**Publication status of last five years by CSE department affiliated with NITRR**

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