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## Publications

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### Journal Papers

- [J1] Ashish Kumar, Kakali Chatterjee, Ashish Singh, and Abhinav Kumar. "A Blockchain-Assisted Holographic Counterparts for Secure Consumer Electronics in Healthcare 4.0". *IEEE Transactions on Consumer Electronics* (2026), **(Impact Factor: 10.9)**.
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- [J3] Kirti Kumari, Jyoti Prakash Singh, and Abhinav Kumar. "Deep active learning for identifying hate and offensive content in multilingual social media posts". *Knowledge and Information Systems* 68.1 (2026), **(Impact Factor: 3.1)**.
- [J4] Ashish Singh, Jafar A. Alzubi, Omar A. Alzubi, and Abhinav Kumar. "SP-DTH5: Consumer-Centric Secure Digital Twins for Healthcare 5.0". *IEEE Transactions on Consumer Electronics* (2026), **(Impact Factor: 10.9)**.
- [J5] Rajnish Pandey, Abhinav Kumar, Jyoti Prakash Singh, and Sudhakar Tripathi. "A hybrid convolutional neural network for sarcasm detection from multilingual social media posts". *Multimedia Tools and Applications* 84.16 (2025), **(Scopus)**.
- [J6] Pradeep Kumar Roy and Abhinav Kumar. "Ensuring safety in digital spaces: Detecting code-mixed hate speech in social media posts". *Data & Knowledge Engineering* 156 (2025), **(Impact Factor: 2.6)**.
- [J7] Amit Biswas, Gaurav Baranwal, and Abhinav Kumar. "A blockchain-based framework to resolve the oligopoly issue in cloud computing". *IEEE Transactions on Cloud Computing* 12.2 (2024), **(Impact Factor: 5.0)**.
- [J8] Sunil Dalal, Jyoti Prakash Singh, Arvind Kumar Tiwari, and Abhinav Kumar. "Identification of COVID-19 with CT Scans using Radiomics and DL-based Features". *Modeling Analysis in Health Informatics and Bioinformatics* (2024), **(Impact Factor: 2.0)**.
- [J9] Jitesh Pradhan, Ashish Singh, Abhinav Kumar, and Muhammad Khurram Khan. "Skin lesion classification using modified deep and multi-directional invariant handcrafted features". *Journal of Network and Computer Applications* 231 (2024), **(Impact Factor: 8.0)**.
- [J10] Pradeep Kumar Roy, Abhinav Kumar, and Ashish Singh. "Advanced Learning for Phishing URLs Detection to Secure Consumer-Centric Applications". *IEEE Transactions on Consumer Electronics* 70.3 (2024), **(Impact Factor: 10.9)**.
- [J11] Sunil Saumya, Abhinav Kumar, and Jyoti Prakash Singh. "Filtering offensive language from multilingual social media contents: A deep learning approach". *Engineering Applications of Artificial Intelligence* 133 (2024), **(Impact Factor: 8.0)**.
- [J12] Santosh Kumar Sharma, Debendra Muduli, Rojalina Priyadarshini, Rakesh Ranjan Kumar, Abhinav Kumar, and Jitesh Pradhan. "An evolutionary supply chain management service model based on deep learning features for automated glaucoma detection using fundus images". *Engineering Applications of Artificial Intelligence* 128 (2024), **(Impact Factor: 8.0)**.
- [J13] Ashish Singh, Muhammad Khurram Khan, and Abhinav Kumar. "Guest Editorial Advanced Learning Intelligence in Quantum-Enabled Consumer Applications". *IEEE Transactions on Consumer Electronics* 70.3 (2024), **(Impact Factor: 10.9)**.

- [J14] Ashish Singh, Abhinav Kumar, and Suyel Namasudra. "DNACDS: Cloud IoT big data security and accessing scheme based on DNA cryptography". *Frontiers of Computer Science* 18.1 (2024), (**Impact Factor: 4.6**).
- [J15] Abhinav Kumar, Jyoti Kumari, and Jiesth Pradhan. "Explainable Deep Learning for Mental Health Detection from English and Arabic Social Media Posts". *ACM Transactions on Asian and Low-Resource Language Information Processing* (2023), (**Impact Factor: 2.0**).
- [J16] Abhinav Kumar, Sunil Saumya, and Ashish Singh. "Detecting Dravidian Offensive Posts in MIoT: A Hybrid Deep Learning Framework". *ACM Transactions on Asian and Low-Resource Language Information Processing* (2023), (**Impact Factor: 2.0**).
- [J17] Abhinav Kumar, Jyoti Prakash Singh, Nripendra P Rana, and Yogesh K Dwivedi. "Multi-Channel Convolutional Neural Network for the Identification of Eyewitness Tweets of Disaster". *Information Systems Frontiers* 25.4 (2023), (**Impact Factor: 8.3**).
- [J18] Abhinav Kumar, Jyoti Prakash Singh, and Amit Kumar Singh. "Explainable BERT-LSTM Stacking for Sentiment Analysis of COVID-19 Vaccination". *IEEE Transactions on Computational Social Systems* (2023), (**Impact Factor: 4.9**).
- [J19] Ravishankar Mehta, Sindhuja Shukla, Jitesh Pradhan, Koushendra Kumar Singh, and Abhinav Kumar. "A vision transformer-based automated human identification using ear biometrics". *Journal of Information Security and Applications* 78 (2023), (**Impact Factor: 3.7**).
- [J20] Debendra Muduli, Rakesh Ranjan Kumar, Jitesh Pradhan, and Abhinav Kumar. "An empirical evaluation of extreme learning machine uncertainty quantification for automated breast cancer detection". *Neural Computing and Applications* 37.12 (2023), (**Scopus**).
- [J21] Pradeep Kumar Roy, Abhinav Kumar, Ashish Singh, and Arun Kumar Sangaiah. "Forecasting bitcoin prices using deep learning for consumer-centric industrial applications". *IEEE Transactions on Consumer Electronics* 70.1 (2023), (**Impact Factor: 10.9**).
- [J22] Shankar Biradar, Sunil Saumya, Abhinav Kumar, and Ashish Singh. "Pradvis vac: A socio-demographic dataset for determining the level of hatred severity in a low-resource Hinglish language". *ACM Transactions on Asian and Low-Resource Language Information Processing* (2022), (**Impact Factor: 2.0**).
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- [J24] Abhinav Kumar, Jyoti Prakash Singh, and Amit Kumar Singh. "COVID-19 Fake News Detection Using Ensemble-Based Deep Learning Model". *IT Professional* 24.2 (2022), (**Impact Factor: 2.6**).
- [J25] Abhinav Kumar, Jyoti Prakash Singh, and Amit Kumar Singh. "Randomized Convolutional Neural Network Architecture for Eyewitness Tweet Identification During Disaster". *Journal of Grid Computing* 20.3 (2022), (**Impact Factor: 2.9**).
- [J26] Pradeep Kumar Roy and Abhinav Kumar. "Early prediction of COVID-19 using ensemble of transfer learning". *Computers and Electrical Engineering* 101 (2022), (**Impact Factor: 4.9**).
- [J27] Soumen Roy, Jitesh Pradhan, Abhinav Kumar, Dibya Ranjan Das Adhikary, Utpal Roy, Devadatta Sinha, and Rajat Kumar Pal. "A systematic literature review on latest keystroke dynamics based models". *IEEE Access* 10 (2022), (**Impact Factor: 3.6**).
- [J28] Ashish Singh, Abhinav Kumar, Zahid Akhtar, and Muhammad Khurram Khan. "Guest Editorial: Cybersecurity Intelligence in the Healthcare System". *IEEE Transactions on Industrial Informatics* 19.1 (2022), (**Impact Factor: 9.9**).
- [J29] Jyoti Prakash Singh, Abhinav Kumar, Nripendra P Rana, and Yogesh K Dwivedi. "Attention-based LSTM network for rumor veracity estimation of tweets". *Information Systems Frontiers* 24.2 (2022), (**Impact Factor: 8.3**).
- [J30] Rajnish Pandey, Abhinav Kumar, Jyoti Prakash Singh, and Sudhakar Tripathi. "Hybrid attention-based Long Short-Term Memory network for sarcasm identification". *Applied Soft Computing* 106 (2021), (**Impact Factor: 6.6**).
- [J31] Pradeep Kumar Roy, Abhinav Kumar, Jyoti Prakash Singh, Yogesh Kumar Dwivedi, Nripendra Pratap Rana, and Ramakrishnan Raman. "Disaster related social media content processing for sustainable cities". *Sustainable Cities and Society* 75 (2021), (**Impact Factor: 12.0**).

- [J32] Abhinav Kumar, JP Singh, YK Dwivedi, and Nripendra P Rana. "A deep multi-modal neural network for informative Twitter content classification during emergencies". *Annals of Operation Research* (2020), (**Impact Factor: 4.5**).
- [J33] Abhinav Kumar and Jyoti Prakash Singh. "Location reference identification from tweets during emergencies: A deep learning approach". *International journal of disaster risk reduction* 33 (2019), (**Impact Factor: 4.5**).
- [J34] Jyoti Prakash Singh, Yogesh K Dwivedi, Nripendra P Rana, Abhinav Kumar, and Kawaljeet Kaur Kapoor. "Event classification and location prediction from tweets during disasters". *Annals of Operations Research* 283.1-2 (2017), (**Impact Factor: 4.5**).

## Conference Papers

- [C1] Shraddha Chauhan and Abhinav Kumar. "DSL NLP@NLU of Devanagari Script Languages 2025: Leveraging BERT-based Architectures for Language Identification, Hate Speech Detection and Target Classification". *Proceedings of the First Workshop on Challenges in Processing South Asian Languages (CHiPSAL 2025)*. Jan. 2025.
- [C2] Shraddha Chauhan and Abhinav Kumar. "MNLP@ DravidianLangTech 2025: A Deep Multimodal Neural Network for Hate Speech Detection in Dravidian Languages". *Proceedings of the Fifth Workshop on Speech, Vision, and Language Technologies for Dravidian Languages*. 2025.
- [C3] Shraddha Chauhan and Abhinav Kumar. "MNLP@ DravidianLangTech 2025: Transformer-based Multimodal Framework for Misogyny Meme Detection". *Proceedings of the Fifth Workshop on Speech, Vision, and Language Technologies for Dravidian Languages*. 2025.
- [C4] Shraddha Chauhan, Kumari Nibha Priyadarshani, and Abhinav Kumar. "ViT4Waste: Vision Transformer-Based Deep Learning for Efficient E-Waste Management". *2025 International Conference on Electronics, AI and Computing (EAIC)*. 2025.
- [C5] Prem Shanker Dwivedi, Abhinav Kumar, and Amit Biswas. "A Quantum Computing Approach for Unmanned Aerial Vehicles Traffic Conflict Resolution". *2025 2nd International Conference on Advanced Computing and Emerging Technologies (ACET)*. 2025.
- [C6] Ranjeet Kumar, Rahul Kumar, and Abhinav Kumar. "An Empirical Evaluation of LLMs in identification of Sarcasm from Roman Code-Mixed Social Media Posts". *2nd International Conference on Artificial Intelligence and Emerging Technologies 2.0 (AISUMMIT 2025): Global AI Summit 2025 (IEEE)*. 2025.
- [C7] Vijay Kumar and Abhinav Kumar. "An Explainable Neuro-Fuzzy DeBERTa Model for Earthquake Disaster Tweet Classification". *2nd International Conference on Artificial Intelligence and Emerging Technologies 2.0 (AISUMMIT 2025): Global AI Summit 2025 (IEEE)*. 2025.
- [C8] Vijay Kumar and Abhinav Kumar. "Explainable Hybrid Transformer for Crisis Informatics: Combining Deep Contextual Embeddings with Handcrafted Cues". *2025 International Conference on Machine Learning and Data Engineering (Procedia Computer Science)*. 2025.
- [C9] Nikhil Kumar Sharma, Lalit Kumar, Abhinav Kumar, and Vijay Kumar. "Edge-Aware Convolutional Architectures for Automated Flood Damage Severity Assessment". *2025 International Conference on Machine Learning and Data Engineering (Procedia Computer Science)*. 2025.
- [C10] Durgesh Verma and Abhinav Kumar. "Multimodal Deep Learning for Detection of Hate, Humor, and Stance in Social Discourse on Marginalized Communities". *International Conference Recent Advances in Natural Language Processing (RANLP 2025)*. 2025.
- [C11] Abhay Vishwakarma and Abhinav Kumar. "MNLP@ DravidianLangTech 2025: Transformers vs. Traditional Machine Learning: Analyzing Sentiment in Tamil Social Media Posts". *Proceedings of the Fifth Workshop on Speech, Vision, and Language Technologies for Dravidian Languages*. 2025.
- [C12] Shraddha Chauhan and Abhinav Kumar. "A Transformer-Based Model for Detecting Multilingual Sarcasm in Social Media Posts". *Forum of Information Retrieval and Evaluation FIRE-2024*. 2024.
- [C13] Ranjeet Kumar and Abhinav Kumar. "MSD: Multilingual Sarcasm Detection using Deep Learning-Based Model". *Forum of Information Retrieval and Evaluation FIRE-2024*. 2024.
- [C14] Jyoti Kumari and Abhinav Kumar. "JA-NLP@ LT-EDI-2023: Empowering Mental Health Assessment: A RoBERTa-Based Approach for Depression Detection". *Proceedings of the Third Workshop on Language Technology for Equality, Diversity and Inclusion*. 2023.

- [C15] Abhinav Kumar, Sunil Saumya, and Pradeep Roy. "SOA\_NLP@ LT-EDI-ACL2022: An Ensemble Model for Hope Speech Detection from YouTube Comments". *Proceedings of the Second Workshop on Language Technology for Equality, Diversity and Inclusion*. 2022.
- [C16] Pradeep Roy, Snehaan Bhawal, Abhinav Kumar, and Bharathi Raja Chakravarthi. "IIITSurat@ LT-EDI-ACL2022: Hope Speech Detection using Machine Learning". *Proceedings of the Second Workshop on Language Technology for Equality, Diversity and Inclusion*. 2022.
- [C17] Suprakash Samantaray and Abhinav Kumar. "Bi-directional Long Short-Term Memory Network for Fake News Detection from Social Media". *Intelligent and Cloud Computing: Proceedings of ICICC 2021*. 2022.
- [C18] Manswini Swain, Manish Biswal, Priya Raj, Abhinav Kumar, and Debahuti Mishra. "Hate and Offensive Language Identification from Social Media: A Machine Learning Approach". *Electronic Systems and Intelligent Computing: Proceedings of ESIC 2021*. 2022.
- [C19] Snehaan Bhawal, Pradeep Roy, and Abhinav Kumar. "Hate Speech and Offensive Language Identification on Multilingual Code Mixed Text using BERT." *FIRE (Working Notes)*. 2021.
- [C20] Rakshita Jain, Devanshi Goel, Prashant Sahu, Abhinav Kumar, and Jyoti Prakash Singh. "Profiling Hate Speech Spreaders on Twitter". *CLEF 2021 Working Notes*. 2021.
- [C21] Abhinav Kumar and Jyoti Kumari. "A Machine Learning Approach for Fake News Detection from Urdu Social Media Posts." *FIRE (Working Notes)*. 2021.
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- [C23] Abhinav Kumar, Pradeep Kumar Roy, and Jyoti Prakash Singh. "A Deep Learning Approach for Identification of Arabic Misogyny from Tweets." *FIRE (Working Notes)*. 2021.
- [C24] Abhinav Kumar, Pradeep Kumar Roy, and Jyoti Prakash Singh. "Bidirectional Encoder Representations from Transformers for the COVID-19 vaccine stance classification." *FIRE (Working Notes)*. 2021.
- [C25] Abhinav Kumar, Sunil Saumya, and Pradeep Kumar Roy. "Abusive and Threatening Language Detection from Urdu Social Media Posts: A machine learning approach." *FIRE (Working Notes)*. 2021.
- [C26] Abhinav Kumar, Sunil Saumya, and Jyoti Prakash Singh. "An Ensemble-Based Model for Sentiment Analysis of Dravidian Code-Mixed Social Media Posts." *FIRE (Working Notes)*. 2021.
- [C27] Gunjan Kumar, Jyoti Prakash Singh, and Abhinav Kumar. "A deep multi-modal neural network for the identification of hate speech from social media". *Conference on e-Business, e-Services and e-Society*. 2021.
- [C28] Pradeep Kumar Roy and Abhinav Kumar. "Convolutional Neural Network for Text: A Stepwise Working Guidance". 2021.
- [C29] Jyoti Kumari and Abhinav Kumar. "A Deep Neural Network-based Model for the Sentiment Analysis of Dravidian Code-mixed Social Media Posts". 2021.
- [C30] Jyoti Kumari and Abhinav Kumar. "Offensive Language Identification on Multilingual Code Mixing Text." *FIRE (Working Notes)*. 2021.
- [C31] Ankit Kumar Mishra, Sunil Saumya, and Abhinav Kumar. "Sentiment Analysis of Dravidian-CodeMix Language." *FIRE (Working Notes)*. 2021.
- [C32] Anu Priya and Abhinav Kumar. "Deep Ensemble Approach for COVID-19 Fake News Detection from Social Media". *2021 8th International Conference on Signal Processing and Integrated Networks (SPIN)*. 2021.
- [C33] Anu Priya and Abhinav Kumar. "Hate and Offensive Content Identification from Dravidian Social Media Posts: A Deep Learning Approach." *FIRE (Working Notes)*. 2021.
- [C34] Pradeep Kumar Roy and Abhinav Kumar. "Sentiment Analysis on Tamil Code-Mixed Text using Bi-LSTM." *FIRE (Working Notes)*. 2021.
- [C35] Sunil Saumya, Abhinav Kumar, and Jyoti Prakash Singh. "Offensive language identification in Dravidian code mixed social media text". *Proceedings of the First Workshop on Speech and Language Technologies for Dravidian Languages*. 2021.
- [C36] Ashish Singh, Abhinav Kumar, and Zahid Akhtar. "Bitcoin Price Prediction: A Deep Learning Approach". *2021 8th International Conference on Signal Processing and Integrated Networks (SPIN)*. 2021.

- [C37] Abhinav Kumar, Sunil Saumya, and Jyoti Prakash Singh. "NITP-AI-NLP@ Dravidian-CodeMix-FIRE2020: A Hybrid CNN and Bi-LSTM Network for Sentiment Analysis of Dravidian Code-Mixed Social Media Posts." *FIRE (Working Notes)*. 2020.
- [C38] Abhinav Kumar, Sunil Saumya, and Jyoti Prakash Singh. "NITP-AI-NLP@ HASOC-Dravidian-CodeMix-FIRE2020: A Machine Learning Approach to Identify Offensive Languages from Dravidian Code-Mixed Text." *FIRE (Working Notes)*. 2020.
- [C39] Abhinav Kumar, Sunil Saumya, and Jyoti Prakash Singh. "NITP-AI-NLP@ HASOC-FIRE2020: Fine Tuned BERT for the Hate Speech and Offensive Content Identification from Social Media." *FIRE (Working Notes)*. 2020.
- [C40] Abhinav Kumar, Sunil Saumya, and Jyoti Prakash Singh. "NITP-AI-NLP@ UrduFake-FIRE2020: Multi-layer Dense Neural Network for Fake News Detection in Urdu News Articles". 2020.
- [C41] Abhinav Kumar and Jyoti Prakash Singh. "Disaster severity prediction from Twitter images". *Intelligence Enabled Research: DoSIER 2020*. 2020.
- [C42] Ankit Kumar Mishra, Sunil Saumya, and Abhinav Kumar. "IIIT\_DWD@ HASOC 2020: Identifying offensive content in Indo-European languages." *FIRE (Working Notes)*. 2020.
- [C43] Sunil Saumya, Jyoti Prakash Singh, and Abhinav Kumar. "A Machine Learning Model for Review Rating Inconsistency in E-commerce Websites". *Data Management, Analytics and Innovation*. 2020.
- [C44] Abhinav Kumar and Jyoti Prakash Singh. "Demonetization in India: Good or Bad in Context of Social Media". *International Conference on Advanced Computing and Software Engineering*. 2019.
- [C45] Abhinav Kumar, Jyoti Prakash Singh, and Sunil Saumya. "A Comparative Analysis of Machine Learning Techniques for Disaster-Related Tweet Classification". *2019 IEEE Region 10 Humanitarian Technology Conference*. 2019.
- [C46] Abhinav Kumar, Jyoti Prakash Singh, and Nripendra P Rana. "Authenticity of geo-location and place name in tweets". *Proceedings of the 23rd Americas Conference on Information Systems (AMCIS)*. 2017.
- [C47] Abhinav Kumar and Nemi Chandra Rathore. "Relationship strength based access control in online social networks". *Proceedings of First International Conference on Information and Communication Technology for Intelligent Systems: Volume 2*. 2016.
- [C48] Jyoti Kumari, R Rajesh, and Abhinav Kumar. "Fusion of features for the effective facial expression recognition". *2016 international conference on communication and signal processing (ICCSP)*. 2016.

## Book Chapters

- [BCh1] Abhinav Kumar. "Explainability and Bias in AI-Driven Medical Image Analysis: Bridging Transparency and Fairness". *Analysing Artificial Intelligence Bias in Medical Systems*. 2026. Wiley-IEEE Press, 2026.
- [BCh2] Dibya Ranjan Das Adhikary, Prabhat Dansena, Dharamveer Yadav, Abhinav Kumar, and Laxminath Tripathy. "Role of Digital Agriculture in Shaping the Future of Farming: A Social Network Analytics Approach". *Social Network Analytics: Empowering Data Engineering with Deep Learning and Large Language Models*. 2025. CRC Press, 2025.
- [BCh3] Abhinav Kumar. "Multimodal Meme Identification for Sustainable Development: Techniques, Challenges, and Societal Impact". *Multimedia and Multimodal Intelligence for Sustainable Development*. 2025. Chapman and Hall/CRC, Taylor & Francis, 2025.
- [BCh4] Vijay Kumar, Abhinav Kumar, and Pradeep Kumar Roy. "Explainable Transfer Learning Model for Disaster Damage Assessment from Social Media Images". *Social Network Analytics: Empowering Data Engineering with Deep Learning and Large Language Models*. 2025. CRC Press, 2025.
- [BCh5] Rajnish Pandey, Abhinav Kumar, and Jyoti Prakash Singh. "Sarcasm Detection in Code-Mixed Social Media Posts: A Hybrid Perspective". *Social Network Analytics: Empowering Data Engineering with Deep Learning and Large Language Models*. 2025. CRC Press, 2025.
- [BCh6] Dibya Ranjan Das Adhikary, Jitesh Pradhan, Abhinav Kumar, and Brijendra Pratap Singh. "A Multilingual Review of Hate Speech Detection in Social Media Content". *Cybercrime in Social Media: Theory and Solutions*. 2023. CRC Press, 2023.

- [BCh7] Brijendra Pratap Singh, Abhinav Kumar, Dibya Ranjan Das Adhikari, Jitesh Pradhan, Durgesh Singh, and Debahuti Mishra. "Fundamental Theories Behind the Detection of Fake News and Rumors". *Cybercrime in Social Media*. 2023. Chapman and Hall/CRC, 2023.

### Books (Published)

- [B1] Deepak Gupta, Mayank Pandey, Abhinav Kumar, and P. N. Suganthan, eds. *Next-Generation Networks and Deployable Artificial Intelligence. Proceedings of NGNDAI 2025*. Singapore: Springer, 2025.
- [B2] Asis Kumar Tripathy, Pradeep Kumar Roy, Abhinav Kumar, and Yulei Wu, eds. *Next-Gen Social Network Analytics: Empowering Data Engineering with Deep Learning and Large Language Models*. London, UK: Taylor and Francis, 2025.

### Books (Upcoming)

- [B1] Abhinav Kumar and Pradeep Kumar Roy. *Detecting Misinformation and Toxicity in Social Media: Techniques and Applications*. London, UK: IET Press, 2025.
- [B2] Pradeep Kumar Roy and Abhinav Kumar. *Introduction to Generative AI for Business Managers*. Boca Raton, USA: CRC Press, Taylor and Francis, 2025.