

Dr. MRITUNJAY SHALL PEELAM

Assistant Professor (Selection Grade), UPES Dehradun

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BRIEF SUMMARY

I have completed my Ph.D. in the Department of Electrical and Electronics Engineering at BITS-Pilani under the supervision of Prof. Vinay Chamola, with a research focus on the **Design and Development of Blockchain-Based Schemes for Intelligent Transportation Systems**. My work integrates advanced technologies such as Blockchain, Game Theory, IoT, Edge AI, and Multimodal Machine Learning to enhance the efficiency, transparency, and security of next-generation vehicular networks. I have published my research in several reputed journals and conferences, including the *IEEE Internet of Things Journal*, *IEEE Transactions on Intelligent Transportation Systems*, *IEEE Transactions on Consumer Electronics*, *IEEE Access*, *IEEE Open Journal of the Communications Society*, *Computer Applications in Engineering Education (Wiley)*, *Digital Communications and Networks*, and *Blockchain: Research and Applications*, and also presented at the *IEEE Global Communications Conference (GLOBECOM) 2025*. I am currently seeking *postdoctoral opportunities* where I can apply my expertise in *Multimodal Machine Learning and Edge AI* to make meaningful contributions to your esteemed department or organization.

KEY EXPERTISE

C CPP Java Advanced Java CSS HTML C# Javascript Automata Microprocessors Compilers Algorithms Computer Graphics Data Structures Discrete Mathematics Operating Systems Computer Networking Computer Architecture DBMS Blockchain Overleaf Latex Artificial Intelligence Machine Learning Python Matplotlib GO Lang Real Time Systems Cryptography Federated Learning Cosmos Blockchain

EDUCATION

Birla Institute of Technology and Science (BITS, Pilani) *August 2022 – August 2025*
Ph.D. | Design and Development of Blockchain-based schemes for enabling Intelligent Transportation Systems

University School of Information, Communication and Technology (USICT, New Delhi) *2019 – 2021*
M.Tech. | Computer Science and Engineering | Percentage: **87.60 / 100**

Institution of Electronics and Telecommunication Engineers (IETE), New Delhi *2008 – 2012*
B.Tech. | Computer Science & Engineering | CGPA: **7.60 / 10**

Guru Nanak Inter College (GNIC), Mirzapur *2008*
12th | BHSIEUP | Percentage: **65 / 100**

Sarvoday Public School, Pandari Mirzapur *2006*
10th | BHSIEUP | Percentage: **67.50 / 100**

PROFESSIONAL EXPERIENCE

Pranveer Singh Institute of Technology (PSIT), Kanpur *20 Jul, 2021 – 03 Sep, 2022*
Assistant Professor
Key Skills: Java Data Structures Quantum Computing C C++

Tejas Engineers Academy *20 Jun, 2012 – 10 Aug, 2019*
Programming Language Trainer
Key Skills: C C++ Java

INTERNSHIPS

HCL CDC

22 Jan, 2012 – 21 Aug, 2012

Key Skills: Java Advanced Java

During this time, I learned how Java can play a role in computer science.

RESEARCH PUBLICATIONS (PUBLISHED)

① Blockchain-enabled Intrusion Detection Systems for Real-Time Vehicle Monitoring 26 July 2025

Published | Vehicular Communications, Elsevier

SCIE-Q1-IF: 6.5

M.S. Peelam, Chamola, V., and Chaurasia, B.K., 2024. Blockchain-enabled intrusion detection systems for real-time vehicle monitoring. Vehicular Communications, Elsevier.

② Blockchain-Based Game Theoretical Framework for V2V and V2G Energy Trading in Carbon-Intelligent Internet of Vehicles 07 July 2025

Published | IEEE Internet of Things Journal

SCIE-Q1-IF: 8.9

M. S. Peelam, V. Chamola, S. Sai and P. Jalan, "Blockchain-Based Game Theoretical Framework for V2V and V2G Energy Trading in Carbon-Intelligent Internet of Vehicles," in IEEE Internet of Things Journal, <https://doi.org/10.1109/JIOT.2025.3588000>.

③ Decentralized Trust: NFT and Blockchain-Enabled Evidence System Using Fog Computing 30 June, 2025

Published | Blockchain: Research and Applications, Elsevier

ESCI-Q1-IF: 5.6

Mritunjay Shall Peelam, Vinay Chamola, Aditya Kumar Sharma, Brijesh Kumar Chaurasia, Decentralized Trust: NFT and Blockchain-Enabled Evidence System using Fog Computing, Blockchain: Research and Applications, 2025, 100321, ISSN 2096-7209, <https://doi.org/10.1016/j.bcra.2025.100321>.

④ Future of Connectivity: A Comprehensive Review of Innovations and Challenges in 7G Smart Networks 11 April, 2025

Published | IEEE Open Journal of the Communications Society

ESCI-Q1-IF: 6.1

V. Chamola, M. Shall Peelam, M. Guizani and D. Niyato, "Future of Connectivity: A Comprehensive Review of Innovations and Challenges in 7G Smart Networks," in IEEE Open Journal of the Communications Society, vol. 6, pp. 3555-3613, 2025, doi: 10.1109/OJCOMS.2025.3560035.

⑤ Metaverse for Education: Developments, Challenges and Future Direction 12 April, 2025

Published | Computer Applications in Engineering Education, Wiley

SCIE-Q1-IF: 2.2

Chamola, V., Peelam, M.S., Mittal, U., Hassija, V., Singh, A., Pareek, R., Mangal, P., Sangwan, D., de Albuquerque, V.H.C., Mahmud, M. and Brown, D.J., 2025. Metaverse for education: Developments, challenges, and future direction. Computer Applications in Engineering Education, 33(3), p.e70018.

⑥ A Comprehensive Survey on Data Converters for IoT Applications: Scope, Issues and Future Directions 20 March 2025

Published | IEEE Internet of Things Journal

SCIE-Q1-IF: 8.9

B. P. Sharma, M. S. Peelam, A. Gupta, C. Shekhar and V. Chamola, "A Comprehensive Survey on Data Converters for IoT Applications: Scope, Issues, and Future Directions," in IEEE Internet of Things Journal, vol. 12, no. 12, pp. 18993-19017, 15 June 2025, doi: 10.1109/JIOT.2025.3553153.

⑦ Enhancing security using quantum blockchain in consumer IoT networks *09 Dec, 2024*
Published | [IEEE Transactions on Consumer Electronics](#)
SCIE-Q1-IF: 10.9
M.S.Peelam, V. Chamola, and B. Sikdar, "Enhancing Security Using Quantum Blockchain in Consumer IoT Networks," in *IEEE Transactions on Consumer Electronics*, doi: 10.1109/TCE.2024.3512791.

⑧ Unlocking the potential of interconnected blockchains: a comprehensive study of cosmos blockchain interoperability *13 Nov, 2024*
Published | [IEEE Access](#)
SCIE-Q1-IF: 3.6
M. S. Peelam, B. K. Chaurasia, A. K. Sharma, V. Chamola, and B. Sikdar, "Unlocking the Potential of Interconnected Blockchains: A Comprehensive Study of Cosmos Blockchain Interoperability," in *IEEE Access*, vol. 12, pp. 171753-171776, 2024, doi: 10.1109/ACCESS.2024.3497298.

⑨ Blockchain-enabled vehicle lifecycle management with predictive maintenance using federated learning *05 Nov, 2024*
Published | [IEEE Transactions on Consumer Electronics](#)
SCIE-Q1-IF: 10.9
M.S.Peelam, K. Shah, V. Chamola, and B. Sikdar, "Blockchain-Enabled Vehicle Lifecycle Management With Predictive Maintenance using Federated Learning," in *IEEE Transactions on Consumer Electronics*, doi: 10.1109/TCE.2024.3487874.

⑩ Enhancing Vehicle Lifecycle Management Through Blockchain-Driven Predictive Maintenance and Federated Learning *2024*
Published | [IEEE Global Communications Conference \(GLOBECOM\)](#)
Conference Paper
Peelam, M.S., Shah, K., Chamola, V., and Sikdar, B., 2024. Enhancing vehicle lifecycle management through blockchain-driven predictive maintenance and federated learning. *IEEE Global Communications Conference (GLOBECOM)*, 2024.

⑪ A review on emergency vehicle management for intelligent transportation systems *20 Aug, 2024*
Published | [IEEE Transactions on Intelligent Transportation Systems](#)
SCIE-Q1-IF: 8.4
M. S. Peelam, Naren, M. Gera, V. Chamola and S. Zeadally, "A Review on Emergency Vehicle Management for Intelligent Transportation Systems," in *IEEE Transactions on Intelligent Transportation Systems*, vol. 25, no. 11, pp. 15229-15246, Nov. 2024, doi: 10.1109/TITS.2024.3440474.

⑫ DemocracyGuard: Blockchain-based secure voting framework for digital democracy *13 Aug, 2024*
Published | [Expert Systems](#)
SCIE-Q2-IF: 2.3
Peelam, M.S., Kumar, G., Shah, K. and Chamola, V., 2025. DemocracyGuard: Blockchain-based secure voting framework for digital democracy. *Expert Systems*, 42(2), p.e13694.

⑬ V-track: Blockchain-enabled IoT system for reliable vehicle location verification *08 Aug, 2024*
Published | [Digital Communications and Networks](#)
SCIE-Q1-IF: 7.5
Mritunjay Shall Peelam, Kunjan Shah, Vinay Chamola, V-track: Blockchain-enabled IoT system for reliable vehicle location verification, *Digital Communications and Networks*, 2024, ISSN 2352-8648, <https://doi.org/10.1016/j.dcan.2024.08.004>.

14 Explorative implementation of quantum key distribution algorithms for secure consumer electronics networks 13 Jun, 2024

Published | [IEEE Transactions on Consumer Electronics](#)

SCIE-Q1-IF: 10.9

Peelam, M.S., Sai and V. Chamola, "Explorative Implementation of Quantum Key Distribution Algorithms for Secure Consumer Electronics Networks," in IEEE Transactions on Consumer Electronics, vol. 70, no. 3, pp. 5576-5584, Aug. 2024, doi: 10.1109/TCE.2024.3413768.

15 Quantum Computing Applications in Industrial Internet of Things (IIoT) 28 Nov, 2023

Published | [IET Quantum Communication](#)

ESCI-Q2-IF: 2.8

Peelam, M.S., Rout, A.A. and Chamola, V., 2024. Quantum computing applications for Internet of Things. IET Quantum Communication, 5(2), pp.103-112.

16 QIoTChain: quantum IoT-blockchain fusion for advanced data protection in Industry 4.0 17 Nov, 2023

Published | [IET Blockchain](#)

Scopus-Cite Score: 3.5

Sharma, A.K., Peelam, M.S., Chaurasia, B.K. and Chamola, V., 2024. QIoTChain: quantum IoT-blockchain fusion for advanced data protection in Industry 4.0. IET Blockchain, 4(3), pp.252-262.

17 Enhancing security using quantum computing (ESUQC) 20 Aug, 2021

Published | [Machine Learning, Advances in Computing, Renewable Energy and Communication: Proceedings of MARC 2020](#)

Conference Paper

Peelam, M.S. and Johari, R., 2021. Enhancing security using quantum computing (ESUQC). In Machine Learning, Advances in Computing, Renewable Energy and Communication: Proceedings of MARC 2020 (pp. 227-235). Singapore.

RESEARCH PUBLICATIONS (UNDER REVISION)

1 PBAC: Enhancing Mobile Security and Privacy using Permission-Based App Clustering Framework Under Revision

Submitted | [Transactions on Emerging Telecommunications Technologies, Wiley](#)

SCIE-Q1-IF: 2.5

Peelam, M.S., Chamola, V., Puliyani, I., Chandra, N., Kumar, A., Raj, P., and Yadav, D., 2024. PBAC: Enhancing mobile security and privacy using permission-based app clustering framework. Transactions on Emerging Telecommunications Technologies, Wiley.

2 Blockchain-based Framework for Global IMEI Blacklist Management and Mobile Device Theft Prevention Under Revision

Submitted | [Blockchain: Research and Applications, Elsevier](#)

ESCI-Q1-IF: 5.6

Peelam, M.S. and Chamola, V., 2024. Blockchain-based framework for global IMEI blacklist management and mobile device theft prevention. Blockchain: Research and Applications, Elsevier.

3 Blockchain-Enabled Secure V2V and V2G Energy Trading for Carbon-Aware Internet of Energy (IoE) Networks Under Revision

Submitted | [IEEE Network](#)

SCIE-Q1-IF: 6.3

Peelam, M.S., Chamola, V., 2024. Blockchain-enabled secure V2V and V2G energy trading for carbon-aware Internet of Energy (IoE) networks. *IEEE Network*. (Under Revision)

RESEARCH PUBLICATIONS (SUBMITTED)

① Machine Learning Techniques for WiFi CSI-based Recognition and Sensing: A Comprehensive Review *Submitted*

Submitted | [IEEE Internet of Things Journal](#)

SCIE-Q1-IF: 8.9

Reddy, N.S.S., [Peelam, M.S.](#), Sharma, D., Chamola, V., Guizani, M., and Niyato, D., 2024. Machine learning techniques for WiFi CSI-based recognition and sensing: A comprehensive review. *IEEE Internet of Things Journal*.

ACHIEVEMENTS

① Outstanding Research Article Award – BITS Pilani *Awarded on 19 April 2025*

Paper Title: **A review on emergency vehicle management for intelligent transportation systems**

Event: *Doctoral Colloquium, Pilani Campus*

Organized by: *Department of Electrical and Electronics Engineering, BITS Pilani*

Recognition: Awarded for presenting an outstanding research article, showcasing innovation and academic excellence at the doctoral level.

② IET Quantum Communication – Most-Cited Paper *Awarded on 15 April 2025*

Paper Title: **Quantum computing applications for the Internet of Things**

Published by: *The Institution of Engineering and Technology (IET)*

Recognition: Ranked among the **Top 10 Most-Cited Papers** in the journal for 2023, demonstrating a significant impact in the research community.

Link: [View Recognition](#)

③ IETE Academic Top 10 *Awarded on 15 June 2012*

Recognition: Listed in the IETE Academic Top 10 Students.

Link: <https://www.iete.org/acstopten0612.pdf>

SEMINARS / TRAININGS / WORKSHOPS

① Intelligent Systems and Emerging Technologies in Computing and Electronics (ISETCE–2025)

21 Jul, 2025 – 25 Jul, 2025

Institute Name: **School of Computer Science, UPES Dehradun**

In collaboration with: **National Institute of Technology (NIT) Jamshedpur**

Key Skills: [Artificial Intelligence](#) [Machine Learning](#) [Blockchain](#) [Federated Learning](#) [Intelligent Systems](#)

The FDP on “Intelligent Systems and Emerging Technologies in Computing and Electronics (ISETCE–2025)” was organized by the School of Computer Science, UPES Dehradun, in collaboration with NIT Jamshedpur. The program featured expert-led sessions covering advanced topics in Artificial Intelligence, Machine Learning, Blockchain, Federated Learning, and Intelligent Systems, providing a rich platform for academic and research enrichment.

② INDO-UK EV Webinar 2025 *16 Apr, 2025 – 17 Apr, 2025*

Institute Name: **School of Interdisciplinary Research and Entrepreneurship (SIRE), BITS Pilani**

Key Skills: [Critical Employability Skills For EV Technologies](#)

The Indo-UK Webinar on Critical Employability Skills for EV Technologies was jointly organized by BITS Pilani and Ulster University, UK, with support from the British Council. The event featured keynote sessions by experts from academia and the EV industry, focusing on essential industry-aligned skills, career pathways in the EV sector, and emerging trends in global EV technologies.

③ DBT/Wellcome Trust India Alliance *20 Sep, 2022 – 21 Sep, 2022*

Institute Name: **BITS Pilani, Birla Institute of Technology and Science**

Key Skills: Scientific Manuscripts Research Communication

The workshop aims to equip participants with the essential know-how of writing scientific manuscripts, ethics of research and communication, grants writing, speaking about science to a non-specialist audience, and laying a strong foundation to build a career in research.

④ AI in Healthcare *06 Jun, 2022 – 10 Jun, 2022*

Institute Name: **SBILab, Dept. of ECE, IIIT-Delhi, Infosys Center for Artificial Intelligence, IIIT-Delhi**

Key Skills: AI in Healthcare

The workshop focused on the application of AI in healthcare, offering insights into real-world use cases and future research directions.

⑤ Project Management *23 May, 2022 – 28 May, 2022*

Institute Name: **E & ICT Academy, IIT Kanpur**

Key Skills: Project Management Skills

This training session covered the basics of project management, including planning, scheduling, and resource allocation.

⑥ Unleashing Research Potential: Global Trends and Practices *07 Mar, 2022 – 11 Mar, 2022*

Institute Name: **Galgotias University**

Key Skills: Research Potential

The event provided insights into global research trends and how to unleash one's research potential.

⑦ Quantum Computing- Building Concepts - Advanced FDP *07 Feb, 2022 – 11 Feb, 2022*

Institute Name: **Amity Institute of Information Technology, Amity University Uttar Pradesh, Lucknow Campus**

Key Skills: Quantum Computing

The FDP focused on building the fundamentals of quantum computing for educational purposes and real-world applications.

⑧ Transforming Teachers for a Sustainable Post COVID-19 World *16 Aug, 2021 – 20 Aug, 2021*

Institute Name: **Institute of Information Technology and Management (IITM)**

Key Skills: COVID-19

This workshop focused on how educators can adapt and transform to create an effective teaching environment in a post-pandemic world.

⑨ Emergence of Blockchain Technology and Cryptocurrencies *09 Aug, 2021 – 14 Aug, 2021*

Institute Name: **Institute of Information Technology & Management (IITM Janakpuri), New Delhi**

Key Skills: Blockchain

The event focused on how blockchain technology and cryptocurrencies are emerging as key components of digital financial systems.

⑩ Quantum Computing By NIT Jaipur *23 Nov, 2020 – 27 Nov, 2020*

Institute Name: **Department of Management Studies, Malaviya National Institute of Technology, Jaipur**

Key Skills: Quantum Computing

This workshop provided advanced concepts and real-world applications of quantum computing in various industries.

CO-CURRICULAR ACTIVITIES

Reviewer of Expert Systems, Intelligent Transportation Systems (ITS), Cognitive Computation, Computers and Electrical Engineering, and IET Blockchain.

EXTRA CURRICULAR ACTIVITIES

- I have 8 years of Teaching Experience.

PERSONAL INTERESTS / HOBBIES

- Playing Cricket, Yoga, Listening to Music.

WEB LINKS / IMs

- WhatsApp: 8745080986
- LinkedIn: <https://www.linkedin.com/in/mritunjay-shall-peelam-37810553/>
- Facebook: <https://www.facebook.com/mritunjay.iete/>
- Twitter: <https://twitter.com/AmGone>
- Other: <http://www.youtube.com/@msptutorial7884>
- Github: <https://github.com/shall786>

PERSONAL DETAILS

Gender: Male | **Marital Status:** Married

Date of Birth: 04 Apr, 1992 | **Known Languages:** Hindi, English

Current Address: Village and Post - Pandari, Dist- Mirzapur, Uttar Pradesh, India - 231001

Phone Number: +91-8745080986

Emails: mritunjay.iete@gmail.com, mritunjay.peelam@pilani.bits-pilani.ac.in, mritunjay.peelam@ddn.upes.ac.in

REFERENCES

① Prof. Vinay Chamola

Institute Name: **Department of Electrical & Electronics Engineering, Birla Institute of Technology and Science (BITS Pilani), Rajasthan, India 333031.**

Designation: Associate Professor and a Fellow of IET.

Contact: (+91-9928070448)

Email: vinay.chamola@pilani.bits-pilani.ac.in

② Prof. Biplab Sikdar

Institute Name: **Department of Electrical and Computer Engineering, National University of Singapore, Singapore 119077.**

Designation: Professor, Head of Department, and a Fellow of IEEE.

Contact: (+65-6516 2291)

Email: bsikdar@nus.edu.sg

③ Prof. Mohsen Guizani

Institute Name: **Machine Learning Department, Mohamed bin Zayed University of Artificial Intelligence (MBZUAI), Masdar City, Abu Dhabi, UAE – 50819.**

Designation: Professor and a Fellow of IEEE.

Contact: (+971-2-8113333)

Email: mohsen.guizani@mbzuai.ac.ae

④ Prof. G Sai Sesa Chalapathi

Institute Name: **Birla Institute of Technology and Science (BITS Pilani), Pilani Campus, Rajasthan, India 333031.**

Designation: Assistant Professor and Senior Member of IEEE

Contact: (+91-7230289677)

Email: gssc@pilani.bits-pilani.ac.in

⑤ Prof. Tejasvi Alladi

Institute Name: **Birla Institute of Technology and Science (BITS Pilani), Pilani Campus, Rajasthan, India 333031.**

Designation: Assistant Professor.

Contact: (+91-9177275667)

Email: tejasvi.alladi@pilani.bits-pilani.ac.in

⑥ Prof. Brijesh Kumar Chaurasia

Institute Name: **Pranveer Singh Institute of Technology (PSIT), Kanpur, Uttar Pradesh, India.**

Designation: Professor and Research Dean, Senior Member IEEE

Contact: (+91-8770180714)

Email: deanresearch@psit.ac.in, brijesh.chaurasia@psit.ac.in