AMIT KUMAR TYAGI
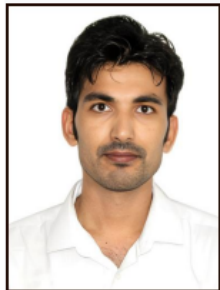
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Sex: Male
Date of birth: 05/08/1988
Nationality: Indian

Biography

Amit Kumar Tyagi is currently working in Department of Fashion Technology, National Institute of Fashion Technology (NIFT), New Delhi, 110016, Delhi, India. He has contributed to several projects such as "AARIN" (https://doi.org/10.1016/j.ijin.2021.09.007) and "P3- Block" (https://doi.org/10.1007/978-3-030-58817-5_56) to address some of the open issues related to the privacy breaches in Medical Cyber Physical Systems (MCPS) and Vehicular Applications (such as Parking, Toll Plaza, etc.) and recently he has worked on Project "IndiaSize", Funded by Ministry of Textiles, Govt. of India at NIFT, New Delhi.

Google Scholar's (h-Index-42)

https://scholar.google.co.in/citations?user=RIgaVmUAAAAJ&hl=en

Current Research Interests

- Smart and Secure Computing (e.g., Next Generation Machine Based Communications),
- Network and Information Security (including Cyber Security and Blockchain),
- Privacy (including Genomic and Data),
- Trust in Autonomous Vehicles

Grants and Funding

Projects:

- AARIN: Affordable, Accurate, Reliable and INnovative Mechanism to Protect a Medical Cyber- Physical System using Blockchain Technology. **(Final Work Published in Elsevier)** (**Grant:** 1.5 Lakhs Rupees).
  Remarks: Most Downloaded and Cited article of this journal.
- P3-Block: Privacy Preserving Parking to Vehicle Users using Blockchain Technology. **(Final Work Published in European Conference, Springer),** (**Grant:** 1.5 Lakhs Rupees).
  Remarks: Won as Best Paper Award in 2020, Italy Conference

Conferences/ FDP attended:

- Recipient of student registration cum travel grant by National Technical Research Organization

(NTRO), Government of India to attend Workshop on "Smart and Secure Environment" organized by Anna University, Chennai, India.

- Recipient of student registration cum travel grant by NTRO, Government of India to attend Workshop on "Smart and Secure Environment" organized by NIT, Trichy, India.
- Recipient of student registration cum travel grant by NTRO, Government of India to attend Workshop on "Smart and Secure Environment" organized by TCE, Madurai, India.
- Recipient of student registration cum travel grant by NTRO, Government of India to attend Workshop on "Smart and Secure Environment" organized by PSG Tech, Coimbatore, India.
- Recipient of student registration cum travel grant by NTRO, Government of India to attend Workshop on "Smart and Secure Environment" organized by Anna University, Chennai, India.
- Recipient of student registration cum travel grant by Technical Education Quality Improvement Programme (TEQIP) to attend Faculty development program on "Database Security" organized by NIT Warangal, India.
- Recipient of student registration cum travel grant by Technical Education Quality Improvement Programme (TEQIP) to attend Faculty development program on "Security and Privacy" organized by NIT Warangal, India.

Education

PhD.

July 2013- September 2018, in Computer Science and Engineering, Pondicherry University (A Central University) Pondicherry, India,
Supervisor: Prof. N. Sreenath
Thesis Title: SATA Framework to Enhance Privacy for Location Based Services in Vehicular Ad- Hoc Networks
Date of Award: 11.09.2018
Areas of Research: Network and Cyber Security
Mode: Regular/ Full Time

M.Tech

July 2010- June 2012, in Computer Science and Engineering, Pondicherry University (A Central University) Pondicherry, India.
Supervisor: Dr G Aghila
Thesis Title: Detection of fast flux network based social bot using analysis-based techniques
Date of Award: 21.05.2012
Areas of Research: Cyber Security
Mode: Regular/ Full Time

B.Tech

July 2005-June 2009 in Computer Science and Engineering, Meerut Institute of Engineering and Technology, Meerut, India
Thesis Title: Identification of the quality of Jewelry using machine learning techniques and providing a Hallmark to it (according to Bureau of Indian Standards).
Supervisor: Dr. Anupam Jain
Date of Award: 20.06.2009

Areas of Research: Machine Learning/ Artificial Intelligence
Mode: Regular/ Full Time

Work Experience

November 2022-till date (Academic): Assistant Professor, National Institute of Fashion Technology, Delhi, India.
Duties**:** "**Research:"** Working on IndiaSize project and handling active grants (funded by Ministry of Textiles, Govt. of India). In this project, we use machine learning techniques for size forecasting (sample size 25000 primary data) to Indian Citizens. Conducting scientific research in computer science and publishing high-quality papers, supervising Ph.D/M.FTech./B.FTech. students, and preparing research grant proposals for future. **"Teaching:"** Organizing and delivering modules at both the undergraduate and postgraduate levels. Performance assessment of students in weekly self-practice tasks. Interacting with students within office hours. Preparing and mentoring written examinations and course projects and attending Juries. **"Administration:"** Responsibility for developing and maintaining the M.FTech Data Science Programme. Active membership in school meetings to discuss departmental and school matters (teaching, research, and school management). **"Self-Development:"** Organizing workshops and delivering keynote talks and plenary panels in top venues (inside and outside campus).

June 2019- November 2022, Assistant Professor, Vellore Institute of Technology, Chennai
Duties: **"Research:"** Managing research students in Centra for Advanced Data Science and active grants. Conducting scientific research in computer science and publishing high-quality papers, supervising Ph.D./ M.S./ M.Tech/ M.C.A/ B.Tech students, and preparing research grant proposals. **"Teaching:"** Organizing and delivering modules at both the undergraduate and postgraduate levels. Performance assessment of students in weekly self-practice tasks. Interacting with students within office hours. Preparing and mentoring written examinations and course projects. **"Administration:"** Responsibility for developing and maintaining the Blockchain Programme activities about areas of interest and innovation within the faculty. Active membership in school meetings to discuss departmental and school matters (teaching, research, and school management). **"Self-Development:"** Completed 2 years on Design Analysis and Algorithms (4 modules), completed all necessary essential training for the role, and participated in several professional development courses and workshops.

September 2018-May 2019, Assistant Professor and Head- Research, Lingaya's Vidyapeeth Faridabad
Duties: Managing research scholars at University Level. Conducting Entrance exams for new Scholars. Conducting scientific research in computer science and publishing high-quality papers, supervising Ph.D./ M.S./ M.Tech/ M.C.A/ B.Tech students, and preparing research grant proposals. **"Teaching:"** Organizing and delivering modules at both the undergraduate and postgraduate levels for research related subjects like Research methodology, and Big data analytics.

October 2012- October 2013, Assistant Professor, Lord Krishna College of Engineering, Ghaziabad
Duties: Conducting scientific research in computer science and publishing high-quality papers on Cyber Security. Teaching in classes and laboratories like Theory of Automata and Formal Languages, Computer Networking, Network Security and Analysis of Algorithms, to undergraduate students. Performance assessment of students in weekly self-practice tasks. Interacting with students within office hours. Mentoring and grading written examination and course projects

July 2009-July 2010, Assistant Professor, Lord Krishna College of Engineering, Ghaziabad
Duties: Teaching in classes and laboratories Computer Networking, Network Programming and Network Analysis and Design to undergraduate students. Performance assessment of students in weekly self-practice tasks. Interacting with students within office hours. Mentoring and grading written

examination and course projects.

Teaching Interests

- Theoretical Computer Science
- Computer Network
- Data structure
- Analysis of Algorithms
- Operating system
- Blockchain Technology

Supervision (Completed)

Ph.D, Ms. Banita, Registration No: 16PHCS002 (W), Title: Design and Development of Novel Image Processing Technique for Paralyzed Patients, 2019.

M.FTech, Sara Qamar, Consumer Behaviour Analysis for Women's Footwear and Bags Market in India", 2024.

M.FTech, Rashim Thakur, "Enhancing Patient Care with Smart Wearable": Early Detection and prevention of Pressure Ulcers", 2024.

M.Des, Anisha Doiphode, "Impact Assessment and Sustainability Analysis of Regenerative Agricultural Practices**:** Case Study of X Foundation's Initiatives in Wardha, Nagpur", 2024.

MS, Rohit Arya (20MCS1009), Project Title – "MRI Brain Image Classification Using Various Deep Learning Architectures" 2022.

MCA, Shashvi Mishra (19MCA1122) - Project Title - "Cyberbullying: Effect on Youth", 2021.

MCA, Sakshi Purwar (19MCA1122) - Project Title - "Fake News Detection Using Machine Learning", 2021.

MS, Yetukuri Shiva Gopi (15MIS1166) – Project Title - "MyLudo", 2020.

MS, Mareedu Vamsi Krishna (15MIS1160), Project Title – "Programmable Automotive Electronic Break Out Box for Fault Injections" 2020.

B.Tech, Srii Laasya Kanuru (16BCE123), Project Title – "Smart Farming using Machine Learning", 2020.

B.Tech, Aparna Balasubramniam (18BCE1058), Project Title – "Self-driving car simulation with reinforcement learning", 2022.

Honors, Awards and Scholarships

- Faculty Research Award for the Year 2019-2020 by Vellore Institute of Technology, Chennai, Tamilnadu, India, (Award money: 20000 Indian Rupees).
- Faculty Research Award for the Year 2020-2021 by Vellore Institute of Technology, Chennai, Tamilnadu, India, (Award money: 20000 Indian Rupees).
- Faculty Research Award for the Year 2021-2022 by Vellore Institute of Technology, Chennai, Tamilnadu, India, (Award money: 20000 Indian Rupees).
- Best Paper Award, in International Conference on Computational Science and Its Applications (ICCSA) 2020 (Italy, Europe) for Research Article titled "A Novel Feature Extractor Based on the Modified Approach of Histogram of oriented Gradient", (Award money: 500 USD).
- Recipient of NF-PwD Fellowship for pursuing Ph.D. in year 2013.
- Best Undergraduate Thesis Award, Dr. A.P.J. Abdul Kalam University (Formerly U.P.T.U), Lucknow 2009 (published by LAP LAMBERT Academic Publishing, ISBN: 978-3-330-00604-1).

Language Proficiencies

- Hindi (Mother tongue/Native): Listening, Reading, Speaking and Writing
- English (Study/ Education): Listening, Reading, Speaking and Writing
- French: Reading, Writing

Technical Skills

- Computer Language - C, C++, HTML, XML, Python, Ruby and Qt framework.
- Simulation Tools - Network Simulator-2 and 3, MOVE, SUMO, ONE, GTMobiSim, VANETSim, KNIME, Tensor Flow, PyTorch/ Tensorflow/ Keras/ Caffe, and Apache Spark, etc.
- Operating Systems - DOS, WINDOW and LINUX.

Professional Memberships (Continued)

- IEEE- Senior Member
- ACM- Regular Member
- MIRLabs- Regular Member
- Ramanujan Mathematical Society- Regular Member
- Cryptology Research Society- Regular Member
- CSI – Life Time Member
- ISTE- Life Time Member

Patents (Filed/ Granted)

National

1. **Indian,** Implementing Blockchain Technology in Automated Teller Machine (ATM) Based Electronic Voting Machine, Patent no. 202141046135 **(Granted)**
2. **Indian,** ID Tracking To 4-G Mobile with Security Using Deep Learning Programming (Patent no. 202021018871) **(Under Examination)**
3. **Indian,** Single Debit cum Credit Card for Making Money Transactions, Patent no. 202141007247 **(Under Examination)**
4. **Indian,** E-Authentication system using Eye Blinking and Deep Learning (Patent no. 202211016237) **(Under Examination)**
5. **Indian,** Water Management Technology: Under Smart City Waste Water Management Using IoT- Based, Machine Learning Technology, Patent no 202041055915 **(Under Examination)**
6. **Indian,** Data Link Bridge (DLB): An Algorithm for Securing the data from Cryptanalysis, Patent no. 202141051540. **(Under Examination)**
7. **Indian,** Neural Network based Facial Recognition using Deep Learning (Patent no. 202311025684) **(Under Examination)**
8. **Indian,** Maternity Support Garment with Posture Detection for Pregnant Women Using IoT Devices **(Patent no. 202411013372) (Published)**
9. **Indian,** Managing a single debit cum credit, etc., card transactions through an Android Application (Patent no. 202411013371) **(Published)**

International

1. **USA,** COVID 19 Detection, Spread Prevention and Medical Assistance Using Machine Learning (Patent no. US17551376), **(Published).**

2. **USA**, Symbol Recognition system: An Image Recognition Algorithm to process Images and to identify Symbols using AI-Based Programming (Patent no. US17392619), **(Published).**
3. **USA**, Patent Title 3: System for Medical Diagnosis using Artificial Intelligence and Deep Learning Approach (Patent no. US17806773), **(Published).**
4. **UK,** Machine Learning Based Epizootic Ulcerative Syndrome Fish Disease Detection (Patent Design number: 6300172) **(Granted)**

Books/ Book Chapters (Published)

Text books:

1. **Amit Kumar Tyagi,** Know your Technical Skills, Amazon Independent Publishing, 2016 and 2018.
2. **Amit Kumar Tyagi,** Internet of Things: Theory and Practice, BPB Publications (Asia's largest publishers of Computer and IT books), 2022, ISBN: 9789355512437.
3. **Amit Kumar Tyagi,** Shaveta Malik, Vehicular Ad-Hoc Networks and Emerging Technologies for Road Vehicle Automation, IET 2022, ISBN-13: 978-1-83953-428-7.
4. **Amit Kumar Tyagi**, N. Sreenath, Intelligent Transportation Systems: Theory and Practice, Springer, 2023, ISBN: 978-981-19-7622-3
5. **Amit Kumar Tyagi,** Khushboo Tripathi, Avinash Sharma**,** Advanced Machine Learning: Fundamentals and Algorithms, BPB Publications (Asia's largest publishers of Computer and IT books), 2024. ISBN: 9789355516343
6. **Amit Kumar Tyagi,** Shrikant Tiwari, Shivani Gupta, Anand Kumar Mishra, 6G-Enabled Technologies for Next Generation: Fundamentals, Applications, Analysis and Challenges, John Wiley and Sons, 2024. ISBN: 9781394258338.

Chapters:

1. **Amit Kumar Tyagi,** "Prediction Models", in Book - Titled "Handbook of Research on Disease Prediction through Data Analytics and Machine Learning", IGI Global USA, 2020, DOI: 10.4018/978-1-7998-2742-9, pp. 50-69, DOI: 10.4018/978-1-7998-2742-9.ch004, ISBN 13: 9781799827429.
2. **Amit Kumar Tyagi**, G. Rekha, Sravanthi Reddy "Big Data and Behaviour Analytics", in Book - Titled "IET Handbook of Big Data Analytics Book Series: IET Book Series on Big Data", pp. 127-143, DOI: 10.1049/PBPC037G_ch6, ISBN: 9781839530593, 2021.
3. **Amit Kumar Tyagi,** Meghna M Nair, "Deep Learning for Clinical and Health Informatics,", Computational Analysis and Understanding of Deep Learning for Medical Care: Principles, Methods, and Applications, pp. 107-129, 2021, https://doi.org/10.1002/9781119785750.ch5, ISBN: 9781119785729.
4. Akshara Pramod, Harsh Sankar Naicker, and **Amit Kumar Tyagi**, "Machine Learning and Deep Learning: Open Issues and Future Research Directions for Next Ten Years", Computational Analysis and Understanding of Deep Learning for Medical Care: Principles, Methods, and Applications, pp. 463-490, 2021,https://doi.org/10.1002/9781119785750.ch18, ISBN: 9781119785729.
5. Shreyas Madhav A V, **Amit Kumar Tyagi,** "The World with Future Technologies (Post COVID 19): Open Issues, Challenges and the Road Ahead", in Book - Titled Intelligent Interactive Multimedia Systems for e-Healthcare Applications, pp. 411-452, Springer 2021, ISBN: 978-981- 16-6542-4. DOI: 10.1007/978-981-16-6542-4_22.
6. **Amit Kumar Tyagi**, "Analysis of Security and Privacy Aspects of Blockchain Technologies from Smart Era' Perspective: The Challenges and a Way Forward", in Book -

Titled CRC – Recent Trends in Blockchain for Information Systems Security and Privacy, pp. 1-17, 2021, DOI: https://doi.org/10.1201/9781003139737, eBook-ISBN: 9781003139737.

7. Shashvi Mishra, **Amit Kumar Tyagi,** "The Role of Machine Learning Techniques in Internet of Things Based Cloud Applications", in Book - Titled "Artificial Intelligence for Internet of Things", pp. 105-135, Springer, 2022, DOI: 10.1007/978-3-030-87059-1_4, ISBN: 978-3-030- 87059-1.

8. **Amit Kumar Tyagi,** "Decentralized Everything: A Practical Use of Blockchain Technology in Future Applications", in the Book titled Distributed Computing to Blockchain: Architecture, Technology, and Applications, Elsevier 2023, pp. 19-38, https://doi.org/10.1016/B978-0-323-96146-2.00010-3, ISBN: 978-0-323-96146-2.

9. Meghna Manoj Nair, **Amit Kumar Tyagi,** "AI, IoT, Blockchain, and Cloud Computing: The Necessity of Future", in Book titled Distributed Computing to Blockchain: Architecture, Technology, and Applications, Elsevier 2023, pp. 189-206, https://doi.org/10.1016/B978-0-323-96146-2.00001-2, ISBN: 978-0-323-96146-2.

10. **Amit Kumar Tyagi,** R. Lakshmi Priya, Anand Kumar Mishra, G Balamurugan, "Industry 5.0: Potentials, Issues, Opportunities and Challenges for Society 5.0", in the book: Privacy Preservation of Genomic and Medical Data, Wiley Scrivener, 2023.

11. **Amit Kumar Tyagi,** "Transformative Effects of ChatGPT on Modern Era of Education and Society: From Society and Industry's Perspective", in the book: Machine Learning Algorithms Using Scikit and TensorFlow Environments, IGI Global USA 2024. DOI: 10.4018/978-1-6684-8531-6.ch019

12. **Amit Kumar Tyagi,** "Blockchain-Enabled Internet of Things (IoTs) Platforms for IoT-Based Healthcare and Biomedical Sectors", in the book: Artificial Intelligence-Enabled Blockchain Technology and Digital Twin for Smart Hospitals, https://doi.org/10.1002/9781394287420.ch10, ISBN: 978-1-394-28739-0.

13. **Amit Kumar Tyagi,** "Sensors and Digital Twin Application in Healthcare Facilities Management", in the book: Artificial Intelligence-Enabled Blockchain Technology and Digital Twin for Smart Hospitals, https://doi.org/10.1002/9781394287420.ch19, ISBN: 978-1-394-28739-0.

14. **Amit Kumar Tyagi,** "Blockchain–Artificial Intelligence-Based Secured Solutions for Smart Environment", In the book: Digital Twin and Blockchain for Smart Cities, ISBN: 9781394303533, DOI: https://doi.org/10.1002/9781394303564.ch23

15. **Amit Kumar Tyagi,** "Dew Computing: State of the Art, Opportunities, and Research Challenges", in the book: Machine Learning Algorithms Using Scikit and TensorFlow Environments, IGI Global USA 2024. DOI: 10.4018/978-1-6684-8531-6.ch017

Publication List

Journals:

1. **Amit Kumar Tyagi,** G. Aghila, "*A Wide Scale Survey on Botnet*", International Journal of Computer Applications, ISSN (O): 0975-8887, Volume 34, No.9, pp. 9-22, November 2011, https://doi.org/10.1016/j.iotcps.2021.12.002, **(Scopus).**

2. **Amit Kumar Tyagi,** N. Sreenath, "*A Comparative Study on Privacy Preserving Techniques for Location Based Services*", British Journal of Mathematics and Computer Science, ISSN (O): 2231-0851, Volume 10, No.4, pp. 1-25, July 2015, 10.9734/BJMCS/2015/16995

3. **Amit Kumar Tyagi**, N. Sreenath, "*Preserving Location Privacy in Location Based Services against Sybil Attacks*", International Journal of Security and Its Applications, ISSN (O): 2207-9629 (Online)), Volume 9, No.12, pp.189-210, December 2015,

10.14257/ijsia.2015.9.12.18, **(Scopus).**

4. **Amit Kumar Tyagi,** N. Sreenath, *"Providing Together Security, Location Privacy and Trust for Moving Objects"*, International Journal of Hybrid Information Technology, ISSN (O): 1738- 9968, Volume 9, No.3, pp. 221-240, March 2016, DOI: 10.14257/ijhit.2016.9.3.21, **(Scopus).**

5. **Amit Kumar Tyagi,** "*Cyber Physical Systems (CPSs) – Opportunities and Challenges for Improving Cyber Security*", International Journal of Computer Applications, ISSN (O): 0975 – 8887, Volume 137, No.14, pp. 19-27, March 2016, 10.5120/ijca2016908877

6. **Amit Kumar Tyagi,** N. Sreenath, "***ISPAS****: An Intelligent, Smart Parking Allotment System for Travelling Vehicles in Urban Areas"*, International Journal of Security and Its Applications (IJSIA), Volume 11, No.12, pp. 45-64, December 2017, ISSN (O): 2207-9629, DOI:10.14257/ijsia.2017.11.12.05, **(Scopus).**

7. Gillala Rekha, **Amit Kumar Tyagi,** and V. Krishna Reddy, "*A Wide Scale Classification of Class Imbalance Problem and its Solutions: A Systematic Literature Review*", Journal of Computer Science, Vol.15, No. 7, 2019, ISSN (O): 1552-6607, pp. 886-929, **DOI:** https://doi.org/10.3844/jcssp.2019.886.929 **(Scopus).**

8. Gillala Rekha, **Amit Kumar Tyagi,** and V Krishna Reddy, "*Solving Class Imbalance Problem Using Bagging, Boosting Techniques, with and without Noise Filter Method*", International Journal of Hybrid Intelligent Systems, vol. 15, no. 2, pp. 67-76, 2019, ISSN (O): 1875-8819, DOI: 10.3233/HIS- 190261, **(Web of Science).**

9. Gillala Rekha, V. Krishna Reddy and **Amit Kumar Tyagi**, "*A Novel Approach for Solving Skewed Classification Problem using Cluster Based Ensemble Approach*", Mathematical Foundations of Computing, February 2020, Vol. 3, no. 1, pp. 1-9. ISSN (O): 2577-8838, DOI: 10.3934/mfc.2020001, **(Web of Science).**

10. **Amit Kumar Tyagi**, Ajith Abraham "*Internet of Things (IoTs): Future Challenging Issues and Possible Research Directions*", International Journal of Computer Information Systems and Industrial Management Applications, ISSN (O): 2150-7988, Volume 12 (2020) pp. 113-124, https://cspub-ijcisim.org/index.php/ijcisim/article/view/447, **(Scopus).**

11. Gillala Rekha, V. Krishna Reddy, and **Amit Kumar Tyagi**, "***CIRUS*** *- Critical Instances removal-based Under-Sampling - A solution for Class Imbalance*", International Journal of Hybrid Intelligent Systems, Vol. 16, no. 2, pp. 55-66, 2020, ISSN (O): 1875-8819, DOI: 10.3233/HIS-200279, **(Web of Science).**

12. **Amit Kumar Tyagi**, Meghna Manoj Nair, N Sreenath, and Ajith Abraham, "*Security, Privacy Research issues in Various Computing Platforms: A Survey and the Road Ahead*", Journal of Information Assurance and Security (JIAS), 2020, Vol. 15 Issue 1, p1-16, ISSN (O): 1554-1010 **(Web of Science).**

13. Gillala Rekha, V.Krishna Reddy, and **Amit Kumar Tyagi**, "*An EMD-Based Undersampling Approach for Handling Class-Imbalanced Data*", International Journal of Intelligent Information and Database Systems, Inderscience, Vol.13 No.2/3/4, pp. 1-10, ISSN (O): 1751-5866 , August 2020. DOI: 10.1504/IJIIDS.2020.109463, **(Scopus).**

14. Varsha. R, Meghna Manoj Nair, Siddharth M Nair, **Amit Kumar Tyagi,** *"Deep Learning Based Blockchain Solution for Preserving Privacy in Future Vehicles*", International Journal of Hybrid Intelligent Systems, IOS Press, vol. 16, no. 4, pp. 223-236, 2020, ISSN (O): 1875-8819, DOI: 10.3233/HIS-200289, **(Web of Science).**

15. **Amit Kumar Tyagi,** Aswathy S U "*Autonomous Intelligent Vehicles (AIV): Research Statements, Open Issues, Challenges and Road for Future*", International Journal of Intelligent Networks, Volume 2, pp. 83-102. Elsevier, 2021, ISSN (O): 2666-6030, https://doi.org/10.1016/j.ijin.2021.07.002 **(Scopus).**

16. **Amit Kumar Tyagi**, Aswathy S U, G. Aghila, N Sreenath "***AARIN****: Affordable, Accurate, Reliable and INnovative Mechanism to Protect a Medical Cyber-Physical System using Blockchain Technology*" International Journal of Intelligent Networks, Volume 2, 2021, pp.

177-183, Elsevier, 2021, ISSN (O): 2666-6030, https://doi.org/10.1016/j.ijin.2021.09.007 **(Scopus).**

17. Sajidha S A, Udai Agarwal, Pruthviraj R P, Sparsh Agarwal, Nisha V M, **Amit Kumar Tyagi,** *"A Simple, Effective Distance and Density Based Outlier Detection Algorithm,* Indonesian Journal of Electrical Engineering and Computer Science, Vol. 24, No. 2, November 2021, ISSN (O): 2502-4760, pp. 1141-1148, http://doi.org/10.11591/ijeecs.v24.i2 **(Scopus).**

18. S. Subasree, N.K. Sakthivel, Khushboo Tripathi, Deepshikha Agarwal, **Amit Kumar Tyagi,** *"Combining the Advantages of Radiomic Features based Feature Extraction and Hyper Parameters tuned RERNN using LOA for Breast Cancer Classification",* Biomedical Signal Processing and Control, 72, Elsevier, 2022, ISSN (O): 1746-8094, https://doi.org/10.1016/j.bspc.2021.103354, **(SCI).**

19. Ashwani Prasad, **Amit Kumar Tyagi,** Maha M. Althobaiti, Ahmed Almulihi, Romany F. Mansour and Ayman M. Mahmoud *"Human Activity Recognition using Cell Phone-based Accelerometer and Convolution Neural Network"*, Applied Science, MDPI, December **2021**, *11*(24), ISSN (O): 2076-3417, https://doi.org/10.3390/app112412099, **(SCI).**

20. **Amit Kumar Tyagi,** N. Sreenath, *"Cyber Physical Systems: Analysis, Challenges and Possible Solutions"*, Internet of Things and Cyber-Physical Systems, Volume 1, Pages 22-33, Elsevier, 2021, ISSN (O): 2667-3452, https://doi.org/10.1016/j.iotcps.2021.12.002. **(Scopus).**

21. S. Subasree, N.K. Sakthivel, V.R.Balasaraswathi, **Amit Kumar Tyagi,** *"Selection of Optimal Thresholds in Multi-Level Thresholding Using Multi-Objective Emperor Penguin Optimization for Precise Segmentation of Mammogram Images",* Journal of Circuits, Systems, and Computers, Volume 31, No. 7, February 2022, ISSN (O): 0218-1266, https://doi.org/10.1142/S0218126622501316, **(SCI).**

22. S Subasree, N. K. Sakthivel, Shaveta Malik, **Amit Kumar Tyagi,** *"A Wrapper Based Feature Extraction, Framework Based on Alex Deep Convolutional Neural Network Parameters Optimized Using Gradient-Based Optimizer for Mammogram Images",* Concurrency and Computation Practice and Experience, April 2022, Online ISSN (O): 1532-0634, https://doi.org/10.1002/cpe.7008, **(SCI).**

23. S Subasree, N. K. Sakthivel, Pachhaiammal Alias Priya M, **Amit Kumar Tyagi,** *"Breast Lesion Identification and categorization using Mammography screening based on Combined CRNN framework with Parameters optimized using multi-objective seagull optimization algorithm"*, Concurrency and Computation: Practice and Experience, Wiley, ISSN (O): 1532-0634, October 2022, https://doi.org/10.1002/cpe.7348, **(SCI).**

24. **Amit Kumar Tyagi,** D Sathian, Deepshikha A, and Hasmath *"Blockchain – Internet of Things Applications: Opportunities and Challenges for Industry 4.0 and Society 5.0"*, MDPI sensors, January 2023, 23(2):947, ISSN (O): 1424-8220, DOI: 10.3390/s23020947 **(SCI).**

25. S. Subasree, N. K. Sakthivel, M. Shobana, and **Amit Kumar Tyagi**, *Deep Learning based Improved Generative Adversarial Network for Addressing Class Imbalance Classification Problem in Breast Cancer Dataset*, International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems, World Scientific, Vol. 31, No. 03, pp. 387-412 (2023), ISSN (O) : 1793-6411, DOI: https://doi.org/10.1142/S0218488523500204. **(SCI).**

26. S. Vignesh Baalaji, S. Sandhya, S. A. Sajidha, V. M. Nisha, M. D. Vimalapriya, **Amit Kumar Tyagi,** *"Autonomous face mask detection using single shot multibox detector, and ResNet‑50 with identity retrieval through face matching using deep siamese neural network"*, Journal of Ambient Intelligence and Humanized Computing, Springer, ISSN (O): **1868-5145**, May 2023. https://doi.org/10.1007/s12652-023-04624-7 **(SCI).**

27. R. Deepa, S. Subasree, N. K. Sakthivel, and **Amit Kumar Tyagi** *"Blockchain based packet parser architecture for securing cyber‑infrastructure and internet of things networks with auto-metric graph neural network"*, International Journal of Mobile Communication, InderScience, Vol. 1, Issue 1, January 2025, ISSN (O): 1741-5217, DOI: 10.1504/IJMC.2025.10063283. **(SCI).**

28. **Amit Kumar Tyagi,** Swetta Kukreja, Richa, Poushikkumar Sivakumar, *Role of Blockchain Technology in Smart Era: A Review on Possible Smart Applications*, Journal of Information & Knowledge Management, World Scientific, ISSN (O): 1793-6926, 2023, https://doi.org/10.1142/S0219649224500321 **(Scopus).**

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Key Roles and Responsibilities

- Member of Grievance Committee (of Students Affairs), NIFT, Delhi, for year 2023-25.
- Member, Anti Raging Committee, NIFT Delhi for year 2023-25.
- Member, Anti Raging Committee, VIT Chennai for year 2019-22.
- Member of Centre of Advanced data Science, VIT Chennai 2019-22.

STTPs/FDPs/Invited Talks/ Conferencs (Attended/ Organized)

- Invited talk on Blockchain Technology: Future of Security, at Amity University Gurugram, 2023.
- 6th Big Data Conclave (Duration: 1 day), 30 May 2020.
- Invited talk on "Recent Trends in Blockchain Technology", 22 June 2020 at VIT Chennai.
- 1st International Conference on Smart and Secure Computing (SMASEC 2020), 25-26 December, 2020.

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