List of Publications of Prof. Jaydip Sen

Listed among the top 2% of scientists (in the field of Artificial Intelligence) in the world in studies conducted by Stanford University over the last three years (2020-2022)

Journal Papers

1. Abhiraj Sen and Jaydip Sen, "A Study of the Performance Evaluation of Equal-Weight Portfolio and Optimum Risk Portfolio on the Indian Stock Market", *International Journal of Business Forecasting and Marketing Intelligence (IJBFMI)*, Inderscience Publishers, 2023. Accepted for Publication. Paper ID: IJBFMI-150502.

2. Jaydip Sen, "A Forecasting Framework for the Indian Healthcare Sector Index", *International Journal of Business Forecasting and Marketing Intelligence (IJBFMI)*, Vol 7, No 4, pp. 311-350, Inderscience Publishers, 2021. DOI: 10.1504/IJBFMI.2022.10047095 Link

3. Jaydip Sen and Sidra Mehtab, "A Comparative Study of Optimum Risk Portfolio and Eigen Portfolio on the Indian Stock Market", International Journal of Business Forecasting and Marketing Intelligence (IJBFMI), Vol 7, No 2, pp. 143-193. Inderscience Publishers, 2021. DOI: 10.1504/IJBFMI.2021.10043037.

4. Sidra Mehtab and Jaydip Sen "A Time Series Analysis-Based Stock Price Prediction Using Machine Learning and Deep Learning Models", International Journal of Business Forecasting and Marketing Intelligence (IJBFMI), Inderscience Publishers, Vol 6, No 4, pp. 272-335, 2020. DOI: 10.1504/IJBFMI.2020.115691.

5. Jaydip Sen, Sidra Mehtab, and Gourab Nath, "Stock Price Prediction Using Deep Learning Models", *Lattice: The Machine Learning Journal*, Vol 1, No 3, pp. 34-40, December 2020. DOI: 10.36227/techrxiv.16640197.v1

6. Jaydip Sen, "Stock Composition of Mutual Funds and Fund Style: A Time Series Decomposition Approach towards Testing for Consistency", International Journal of Business Forecasting and Marketing Intelligence, Vol 4, No 3, pp. 235-292, 2018. DOI: 10.1504/IJBFMI.2018.092781.

7. Jaydip Sen and Tamal Datta Chaudhuri, "Understanding the Sectors of Indian Economy for Portfolio choice", International Journal of Business Forecasting and Marketing Intelligence, Vol 4, No 2, pp. 178 - 222, April 2018. DOI: 10.1504/IJBFMI.2018.090914.

8. Jaydip Sen, "A Robust Analysis and Forecasting Framework for the Indian Mid Cap Sector Using Time Series Decomposition Approach", Journal of Insurance and Financial Management, Vol 3, No 4, pp. 1 - 32, September 2017. DOI: 10.36227/techrxiv.15128901.v1.

9. Jaydip Sen, "A Time Series Analysis-Based Forecasting Approach for the Indian Realty Sector ", International Journal of Applied Economic Studies, Vol 5, No 4, pp 8 - 27, August 2017. DOI: 10.36227/techrxiv.16640212.v1.

10. Jaydip Sen and Tamal Datta Chaudhuri, "A Predictive Analysis of the Indian FMCG Sector Using Time Series Decomposition-Based Approach", Journal of Economics Library, Vol 4, No 2, pp 206 - 226, June 2017. DOI: 10.1453/jel.v4i2.1282.

11. Jaydip Sen and Tamal Datta Chaudhuri, "A Time Series Analysis-Based Forecasting Framework for the Indian Healthcare Sector", Journal of Insurance and Financial Management, Vol 3, No 1 (2017), pp 66 - 94. DOI: 10.36227/techrxiv.16640221.v1.

12. Sanjib Biswas and Jaydip Sen, "A Proposed Architecture for Big Data Driven Supply Chain Analytics", *IUP International Journal of Supply Chain Management*, Vol XII, No 3, pp. 7 -33, June 2016 Issue.

13. Jaydip Sen and Tamal Datta Chaudhuri, "An Investigation of the Structural Characteristics of the Indian IT Sector and the Capital Goods Sector – An Application of the R Programming Language in Time Series Decomposition and Forecasting", *Journal of Insurance and Financial Management*, Vol 1, Issue 4, pp 68-132, June 2016. DOI: 10.36227/techrxiv.16640227.v1.

14. Jaydip Sen and Tamal Datta Chaudhuri, "An Alternative Framework for Time Series Decomposition and Forecasting and its Relevance for Portfolio Choice – A Comparative Study of the Indian Consumer Durable and Small Cap Sectors", *Journal of Economics Library*, Istanbul, Turkey, Vol 3, Issue 2, pp 303 – 326, June 2016. DOI: 10.1453/jel.v3i2.787.

15. Jaydip Sen and Tamal Datta Chaudhuri, "A Framework for Predictive Analysis of Stock Market Indices – A Study of the Indian Auto Sector, *Calcutta Business School (CBS) Journal of Management Practices*, Vol 2, Issue 2, pp 1- 20, December 2015. DOI: 10.13140/RG.2.1.2178.3448

16. Jaydip Sen, "Architecture of Big Data Ecosystem for Business Applications", *CBS Journal of Management Practices*, Vol 2, No 1, July 2015, pp 21-39.

17. Jaydip Sen, "A Survey on Security and Privacy Protocols for Cognitive Wireless Sensor Networks", *Journal of Network and Information Security*, Vol 1, Number 1, pp 1 – 43, August 2013, Publishing India, New Delhi, India.

18. Jaydip Sen, "Secure and User Privacy-Preserving Searching in Peer-to-Peer Networks", Logic Journal of IGPL, Oxford University Press Vol 21, No 4, pp. 603 – 629, August 2012. DOI: 10.1093/jigpal/jzs036.

19. Jaydip Sen, "A Secure and User-Privacy Preserving Searching Protocol for Peer-to-Peer Networks", *International Journal of Communications Network and Information Security (IJCNIS)*, Vol 4, No 1, pp. 29 – 40, April 2012.

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21. Debasis Bandyopadhyay and Jaydip Sen, "Internet of Things: Applications and Challenges in Technology and Standardization", *Springer International Journal of Wireless Personal Communications*, Vol. 58, No. 1, pp. 49 – 69, May 2011. Special Issue: Distributed and Secure Cloud Clustering (DISC). doi: 10.1007/s11277-011-0288-5.

22. Jaydip Sen, "A Robust Mechanism for Defending Distributed Denial of Service Attacks on Web Servers", in *International Journal of Network Security and its Applications*, Vol. 3, No. 2, pp. 162 – 179, March 2011. doi: 10.5121/ijnsa.2011.3213.

23. Jaydip Sen, "An Efficient Algorithm for Detection of Selfish Packet Dropping Nodes in Wireless Mesh Networks", in *International Journal of Computer Information Systems and Industrial Management Applications (IJCISIM)*. Vol. 3, No 1, pp. 363-370, March 2011, ISSN 2150-7988. Dynamic Publishers Inc., USA.

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25. Jaydip Sen, "An Efficient Certification Scheme for Nodes in a Wireless Ad Hoc Network", *International Journal on Advancements in Computing Technology (IJACT)*, Vol. 2, No. 4, pp. 57 – 66, October 2010. doi:10.4156/ijact.vol2.issue4.6.

26. Jaydip Sen, "An Agent-Based Intrusion Detection System for Local Area Networks", *International Journal of Communication Networks and Information Security (IJCNIS)*, Vol 2, No 2, pp. 128 – 140, August 2010.

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29. Jaydip Sen, "Visions of 5G Communications", *The ENVISON Journal*, Issue 1, November 2009, Tata Consultancy Services, pp. 4 – 15.

30. Jaydip Sen, Sripad Krishna, "An Efficient Security Mechanism for High-Integrity Wireless Sensor Networks", *International Journal of Information Processing*, Vol. 2, No. 3, October 2008.ISSN: 0973-8215. I.K. International Publishing House Pvt. Lt. New Delhi, pp. 88-103.

31. Jaydip Sen, Shomik Bhattacharya, "A Survey on Cross-Layer Design Frameworks for Multimedia Applications over Wireless Networks", *International Journal of Computer Science and Information Technology (IJCSIT),* Vol. 1, No. 1, June 2008, pp. 29-42, Editor: K.V. Kale. Publisher: Serial Publications, New Delhi, India.

Conference Papers

1. Jaydip Sen, "Optimum Pair-Trading Strategies for Stocks Using Cointegration-Based Approach", *Proceedings of the IEEE 20th OITS International Conference on Information Technology (OCIT'22)*, December 14-16, 2022, Bhubaneswar, India. IEEE Xplore

2. Subhasis Dasgupta and Jaydip Sen, "A Framework of Customer Review Analysis Using the Aspect-Based Opinion Mining Approach", *Proceedings of the IEEE 20th OITS International Conference on Information Technology (OCIT'22)*, December 14-16, 2022, Bhubaneswar, India. (Accepted for Publication) IEEE Xplore

3. Jaydip Sen, "A Comparative Analysis of Portfolio Optimization Using Reinforcement Learning and Hierarchical Risk Parity Approaches", *In Proceedings of the 9th International Conference on Business Analytics and Intelligence (BAICONF'22)*, December 15-17, 2022, Bangalore, India.

4. Ananda Chatterjee, Hrisav Bhowmick, and Jaydip Sen, "Stock Volatility Prediction using Time Series and Deep Learning Approach" *Proceedings of the 2022 IEEE 2nd Mysore Sub Section International Conference (MysuruCon'22)*, pp. 1-6, Mysuru, India, October, 2022. DOI: 10.1109/MysuruCon55714.2022.9972559.) IEEE Xplore

5. Jaydip Sen, "Designing Efficient Pair-Trading Strategies Using Cointegration for the Indian Stock Market" *Proceedings of the IEEE 2nd Asian Conference on Innovation in Technology (ASIANCON'22),* pp. 1 - 9, Pune, India, August, 2022. DOI: 10.1109/ASIANCON55314.2022.9909455. IEEE Xplore Link

6. Jaydip Sen and Abhishek Dutta, "Design and Analysis of Optimized Portfolios for Selected Sectors of the Indian Stock Market", in *Proceedings of the 2022 International Conference on Decision Aid Sciences and Applications (DASA)*, pp. 567-573, March 23-25, 2022, Chiangrai, Thailand. DOI: 10.1109/DASA54658.2022.9765289. IEEE Xplore Link

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8. Jaydip Sen, Abhishek Dutta, Saikat Mondal, and Sidra Mehtab, "A Comparative Study of Portfolio Optimization Using Optimum Risk and Hierarchical Risk Parity Approaches", In Proceedings of the 8th International Conference on Business Analytics and Intelligence (ICBAI'21), December 20-22, 2021, IISc, Bangalore, India.

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10. Jaydip Sen and Abhishek Dutta, "Risk-Based Portfolio Optimization on Some Selected Sectors of the Indian Stock Marke", In Proceedings of the 2nd International Conference on Big Data, Machine Learning and Applications (BigDML'21), December 19-20, 2021, NIT Silchar, Assam, India. (In Press) SpringerLink

11. Jaydip Sen, Sidra Mehtab, Abhishek Dutta, and Saikat Mondal, "Precise Stock Price Prediction for Optimized Portfolio Design Using an LSTM Model", In Proceedings of the IEEE 19th OITS International Conference on Information Technology (OCIT'21), pp. 210-215, December 16-18, 2021, Bhubaneswar, India. DOI: 10.1109/OCIT53463.2021.00050. IEEE Xplore Link

12. Jaydip Sen, Saikat Mondal, and Gourab Nath, "Robust Portfolio Design and Stock Price Prediction Using an Optimized LSTM Model", In Proceedings of the IEEE 18th India Council International Conference (INDICON'21), pp. 1-6, December 19-21, 2021, Guwahati, India. DOI: 10.1109/INDICON52576.2021.9691583. IEEE Xplore Link

13. Jaydip Sen, Sidra Mehtab, Abhishek Dutta, and Saikat Mondal, "Hierarchical Risk Parity and Minimum Variance Portfolio Design on NIFTY 50 Stocks", In Proceedings of the IEEE International Conference on Decision Aid Sciences and Applications (DASA'21), pp. 668-675, December 7-8, 2021, Bahrain. DOI: 10.1109/DASA53625.2021.9681925. IEEE Xplore Link

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15. Ananda Chatterjee, Hrisav Bhowmick, and Jaydip Sen, "Stock Price Prediction Using Time Series, Econometric, Machine Learning, and Deep Learning Models", In Proceedings of IEEE Mysore Sub Section International Conference (MysuruCon'21), October 24-25, 2021, pp. 289-296, Hassan, Karnataka, India. DOI: 10.1109/MysuruCon52639.2021.9641610. IEEE Xplore Link

16. Jaydip Sen, Abhishek Dutta, and Sidra Mehtab, "Stock Portfolio Optimization Using a Deep Learning LSTM Model", In Proceedings of IEEE Mysore Sub Section International Conference (MysuruCon), October 24-25, 2021, pp. 263-271, Hassan, Karnataka, India. DOI: 10.1109/MysuruCon52639.2021.9641662. IEEE Xplore Link

17. Jaydip Sen, Saikat Mondal, and Sidra Mehtab, "Analysis of Sectoral Profitability of the Indian Stock Market Using an LSTM Regression Model", in Proceedings of the Deep Learning Developers' Conference (DLDC'21), September 24, 2021, Bangalore, India. DOI: 10.36227/techrxiv.17048579.v1.

18. Jaydip Sen, Sidra Mehtab, and Abhishek Dutta, "Volatility Modeling of Stocks from Selected Sectors of the Indian Economy Using GARCH", in Proceedings of the IEEE Asian Conference on Innovation in Technology (ASIANCON'21), pp 1-9, August 28-29, 2021, Pune, India. DOI: 10.1109/ASIANCON51346.2021.9544977. IEEE Xplore Link

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21. Sidra Mehtab and Jaydip Sen, "Analysis and Forecasting of Financial Time Series Using CNN and LSTM-Based Deep Learning Models", In: Sahoo J.P, Tripathy A.K., Mohanty M., Li KC., Nayak A.K. (eds) Advances in Distributed Computing and Machine Learning. Lecture Notes in Networks and Systems, vol 202, pp 405-423. Springer, Singapore. DOI: 10.1007/978-981-16-4807-6_39. Springer Link PDF (The paper won the best paper award in the conference)

22. Sidra Mehtab, Jaydip Sen, and Subhasis Dasgupta, "Robust Analysis of Stock Price Time Series Using CNN and LSTM-Based Deep Learning Models", in Proceedings of the IEEE 4th International Conference on Electronics, Communication and Aerospace Technology (ICECA), pp 1481-1486, November 5-7, 2020, Coimbatore, India. DOI: 10.1109/ICECA49313.2020.9297652. IEEE Xplore Link PDF

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26. Sidra Mehtab and Jaydip Sen, "A Robust Predictive Model for Stock Price Prediction Using Deep Learning and Natural Language Processing", in Proceedings of the 7th International Conference on Business Analytics and Intelligence (BAICONF, 2019), Indian Institute of Management, Bangalore, INDIA, December 5 – 7, 2019. DOI: 10.36227/techrxiv.15023361.v1.

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28. Jaydip Sen and Tamal Datta Chaudhuri, "A Robust Predictive Model for Stock Price Forecasting", in Proceedings of the 5th International Conference on Business Analytics and Intelligence, Indian Institute of Management, Bangalore, December 11- 13, 2017, INDIA. DOI: 10.36227/techrxiv.16778611.v1

29. Sanjana Mondal and Jaydip Sen, "A Framework of Predictive Analysis of Tourist Inflow in the Beaches of West Bengal: A Study of Digha-Mandarmoni Beach", in Proceedings of the First International Conference on Computational Intelligence, Communication and Business Analytics (CICBA-2017), Springer-Verlag, CCIS Series, pp. 161 - 176, March 24 - 25, 2017, Kolkata, INDIA. DOI: 10.1007/978-981-10-6427-2_14. Springer Link PDF

30. Jaydip Sen and Tamal Datta Chaudhuri, "Decomposition of Time Series Data to Check Consistency between Fund Style and Actual Fund Composition of Mutual Funds", in Proceedings of the 4th International Conference on Business Analytics and Intelligence (ICBAI 2016), Indian Institute of Science, Bangalore, India, December 19 - 21, 2016. DOI: 10.13140/RG.2.2.33048.19206.

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34. Arijit Ukil, Jaydip Sen and Sumit Ghosh, "An Efficient Distribution Sensitive Privacy for Real-Time Applications", In *Proceedings of the 3ʳᵈ FTRA International Conference on Computer Science and its Applications (CSA 11)*, Jeju Island, South Korea, December 12 – 15, 2011, Springer Lecture Notes in Electrical Engineering, Vol 114, Part 1, pp. 81 -91, 2012. doi:10.1007/978-94-007-2792-2_8   Springer Link

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36. Jaydip Sen, "Secure and Privacy-Aware Searching in Peer-to-Peer Networks" In Proceedings of the 6ᵗʰ International Workshop on Data Privacy Management (DPM 2011), Co-located with ESORICS 2011, Leuven Belgium, September 16 – 18, 2011, J. Garcia- Alfaro et al. (Eds.), LNCS Vol 7122, pp. 72- 89, 2012. doi:10.1007/978-3-642-28879-1_6   Springer Link

37. Jaydip Sen, "An Anonymous Authentication and Communication protocol for Wireless Mesh Networks". In Proceedings of 1ˢᵗ International Conference (ACC), A. Abraham et al. (Eds.), Springer-Verlag CCIS Series, Part IV, pp. 581 – 592, Kochi, India, July, 2011. doi:10.1007/978-3-642-22726-4_60   Springer Link

38. Arijit Ukil, Jaydip Sen, "A Secure Privacy Preserved Data Aggregation Scheme in Non-Hierarchical Networks", in Proceedings of the 2011 International Conference on Computational Sciences and its Applications (ICCSA), pp. 436 – 451, Murgante, B. et al. (Eds.), Springer LNCS

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39.   Jaydip Sen, "A Secure and Efficient Searching Scheme for Trusted Nodes in a Peer-to-Peer Network", in Proceedings of the 4th International Conference on Computational Intelligence in Security for Information Systems (CISIS'11), pp. 101 – 109, Herrero, A., and Corchado, E. (Eds.), Springer LNCS 6694, June 8 -10, 2011. doi:10.1007/978-3-642-21323-6_13   Springer Link

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45.   Jaydip Sen, Sripad Koilakonda, and Arijit Ukil, "A Mechanism for Detection of Cooperative Black hole Attack in Mobile Ad Hoc Networks", in *Proceedings of the 2nd IEEE International Conference on Intelligent Systems, Modeling and Simulation (ISMS'11),* pp. 338-343, Phnom Penh, Cambodia, January 25-27, 2011. doi:10.1109/ISMS.2011.58 IEEE Xplore Link

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Other Academic Activities

Editor of Springer Journal Knowledge Decision Support Systems in Finance. Link

TPC member: (i) International Conference in Distributed Computing and Internet Technology (ICDCIT) 2010 Bhubaneswar, India, (ii) Mosharaka International Conference on Communications, Propagation and Electronics (MIC- CPE), 2010, Amman, Jordan, ICDCIT 2011, Bhubaneswar, COSEC 2010, Bangalore (TPC C0-chair), IADIS International Conference on Internet Technologies & Society 2010, Lisbon, Portugal, 2010, ICEIE, 2010, Malaysia, ACC 2011, Cochin, India (Tutorial Chair), IEEE ISCI 2011, Kuala Lumpur, Malaysia (TPC member), Mosharaka international Conference on Communications, Computers and Applications (MIC- CCA), Amman, 2011, IEEE DSDE, Xian, China, 2011, ICCSIT, China, 2011, IEEE ICOS (International Conference on Open Systems) 2011, Malaysia, IEEE ISIEA, Kuala Lumpur, 2011, CASoN 2011, Spain (3rd International Conference on Computational Aspects of Social Networks), IOWC 2011, IEEE VTC Fall 2011 San Francisco, IEEE NCETACS 2012, Shillong, Springer CCSEIT, 2011, IEEE TrustOcmm, 2015-2023, SoMMA, 2020-2023.

Journal Editorial Board Member: International Journal of Advancements in Computing Technology (IJACT) in 2009-2010 and 2010-2011, Multidisciplinary Journals in Science and Technology (Cyber Journal), International Journal of Data Mining and Data Warehousing

Reviewer: Reviewed papers in IEEE-VTC (for last three years), IEEE-ICON 2008, IEEE WCNC 2007, 2008, International Journal of Network Security (IJNS), International Journal of Advancements in Computing Technology (IJACT), International Conference on Distributed Computing and Internet Technology (ICDCIT) 2010 ICDCIT 2011, WiMob, 2010, IEEE Vehicular Technology Conference (VTC) for last three years, APCC 2010, Auckland, ISCI 2011 Kuala Lumpur, ACC 2011 Kochi, MIC-CCA 2011 Amman, EURASIP JWCN 2011, JCM Special Issue- IP Communication (Academy Publishers), Springer International Journal on Wireless Personal Communication, IEEE ICCCT, Allahabad, 2011.

Membership of Professional Bodies:

- IEEE, USA, Senior Member: (Membership No: 90479786. Membership since 2006)
- ACM, USA, Professional Member (Membership No: 0604790. Member since 2007)
- Indian Society for Technical Education (ISTE) Life Member (Membership No: LM38718)

Invited Talks and Tutorials

1. "Algorithms for Dynamic Frequency Selection (DFS)" – seminar in TCS Innovation Labs, Whitefield, Bangalore, on March 14, 2007. doi: 10.13140/RG.2.2.29896.72968   PDF

2. "Enforcing Security in Wireless Ad Hoc Networks", in the national conference PING 2007 organized by Manipal University, April 14, 2007. doi: 10.13140/RG.2.2.30054.01607 PDF

3. "Efficient multicast and broadcasting in vehicular ad hoc networks", in International Conference on Advances in Communication Technologies (ICICOT'07) - Manipal University, India, December 27, 2007.

4. "An End-to-End TCP-Friendly Streaming Protocol for Wireless Internet" – in workshop organized by Innovation Lab, TCS, Kolkata on April 18, 2008 in Kolkata, India. doi: 10.13140/RG.2.2.33042.45762   PDF

5. "Cross Layer Design for QoS Support in Multimedia Applications over Wireless Networks" --- in workshop organized by Innovation Lab, Tata Consultancy Services Ltd, Kolkata, on April 18, 2008, in Kolkata, India. doi: 10.13140/RG.2.2.24106.62401   PDF

6. "Cross-Layer Optimization for Multimedia Communication over Wireless Networks", in the national conference PING '08 organized by Manipal University, August 6, 2008. doi: 10.13140/RG.2.2.26016.99841   PDF

7. "Security in Multicast and Broadcast Communication in Next-Generation Wireless Networks" – presentation made in IEEE 802.16m WG meeting in Kobe, Japan, September 16-18, 2008. doi: 10.13140/RG.2.2.23677.36327   PDF

8. "Security in WiMAX Networks" – invited talk in the Center for TeleInFrastruktur (CTIF) India's Workshop on High Speed Wireless Third Generation (3G) Mobile Communication, December 7, 2008, Kolkata, India. doi: 10.13140/RG.2.2.15288.75523   PDF

9. "Secure Multicast and Broadcast Communication in Broadband Wireless Networks" - invited talk in the Center for TeleInFrastruktur (CTIF) India's Workshop on High Speed Wireless Third Generation (3G) Mobile Communication, December 7, 2008, Kolkata, India. doi: 10.13140/RG.2.2.30817.51047   PDF

10. "Fundamentals of Network Security", in the national conference ETCC'08 organized by National Institute of Technology, Hamirpur, India, December 30-31, 2008. doi: 10.13140/RG.2.2.21160.78083   PDF

11. "Secure Broadcast and Multicast Communication in Broadband Wireless Networks" - in ETSI 4th Security Workshop, 13 -14 January, 2009, Sophia-Antipolis, France. doi: 10.13140/RG.2.1.2025.7524   PDF
URL:http://www.etsi.org/docbox/Workshop/2009/.../00SECURITY_AGENDA.pdf

12. "Security Model for Media Independent handover Service: Can the Security of MIH Service be Media Independent?" - in seminar of Innovation Lab, Tata Consultancy Services, Kolkata, February 25, 2009. doi: 10.13140/RG.2.2.26193.94561   PDF

13. "Media-Independent Authentication for Secure Inter-Domain Handover" – in seminar of Innovation Lab, Tata Consultancy Services, Kolkata, February 13, 2009. doi: 10.13140/RG.2.2.27042.63688   PDF

14. "Ubiquitous Computing: Evolution and Future Challenges" - in Workshop on Ubiquitous Computing and its Application" organized by the Institution of Engineers, Kolkata Chapter, July 3, 2009. doi: 10.13140/RG.2.2.28376.29441   PDF

15. "Vehicular Ad Hoc Networks : Applications and Challenges" – invited talk delivered in the National Conference NCRDEM, organized by the IEEE Jaipur Section during December 25 -27, 2009. doi: 10.13140/RG.2.2.35926.04160   PDF

16. "Ubiquitous Computing: User Privacy Issues" – invited talk delivered in the International Conference on Recent Advances in Mathematics, Technology and Management" organized by Bengal Institute of Technology & Management during January 11-12, 2010. doi: 10.13140/RG.2.2.15708.18565   PDF

17. "Ubiquitous Computing: Issues and Challenges" - invited talk delivered in the National Institute of Technology (NIT), Durgapur on January 15, 2010. doi: 10.13140/RG.2.2.15708.18565   PDF

18. "Ubiquitous Computing: Potentials and Challenges" – invited talk delivered in the International Conference TRACE 2010, Bhopal, India on February 26, 2010. doi: 10.13140/RG.2.2.19568.25604   PDF

19. "Security, Privacy and Trust in Ubiquitous Computing" – invited talk delivered in GISFI Conference in Lonavala, India on February 28, 2010. doi: 10.13140/RG.2.2.19902.48968   PDF

20. "Ubiquitous Computing: Privacy and Security Threats"- invited talk delivered in the national conference NCETACS, Shillong, India, on April 8, 2010. doi: 10.13140/RG.2.2.28605.67048   PDF

21. "Fundamentals of Network Security" – invited talk delivered in Don Bosco University, Guwahati, India on April 9, 2010. doi: 10.13140/RG.2.2.34592.38408   PDF

22. "Ubiquitous Computing: Issues and Challenges" – invited talk delivered in Kalyani Government Engineering College Kalyani, India on April 12, 2010. doi: 10.13140/RG.2.2.11409.02405   PDF

23. "Fundamentals of Network Security" – invited tutorial delivered in the Faculty development Program (FDP) organized in Bengal Institute of Technology and Management (BITM) on April 16, 2010, in Shantiniketan, West Bengal, India. doi: 10.13140/RG.2.2.34172.95366   PDF

24. "Internet of Things: A Standardization Perspective" – talk delivered in the 1st GISFI Standardization Meeting in New Delhi, India during June 21 – 23, 2010 organized in Hotel Ashok, New Delhi, India. doi: 10.13140/RG.2.2.32799.97442   PDF

25. "VOIP: Technology, Security Threats and Countermeasures" – talk delivered in the 2nd GISFI Standardization Meeting during September 15 -17, 2010 organized in International Institute of Information Technology, Allahabad, India. doi: 10.13140/RG.2.2.34825.03687   PDF

26. "Wireless LAN (WLAN) : technology, Security Threats and Countermeasures" – tutorial delivered in the IEEE International Conference on Computing and Communication Technology (ICCCT 2010) on September 17 , 2010, organized in the Motilal Nehru National Institute of Technology (MNNIT), Allahabad, India. doi: 10.13140/RG.2.2.17313.81769   PDF

27. "Ubiquitous Computing: Issues and Challenges" – invited talk delivered in the Students' Workshop organized on September 23, 2010 in Jadavpur University, Kolkata, India. doi: 10.13140/RG.2.2.15603.32808   PDF

28. "Cloud Computing: Technology and Security Issues" – A K Chowdhury Memorial Lecture delivered in Meghnad Saha Auditorium, Calcutta University, Kolkata, India on December 3, 2010. doi: 10.13140/RG.2.2.19797.63202   PDF

29. "Distributed Trust Establishment in Mobile Ad Hoc Networks" – talk delivered in 2nd IEEE Workshop on Collaborative Security Technologies (CoSec '10), IIIT Bangalore, December 15, 2010. doi: 10.13140/RG.2.2.10498.07368 PDF

30. "Security and Privacy Challenges in Smart Grids" – tutorial delivered in IEEE INDICON'10, Jadavpur University, Kolkata, India on December 17, 2010. doi: 10.13140/RG.2.2.32308.45443 PDF

31. "Ubiquitous Computing: Security Issues and Challenges" – talk delivered in the Faculty Development Program (FDP) in BIT Mesra, Kolkata Extension Center, Kolkata, India on December 21, 2010. doi: 10.13140/RG.2.2.35526.27204   PDF

32. "Cloud Computing: Data Security and Privacy Issues" – talk delivered in GISFI Standardization Meeting #4 in Chennai (co-located with Wireless VITAE 2011), India on 2nd March 2011. doi: 10.13140/RG.2.2.34687.41120   PDF

33. "Wireless Mesh Networks: Challenges and Opportunities" – invited expert lecture delivered in 2nd National Conference on Mobile and Embedded Technology (MECON 2011), March 10, 2011, Dept. of Electronics and Telecommunication Engineering, Amity School of Engineering and Technology, India, NOIDA, India. doi: 10.13140/RG.2.2.10779.87845   PDF

34. "Privacy Requirements of User Data in Smart Grids" – talk delivered in the 5th GISFI Standardization Meeting in Hotel ISTA, Hyderabad, India in the IoT WG (Internet of Things Working Group) meeting during June 20 -22, 2011. doi: 10.13140/RG.2.2.14135.32160   PDF

35. "Cloud Computing: Data Security and Privacy Requirements" – talk delivered in the 5th GISFI Standardization Meeting in Hotel ISTA, Hyderabad, India in the SeON WG (Service-Oriented Network Working group) meeting during June 20-22, 2011. doi: 10.13140/RG.2.2.34267.98089 PDF

36. "Data Privacy Preservation: Anonymized Data Generation, Models and Usage" – keynote speech delivered in the First International Conference on Advances in Computing and Communications (ACC 2011), in Rajagiri School of Engineering & Technology (RSET), Kochi, Kerala, India on July 22, 2011. doi: 10.13140/RG.2.2.12457.60001   PDF

37. "Privacy-Preserving Data Aggregation in Wireless Sensor Networks" – invited talk delivered in the Students' workshop organized in Calcutta University (Rajabazaar Science College), in the Meghnad Saha Auditorium, Kolkata, India on August 25, 2011. doi: 10.13140/RG.2.2.15246.15688   PDF

38. "Cloud Computing Challenges and Potential Solutions" – invited talk delivered in the Meghalaya State IT Summit (MEGHABYTES 2011) in St. Anthony's College, Shillong, India on September 8, 2011. doi: 10.13140/RG.2.2.18362.39365   PDF

39. "Privacy Preserving Data Mining: Applications, Challenges, and Future Trends" – tutorial delivered in the 2nd International Conference ICCCT, in MNNIT, Allahabad, India on September 16, 2011. doi: 10.13140/RG.2.2.31751.39845   PDF

40. "Secure and Privacy-Preserving Data Aggregation in Wireless Sensor Networks" – invited talk delivered in the 2nd IEEE National Conference on Computational Intelligence and Signal Processing (CISP 2012) on March 3 2012, in Guwahati, India. doi: 10.13140/RG.2.1.3696.9202 PDF

41. "Peer-to-Peer Networks: Security and Privacy Challenges" – invited talk delivered in the 2nd IEEE National Conference (NCETACS 2012) on March 31 2012 in Shillong, India. doi: 10.13140/RG.2.2.16651.90404   PDF

42. "Peer-to-Peer Networks: Architectures, Applications and Challenges" – invited talk delivered in International Institute of Information Technology, Hyderabad (IIIT H) in Saranga Hall, Nilgiri Building on April 8, 2012. doi: 10.13140/RG.2.2.16809.19048   PDF

43. "Privacy in Wireless Sensor Networks" – talk delivered in National Institute of Science and Technology (NIST), Berhampur, Odisha, India, on September 27, 2012. doi: 10.13140/RG.2.2.15131.46889   PDF

44. "Transmission Control Protocol (TCP) in Wireless and Mobile Networks: Challenges and Solutions" – invited tutorial delivered in the 3rd IEEE International Conference on Computer and Communication Technology (ICCCT 2012), NIT Allahabad, India, on November 23, 2012. doi: 10.13140/RG.2.2.17648.05122   PDF

45. "Security Issues in Next-Generation Wireless Networks" – talk delivered in National Institute of Science and Technology (NIST), Berhampur, Odisha, India, on April 11, 2013. doi: 10.13140/RG.2.2.22681.21608   PDF

46. "Internet of Things: Technology, Applications and Standards" – talk delivered in National Institute of Science and Technology (NIST), Berhampur, Odisha, India, on July 25, 2013. doi: 10.13140/RG.2.2.14502.32324   PDF

47. "Fundamentals of Cryptography and Network Security" – talk delivered in Calcutta Business School, Kolkata, India, on June 15, 2015.

48. "Security and Privacy Issues in Wireless Sensor Networks" – talk delivered in Calcutta Business School, Kolkata, India, on June 23, 2016.

Executive and Management Development Programs

1. Conducted a six months' certificate program on "Business Analytics" as the Program Director. The course was jointly organized by SAS Institute, India and Calcutta Business School, Kolkata, India. I taught the following subjects: "Advanced Statistics, Fundamental of R Language, Business Analytics and Data Mining Using R, Fundamentals of Python in Data Mining, Applications of MATLAB in Business Analytics. Period: May 2014 – October 2014.

2.   Conducted a ten months' certificate program on "Data Science" as the Program Director. The course was jointly organized by SAS Institute, India and Calcutta Business School, Kolkata, India. I taught the following subjects: Statistical Fundamentals, Advanced Statistics, Applications of SPSS, Base SAS Programming, SAS Text Miner, Business Analytics and Data Mining Using R, Applications of Python in Business Analytics, MATLAB Applications in Analytics. Period: December 2014 – September 2015.

3.   Conducted a three-day Management Development Program on "Data Analysis Using R" in Calcutta Business School, Kolkata during November 19 – 21, 2015, as the Program Director. The program was intended to make the participants conversant about applications of R in various statistical analyses.

4.   Conducted a three-day Management Development Program on "Advanced Analytics Using R" in Calcutta Business School, Kolkata during January 7 – 9, 2016, as the Program Director. The program was intended to make the participants conversant about advanced data mining and analytics applications using R language.

5.   Conducted a five-day Faculty Development Program on "Empirical Research in Finance", which was conducted in Calcutta Business School, during February 15 – 19, 2016. I covered various applications of R in Finance like: Advanced Multivariate Regression, Discriminant Analysis, Logistic Regression, Clustering etc.

6.   Conducted a two days' Management Development Program on "Analytics in Supply Chain and retail Operations", which was conducted in Calcutta Business School, during March 4 – 5, 2016. The program focused on various analytics applications in the supply chain and retail like: Forecasting of Demands, Managing Data in the context of Internet of Things, Sentiment Analysis of the Customers, Market Basket Analysis.

7.   Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Advanced Statistical Modelling Using R" during June 12 - June 14, 2017 in the Computer Science & Engineering Department" in Kaziranga University, Assam, INDIA.

8.   Conducted a one day invited lecture as a part of IBM's ICE (Innovation Center for Education) on "Advanced Statistical Modelling Using R" on August 11, 2017 in the Computer Science & Engineering Department" in Kaziranga University, Assam, INDIA.

9.   Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Advanced Statistical Analysis Using R" during December 26 - 28, 2017 in the Computer Science & Engineering Department" in GLA University, Mathura, UP, INDIA.

10.   Conducted a one day invited lecture as a part of IBM's ICE (Innovation Center for Education) on "Advanced Statistical Analysis and Introduction to Business Analytics" on March 10, 2018 in the Computer Science & Engineering Department" in Sandip University, Nashik, Maharashtra, INDIA.

11.   Conducted a one day invited lecture as a part of IBM's ICE (Innovation Center for Education) on "Advanced Statistical Analysis and Introduction to Business Analytics" on March 12, 2018 in the Computer Science & Engineering Department" in GLA University, Mathura, UP, India.

12.   Conducted a one day invited lecture as a part of IBM's ICE (Innovation Center for Education) on "Data Mining and Predictive Modelling" on March 22, 2018 in the Computer Science & Engineering Department" in G. D. Goenka University, Gurgaon, India.

13. Conducted a two days' Faculty Development program as a part of IBM's ICE (Innovation Center for Education) on "Applied Statistical Analysis" during April 3 - 4, 2018 in the Computer Science & Engineering Department" in Vishwakarma University, Pune, Maharashtra, India.

14. Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Business Analytics Functional Areas", during April 23 - 25, 2018 in the Business Management Department" in INTI Internal University, Nilai Campus, Malaysia.

15. Conducted a one day invited lecture as a part of IBM's ICE (Innovation Center for Education) on "Applied Statistical Analysis", on May 3, 2018 in the Computer Science & Engineering Department" in GLA University, Mathura, UP, India.

16. Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Data Mining and Predictive Modelling", during June 8 -10, 2018 in the Computer Science & Engineering Department" in INTI University, Kuala Lumpur, Malaysia.

17. Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Data Mining and Predictive Modelling", during July 3 - 5, 2018, in the Computer Science & Engineering Department" in Vishwakarma University, Pune, Maharashtra, India.

18. Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Data Warehousing and Multidimensional Modelling", during July 6 - 8, 2018, in the Computer Science & Engineering Department" in Vishwakarma University, Pune, Maharashtra, India.

19. Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Data Mining and Predictive Modelling", during July 10 - 12, 2018, in the Computer Engineering & Application Department" in GLA University, Mathura, UP, India.

20. Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Data Mining and Predictive Modelling", during July 28- 30, 2018, in the Computer Engineering & Application Department" in Sandip University, Nashik, Maharashtra, India.

21. Conducted a one day invited lecture as a part of IBM's ICE (Innovation Center for Education) on "Advanced Machine Learning" on September 25, 2019 in the Computer Science & Engineering Department" in Vishwakarma University, Pune, Maharashtra India.

22. Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Social Media, Web, and Mobile Analytics", during October 5 – 7, 2018, in the Computer Science and Engineering Department" in INTI University, Nilai Campus, Malaysia.

23. Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Applied Statistical Analysis", during November 13 – 15, 2018, in the Computer Science & Engineering Department" in Neotia University, Sarisha, West Bengal.

24. Conducted a two days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Deep Learning and Artificial Intelligence", during November 29 -30, 2018, in the Computer Engineering & Application Department" in GLA University, Mathura, UP, India.

25. Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Data Warehousing and Multidimensional Modeling", during December 31, 2018 – January 2, 2019, in the Computer Engineering & Application Department" in GLA University, Mathura, UP, India.

26.   Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Data Mining and Predictive Modelling Using Python" during January 21 – 23, 2019, in the Computer Science & Engineering Department" in Kaziranga University, Assam, INDIA.

27.   Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Machine Learning Using R", during January 28 – 30, 2019, in the Computer Science & Engineering Department" in Neotia University, Sarisha, West Bengal.

28.   Conducted a two days' for the students as a part of IBM's ICE (Innovation Center for Education) on "Data Warehousing and Multidimensional Modeling", during March 5 – 6, 2019, in the Computer Engineering & Application Department" in GLA University, Mathura, UP, India.

29.   Conducted a one day invited lecture as a part of IBM's ICE (Innovation Center for Education) on "Business Intelligence and Descriptive Analytics" on April 11, 2019, in the Computer Science & Engineering Department" in Vishwakarma University, Pune, Maharashtra India.

30.   Conducted a one day invited workshop on "Applied Statistical Modelling" and "Data Mining and Predictive Modeling" for the students as a part of IBM's ICE (Innovation Center for Education) on April 11, 2019, 2019, in the Computer Science & Engineering Department" in Neotia University, Sarisha, West Bengal.

31.   Conducted a two days' workshop for the students as a part of IBM's ICE (Innovation Center for Education) on "Applied Machine Learning Using Python" during April 15 – 16, 2019, in the Computer Engineering & Application Department" in GLA University, Mathura, UP, India.

32.   Conducted a one-day workshop for students on "Mobile Communications Network Design" as a part of IBM's ICE (Innovation Center for Education), on April 22, 2019 in the Computer Science and Engineering Department of UPES University, Dehradun, Uttaranchal UP, INDIA.

33.   Conducted two three-days Faculty Development Programs as a part of IBM's ICE (Innovation Center for Education) on "Introduction to Business Analytics" and "Business Analytics Functional Areas", during May 20 – 27, 2019, in INTI International University, Nilai Campus, Malaysia.

34.   Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Social Media and Web Analytics" during July 11 – 13, 2019, in the Computer Engineering & Application Department" in Sandip University, Nashik, Maharashtra.

35.   Conducted a three days' Faculty Development Program as a part of IBM's ICE (Innovation Center for Education) on "Social Media, Web, and Mobile Analytics" during July 15 – 18, 2019, in the Computer Science & Engineering Department" in Vishwakarma University, Pune, Maharashtra India.

36.   Conducted a three days' Faculty Development Program on "Data Warehousing and Multidimensional Modelling" as a part of IBM's ICE (Innovation Center for Education) during July 29 – 31, 2019, in the Computer Science & Engineering Department" in Neotia University, Sarisha, West Bengal.

37.   Conducted a one-day workshop for students on "Artificial Intelligence and Reinforcement Learning" as a part of IBM's ICE (Innovation Center for Education), on September 19, 2019, in the INTI International University, Nilai Campus, Malaysia.

38.   Conducted a two-days' workshop for the students on "Data Mining and Predictive Modeling", and "Big Data Technology Using Spark", as a part of IBM's ICE (Innovation Center for Education), during September 25 – 27, 2019, in the Computer Science and Engineering Department of GLA University, Mathura, UP, India.

39. Conducted a one-day workshop for the students on "Applied Statistical Analysis" and "Data Mining and Predictive Modelling" as a part of IBM's ICE (Innovation Center for Education), on November 14, 2019 in the Computer Science and Engineering Department of Neotia University, Sarisha, West Bengal, India.

40. Conducted a three-days' workshop for the students on "Data Mining and Predictive Modeling", "Big Data and Hadoop", "Introduction to Analytics" and "Business Intelligence", as a part of IBM's ICE (Innovation Center for Education), during November 25 – 27, 2019, in the Computer Science and Engineering Department of GLA University, Mathura, UP, India.

41. Conducted a three days' Faculty Development Program on "Social Media, Web, and Mobile Analytics" as a part of IBM's ICE (Innovation Center for Education) during December 31, 2019 – January 3, 2020, in the Computer Science & Engineering Department" in GLA University, Mathura, Uttar Pradesh.

42. Conducted a one-day seminar on "Cryptography Principles" for the CSE Semester IV students of Centurion University, Bhubaneswar, on March 27, 2020 as a part of IBM's ICE (Innovation Center for Education). Lecture delivered through the university's online education delivery system.

43. Conducted one session on "Python in Machine Learning: A Hands-on Approach" on October 17, 2020 in the AICTE-Sponsored 6 Days Online Faculty Development Program on Business Analytics organized by the Department of CSE (NBA Accredited), MCKV Institute of Engineering.

44. Conducted several sessions on "Statistical Techniques and Simple Forecasting Methods" in the MDP for Bengal Chamber of Commerce and Industries (BCCI) during August – September 2020.

45. Conducted several sessions on "Python Programming and Basics of Statistics" in the MDP for Greenwave Inc., in November 2020.

46. Conducted several sessions on "Descriptive Analytics and Process Charts Design and Analysis" in the MDP for Tata Metaliks in June – July 2021.

47. Conducted an FDP for Amity University Kolkata on "Deep Learning: Technology and Applications" on August 18, 2021.

48. Conducted an FDP on "Cryptography Principles" at the Centurion University, Bhubaneswar on March 27, 2020.

My Academic / Publication Pages

1. Google Scholar Page

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7. [ORCiD Page](#) (ORCiD ID : orcid.org/0000-0002-4120-8700)

8. [arXiv Page (Cornell University Library)](#)

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