Dr. Adil Bashir
Sr. Assistant Professor
Department of Computer Science & Engineering,
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Google Scholar: https://scholar.google.com/citations?user=WHtuylMAAAAJ&hl=en
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Fields of Research Interest

Internet of Things: Security, Protocols, Architecture.
Wireless Sensor Networks, Network Security, Cloud Computing, Edge Computing.
Cyber Security and Digital Forensics.

Educational Degrees

PhD	Department of Electronics & Communication Engineering, National Institute of Technology Srinagar, India, 2021.
M. Tech	Department of Electronics & Communication Engineering, National Institute of Technology Srinagar, India, 2013, 81.97%
B. Tech	Department of Computer Science & Engineering, Islamic University of Science & Technology, Jammu & Kashmir, India, 2011, 82.70%.

Present Position

Assistant Professor	Department of Computer Science & Engineering, Islamic University of Science & Technology, Jammu & Kashmir, India (March 2018 - present)

Past Experience

Assistant Professor (Contractual)	Department of Information Technology, National Institute of Technology Srinagar, India (August 2013 – August 2015)
Teaching Assistant	Department of Electronics and Communication Engineering, National Institute of Technology Srinagar, India (August 2015 – March 2018)

Experience in Research

Research in National Institute of Technology Srinagar: Worked as a Doctoral Research Fellow in the Department of Electronics & Communication Engineering.

Member of Professional / Technical Committees

- Member, IEEE.

Sponsored Research Projects

1. "A Multiversity Alliance on Health and Energy through the Engineered Biomolecular Systems", ANRF/PAIR/2025/000015/PAIR-B, 2.30 Cr, Co-PI (Ongoing)
2. Smart and Secure Healthcare System for Patient Monitoring and Diagnosis of Diseases in integrated IoT and Fog computing environments, 7.20 Lakhs, PI. *(Completed)*
3. Secure Communication Architecture for Cloud-IoT, 02 Lakhs, PI. *(Completed)*
4. Security Framework for Cloud-IoT, NPIU, 14.90 Lakhs, Co-PI. *(Completed)*
5. Context-Aware Security for Internet of Things, 02 Lakhs, Co-PI. *(Completed)*

Peer Reviewer

1. IEEE Sensors Journal.
2. International Journal of Engineering Education.
3. International Journal of Network Security.
4. Ad Hoc & Sensor Wireless Networks.
5. Journal of Cyber Security and Mobility.
6. IEEE Access.

Committee Member (International):

1. Program Committee Member / Reviewer of "*2nd International Conference on Data Mining and Software Engineering (DMSE 2021)*", Toronto, Canada.
2. Program Committee Member / Reviewer of "8th International Conference on Signal, Image Processing and Embedded Systems (SIGEM 2022)", Zurich, Switzerland.
3. Program Committee Member / Reviewer of "10th International Conference on Signal and Image Processing (SIPRO 2024)", Zurich, Switzerland.

Invited Talks

1. Invited Lecture on "IoMT: Making Medical Care More Intelligent", TSI-Mid-Term Conference – 2022, Sheri-Kashmir Institute of Medical Sciences, Srinagar.
2. Invited Lecture on "Cyber Security in Smart Healthcare System", Global Conference on "Data Science, Big Data, Data Analytics, and Linguistics", Dubai, UAE, 2022.
3. Invited Lecture on "Security in Distributed Wireless Networks (IoT/CPS/5G)", National Institute of Electronics & Information Technology (NIELIT) J&K, Srinagar, October 2025.
4. Invited Speaker on "Digital Agriculture and Farm Management Information Systems" at the Centre for Artificial Intelligence & Machine Learning (CAIML), SKUAST-Kashmir, February 2026.

Awards

- Was awarded fellowship by MHRD for doing M. Tech at NIT Srinagar, 2011-2013.
- Was awarded fellowship by MHRD for doing Ph.D. at NIT Srinagar, 2015-2018.

Patents:

Utility Patents:

1. "Smart, Dynamic and Efficient Mechanism for Retrieving Mosque Locations and the associated Salaah Timings", Application No. 202211052143, dated 13-09-2022, **Published**.
2. "Method and Apparatus for Real-Time, Remote, and Efficient Management of Electric Hammams", Application No. 202511028286, dated 26-02-2025, **Published**.
3. "System and Method for Real-Time Vein Site Selection and Access Guidance using Multi-

Physiological Sensors for Clinical and Educational Use", Application No. 202511061097, dated 26-06-2025, **Published**.

4. "Intelligent Healthcare System integrating AI-driven Patient Triage, Robotic Medication Dispensing, AR-based Navigation and Regional Language Interface", Application No. 11072727, dated 31-07-2025, **Published**.

Design Patents:

1. "Multimodal Vein Detection System for Vascular Assessment and Access Guidance", Application No. 467268-001, dated 25-07-2025, **Granted**.
2. "Solar-Powered Smart Rodent Repeller", Application No. 448076-001, dated 14-02-2025, **Granted**.
3. "Intelligent Heating Control for Electric Hammam Systems", Application No. 480616-001 dated 07-11-2025, **Published**.

List of Publications

Journal Papers

1. Saimul Bashir, **Adil Bashir**, "A Hybrid Vision-Sensor Framework for Apple Leaf Disease and Health Diagnosis Using Deep Ensemble Learning and Nutrient Profiling", Applied Fruit Science, Springer, Volume 68, Volume 68, article number 109 (2026). https://doi.org/10.1007/s10341-026-01816-1.

2. Mehnaz Batool, **Adil Bashir**, "SF-CAMNet: A Spatial–Frequency Fusion Network for Robust Spatial Domain Image Steganalysis", International Journal of Data Science and Analytics, Springer, 2026.

3. **Adil Bashir**, Numrena Farooq, Alina Pervaiz & Ajaz Hussain Mir, "Security comparison of NTRU-Encrypt and ECC in smart healthcare systems", Journal of Discrete Mathematical Sciences and Cryptography, 2025.

4. Alina Pervaiz, **Adil Bashir**, Maheen Fayaz, Numrena Farooq, Ajaz Hussain Mir, "Cryptographic Resilience and Efficiency: A Comparative Study of NTRU and ECC Cryptographic Mechanisms for Internet of Medical Things", International Journal of Wireless and Microwave Technologies (IJWMT), Vol.14, No.2, pp. 55-64, 2024. DOI:10.5815/ijwmt.2024.02.04.

5. Shruti Gulati, **Adil Bashir**, Ajaz Hussain Mir, "*Comparative study of LSB and DWT-based Steganography combined with Arnold Transformation for Image Security*", Journal of Information System Security (JISSec), Vol. 18, No. 1, September, 2022. **(SCOPUS)**

6. **Adil Bashir** and Ajaz Hussain Mir, "*Lightweight Secure MQTT for Mobility Enabled e-health Internet of Things*", International Arab Journal of Information Technology (IAJIT), Vol. 18, No. 6, November 2021. **(SCI)**

7. Asifa Nazir, Sahil Sholla, **Adil Bashir**, "*An Ontology-based Approach for Context-Aware Security in the Internet of Things (IoT)*", International Journal of Wireless and Microwave Technologies (IJWMT), Vol. 11, Issue 1, pp. 28-46, 2021.

8. Idris Afzal Shah, **Adil Bashir**, Sheikh Moeen ul Haque, Mohammad Ahsan Chishti, Shaima Qureshi, "*Fully Homomorphic Secure Internet of Things Framework Over Untrusted Cloud*", International Journal of Grid and Distributed Computing (IJGDC), Vol. 13, No. 2, 2021.

9. **Adil Bashir**, Sahil Sholla, "*Resource Efficient Security Mechanism for Cloud of Things*", International Journal of Wireless and Microwave Technologies (IJWMT), Vol. 11, No. 4, 2021.

10. Shamsul Haq, **Adil Bashir**, Sahil Sholla, "*Cloud of Things: Architecture, Research Challenges, Security Threats, Mechanisms and Open Challenges*", Jordanian Journal of Computers and Information Technology, Volume 6, No. 4, 2020. **(SCOPUS)**

11. **Adil Bashir** and Ajaz Hussain Mir, "*Secure Framework for Internet of Things Based e-Health System*", International Journal of E-Health and Medical Communications (IJEHMC), Volume 10, Issue 4, 2019. **(ESCI/SCOPUS)**

12. Asifa Nazir, Sahil Sholla, **Adil Bashir**, "*Internet of Things Security: Issues, Challenges and Counter-Measures*", International Journal of Network and Technology, Volume 7, (2019).

13. **Adil Bashir** and Ajaz Hussain Mir, "*Internet of Things Security Issues, Threats, Attacks and Counter Measures*", International Journal of Computing and Digital Systems, Volume 7, No.2, 2018. **(SCOPUS)**

14. **Adil Bashir** and Ajaz Hussain Mir, "*Securing Communication in MQTT enabled Internet of Things with Lightweight security protocol*", EAI Endorsed Transactions on Internet of Things, Vol. 3, No. 12, 2018.

15. Saba Shoukat, **Adil Bashir**, "*Cyber Crime-Techniques, Prevention and Cyber Insurance*", International Journal of Computing and Network Technology, Volume 6, (2018).

16. **Adil Bashir** and Ajaz Hussain Mir, "*Securing Publish-Subscribe Services with Dynamic Security Protocol in MQTT Enabled Internet of Things*", International Journal of Security and Its Applications, Vol. 11, No. 11, 2017.

17. **Adil Bashir**, Shoaib Amin Banday, Ab. Rouf Khan, Mohammad Shafi, "*Concept, Design and Implementation of Automatic Waste Management System*", IJRITCC, Volume 1 Issue 7, 2013. **(SCOPUS)**

18. **Adil Bashir**, Sama Qazi, Shoeib Amin Banday, Liyaqat Nazir, Bisma Shah, "DTMF based smart notice board system", International Journal of Scientific and Research Publications, Vol. 3, No. 11, 2013.

19. Saba Shoukat, **Adil Bashir**, Rehman Mir Mohsina, Sabreena Rafi, "Design and Implementation of Automatic Vacuum Cleaner with Spying Capability", International Journal of Emerging Trends in Engineering and Development, Vol. 6, No. 3, 2013.

Conference Papers

1. Saimul Bashir, Syed Zoofa Rufai, **Adil Bashir**, Mehnaz Batool, Shahzada Danish, "Machine Learning-Based Ensemble Models for Mortality Risk Prediction in Chronic Heart Failure: An Integrative Approach with CatBoost, XGBoost, and Deep Learning", ICSAHSE 2026 International Conference on Smart Agriculture, Healthcare, and Sustainable Energy – 2026.

2. Mehnaz Batool, **Adil Bashir**, "A Comparative Analysis of Deep Neural Networks for Detecting Hidden Information in Images", 3rd International Conference on Artificial Intelligence and Sustainable Computing for Smart Cities (AIS2C2-2025) on 24-25 December 2025.

3. Mehnaz Batool, **Adil Bashir**, "Unveiling Hidden Information: A Deep Learning Framework for Advanced Steganalysis", JKSCIENCE CONGRESS, 21-22 October, 2024.

4. Iraq Ahmed Reshi, Sahil Sholla and **Adil Bashir**, "*Unlocking the Potential of Blockchain and AI for Pandemic Preparedness and Response*", 5th International Conference on Communication and Information Processing (ICCIP), SSRN Elsevier, 2023.

5. Umer Mushtaq Mir, Ajaz Hussain Mir, **Adil Bashir**, Mohammad Ahsan Chishti, "DiffServ-

Aware Multi-Protocol Switching based Quality of Service in Next Generation Networks", International Advanced Computing Conference – IACC 2014, IEEE Xplore, 2014.

6. **Adil Bashir**, Ajaz Hussain Mir "An Energy Efficient and Dynamic Security Protocol for Wireless Sensor Network", International Conference on Advanced Electronic Systems (ICAES), IEEE Xplore, 2013.

7. Aabid Mir, James Wood, Ab. Gaffar Mir, **Adil Bashir**, "A Probabilistic approach based filtered location updates in a Mobile Grid Network", International Conference on Advanced Electronic Systems (ICAES), IEEE Xplore, 2013.

8. A.H. Moon, Umer Iqbal, **Adil Bashir**, Sahil Sholla, Zaffar Kanth "Simulating and Analyzing RREQ flooding attack in Wireless Sensor Networks", Leveraging ICT for growth and development of J&K (LICT J&K 2013), IETE – (2013).

9. A.H. Moon, Umer Iqbal, **Adil Bashir**, Sahil Sholla, Zaffar Kanth, "Evaluating the Performance of Various Routing Protocols in WSN", 9th JK Science congress 2013 and Regional Science congress (isca), (2013).

Books Authored:

1. Saimul Bashir, **Adil Bashir**, Mehnaz Batool, "Harvesting the Future: AI and Machine Learning in Agriculture", Published in 2026, Pages 213, ISBN 978-1-0364-7466-9, Cambridge Scholars Publishing, UK.
2. **Adil Bashir** and Ajaz Hussain Mir, "An Energy Efficient and Dynamic Security Protocol for Wireless Sensor Networks," Munich, GRIN Verlag, Published in 2021, Pages 66, Catalog Number V1034746, ISBN: 9783346443076.
3. Numrena Farooq, **Adil Bashir**, Arvind Selwal, "Development of Intelligent Framework for Image Steganalysis using Deep Level Features", Munich GRIN Verlag, Published in 2022, Pages 44, Catalog Number V1254950, ISBN: 9783346741783.

Book Chapters:

1. Saimul Bashir and **Adil Bashir**, "EfficientNetV2M-Based Deep Learning Framework for Apple Leaf Disease and Pest Detection for Sustainable Agriculture", Agricultural Automation with IoT. Springer, Cham. https://doi.org/10.1007/978-3-032-23211-3_8

2. Saimul Bashir, **Adil Bashir**, "Detecting newly emerging Apple Blotch Leaf Miner (ABLM) using a deep learning approach", Human-Centered Solutions through Human-Computer Interaction, CRC Press, 2026.

3. **Adil Bashir** and Saba Hilal, "Cloud of Things: A Survey on Critical Research Issues", Image Processing and Intelligent Computing Systems, CRC Press, First Edition, pp. 245-266, ISBN: 9781003267782, Taylor and Francis, 2023.

4. **Adil Bashir** & Ajaz Hussain Mir, "Lightweight Secure-MQTT for Internet of Things", Optical and Wireless Technologies, Lecture Notes in Electrical Engineering, Vol. 648, pp. 57-66, ISBN: 978-981-15-2925-2, Springer, Singapore, 2020.

Ph. D Thesis Supervision, IUST Kashmir:

In Progress: 02

B. Tech Projects supervised:

Above 30

Schemes Submitted:

1. Submitted a scheme for starting "B. Tech. Cybersecurity," at IUST Kashmir, 2026.
2. Submitted a scheme for starting "B. Tech. Internet of Things," at IUST Kashmir, 2023.
3. Submitted a scheme for starting "M.Tech. Computer Science & Engineering," at IUST Kashmir, 2023.

Workshops Organized

1. Two-day workshop on "Digital Marketing", May 11-12, 2022 at IUST Kashmir.
2. "Data Science and Information Security Bootcamp", June 11, 2019 to June 15, 2019.
3. Member of organizing committee for organizing TECHVAGANZA-2014 (Annual National Level Technical Festival), NIT Srinagar.
4. Member of organizing committee for organizing technical workshops (Next generation Networks, IBM Bluemix technology, Open Source Technologies) at NIT Srinagar.

Faculty Development Programs Organized

1. One-week Faculty Development Programme on "RESEARCH METHODOLOGY AND PUBLICATION ETHICS", February 07-11, 2022, IUST Kashmir.

2. "Online Workshop /Faculty-Development-Programme on Recent Research Trends in Information Technology" September 12-18, 2020, IUST, Kashmir.

Participation in Workshops/Conferences/Short Term Courses

1. Two-day "Technology Exposition", at IUST Kashmir, November 15-16, 2023.
2. One-day workshop on "Cyber Security and Cloud Computing", Finnlogic-IT Services Pvt. Ltd. & IUST Kashmir, August 08, 2023.
3. One-week Faculty Development Program on "Academic Writing", February 18-24, 2021, at Teaching Learning Centre, Ramanujan College, University of Delhi.
4. One-week Faculty Development Program on "Machine Learning using Python", July 01-05, 2019, IUST Kashmir & IIT Roorkee.
5. International Conference on Advances in Computers, Communication and Electronic Engineering, held on March 16-18, 2015 at University of Kashmir, Jammu and Kashmir, India.
6. UGC Sponsored National Seminar on Electronic Devices, Systems and Information Security (SEEDS-2015), held on March 16-17, 2015 at University of Kashmir, Jammu and Kashmir, India.
7. Ten days' workshop on *Big Data Analytics* at NIT Srinagar, India from March 10-20, 2017.
8. Two days' workshop on *Network Implementation and Security* organized by ACM, IIT Delhi, and Network Bulls at Islamic University of Science and Technology, Kashmir, India, November 21-22, 2013.
9. National Mission of Education through Information Communication Technology (NME-ICT) awareness workshop on June 18, 2013 sponsored by MHRD & organized by NIT Srinagar, India.

Short Term Courses

10. One-week short-term course on "Open-Source Technologies" January 04-08, 2016, National Institute of Technical Teachers Training and Research at NIT Srinagar, India.

11. AICTE recognized Short Term Course on "Open-Source Technologies" at NIT Srinagar, May 25-29, 2014.

Competitive Exams Qualified

- Graduate Aptitude Test for Engineers (**GATE-2011**) in Computer Science and Information Technology conducted by MHRD and IIT Kanpur.
- State Eligibility Test (**SET-2016**) for being eligible to apply for the Assistant Professor post conducted by JKSET.