

**Google Scholar**
**Citations: 156**
**h-index: 6**
**i10-index: 4**

Department of Computer Science and Information Technology
School of Technology
Maulana Azad National Urdu University (A Central University)
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# DR. AFRAH FATHIMA | ASSISTANT PROFESSOR

**CURRENT DESIGNATION/ INVOLVEMENT**

- Currently working as an Assistant Professor (Selection Grade, Academic Level 12) in the Department of Computer Science and Information Technology, School of Technology, Maulana Azad National Urdu University (A Central University), Hyderabad, Telangana, India, since 09th October 2014.
- Promoted from Senior Scale (Level 11) to Selection Grade (Level 12) under CAS w.e.f. 09th October 2023.
- Worked as an Assistant Professor at Shahjahan College of Computer Applications, Hyderabad, from 14th August 2005 to 28th July 2007.

**AREA OF SPECIALIZATION** Cyber Security, Network Traffic Analysis & Intrusion Detection, Machine Learning for Cyber Security, Digital Forensics, Cryptography, Blockchain Technology

**ACADEMIC AND ADMINISTRATIVE EXPERIENCE**

- **Conference Convener,** ICCIDSDT-2027 International Conference, MANUU (2026-27)
- **Co-Convenor, Reviewer & Publicity Chair,** ICCMDN-2025 International Conference, MANUU
- **Session Coordinator & Organising Committee Member**, ICCIDSDT-2026 International Conference, MANUU
- **Served as Warden,** Gulzar Girls Hostel, MANUU
- **Coordinator,** Fashion Technology & Interior Design Programmes (MANUU - Samana College of Design Studies)
- **Coordinator,** Departmental NAAC Activities, School of Technology
- **Convener,** Disciplinary & Anti-Ragging Committee and Grievance Redressal Committee, Dept. of CS&IT
- **Coordinator,** Extra-Curricular Committee and Magazine/Newsletter/Publication Committee (PRO), Dept. of CS&IT
- **Member, Board of Studies,** Dept. of CS&IT, MANUU
- **Member, School Board**, School of Technology, MANUU
- **Member, Departmental Research Committee**, Dept. of CS&IT, MANUU
- **Member, Local Selection Committee** - Assistant Professor (Contractual), Fashion Technology & Interior Design (2026)
- **Class Coordinator**, Question Paper Setter and Evaluator, Dept. of CS&IT

**EDUCATIONAL QUALIFICATION**

- **Ph.D. (Computer Applications):** "Large Scale Network Traffic Analysis and Attack Detection Using Machine Learning", B.S. Abdur Rahman Crescent Institute of Science & Technology, Chennai (Awarded 11-01-2026)
- **M.Tech.:** Manav Bharti University, Himachal Pradesh (2012)
- **M.Phil.:** Vinayaka Mission University, Tamil Nadu (2009)
- **MCA:** Osmania University, Hyderabad (2005)
- **BCA:** Osmania University, Hyderabad (2002)

**CERTIFICATIONS**

- **Microsoft Certified Professional (MCSE track)**: Windows XP Professional (070-270), Exchange Server 2003 (070-284) and Windows Server 2003 (070-290), 2007.
- **Industrial Training for Faculty**, Bharat Sanchar Nigam Limited (BSNL) /

RTTC Hyderabad, 20-01-2025 to 01-02-2025.

- **Industrial Training for Faculty Members**, BSNL Hyderabad, 16-11-2020 to 05-12-2020.

**TEACHING PROFICIENCY** Artificial Intelligence, Cryptography & Network Security, Cyber Law & Cyber Security, Blockchain Technology, Research Methodology & IPR, Computer Networks, Operating Systems, Database Management Systems, Distributed Systems, Web Programming, Organizational Behavior

**RESEARCH PUBLICATION DETAILS**

## Patents:

- **Advanced Threat Monitoring System Using Big Data & Deep Learning for Enhanced Intrusion Detection**
  - Afrah Fathima et al.
  - Published 16-08-2024 (Filed 09-08-2024), Indian Patent Office, Journal No. 33/2024
  - Application No: 202441060273 A
- **Smart USB Modem and Storage Device with Real-Time Display (Design Patent)**
  - Afrah Fathima et al.
  - Registered (Filed 13-05-2025; Certificate dated 11-08-2025), Class 14-03
  - Design No: 458532-001

## Journals:

- Ahmed, M., Fathima, A., Islam, M., Arundhathi, T., Khan, A., & Gulzar, M. (2026). Ontology Based Knowledge Management System Design for Organic Farming. Journal of Computer Science, 22(3), 1060-1072. https://doi.org/10.3844/jcssp.2026.1060.1072
- Fathima, A., et al. (2026). Edge Computing-based Intrusion Detection Model for Wireless Sensor Networks (WSN-DS). International Journal of System Assurance Engineering and Management, Springer. https://doi.org/10.1007/s13198-026-03415-5
- Fathima, A., et al. (2024). Enhancing University Network Management and Security: A Real-Time Monitoring, Visualization & Cyber Attack Detection Approach using Paessler PRTG and Sophos Firewall. International Journal of System Assurance Engineering and Management, Springer. https://doi.org/10.1007/s13198-024-02448-y
- Fathima, A., et al. (2023). Performance Evaluation and Comparative Analysis of Machine Learning Models on the UNSW-NB15 Dataset: A Contemporary Approach to Cyber Threat Detection. Cybernetics and Systems, Taylor & Francis, 56(8), 1160-1176.
- Fathima, A., et al. (2023). Improving Distributed Denial of Service Attack Detection Using Supervised Machine Learning. Measurement: Sensors, Elsevier, 30, 100911.
- Fathima, A., et al. (2023). Cyber Security Reinforcement through Firewall Log Analysis and Machine Learning. International Journal on Recent and Innovation Trends in Computing and Communication (IJRITCC), 11(10). (Scopus)
- A New Paradigm for Blended Learning Leveraging Inverted Pedagogy & Digital Communication to Foster Effective Learning. IGI Global. (Web of Science)
- Fuzzy-Prophet: A Novel Routing Protocol for Opportunistic Network. International Journal of Information Technology.
- Mobility Models and Routing Protocols in Opportunistic Networks: A Survey. International Journal of Advanced Research in Computer Science (IJARCS), 8(5), June 2017.
- Foreign Direct Investment in Telecom Sector in India. International Journal of Scientific Engineering and Technology (IJSET), 2(10), 982-985, Oct 2013.
- Making Data Breach Prevention a Matter of Policy in Corporate Governance. International Journal of Scientific Engineering and Technology (IJSET), 2(1), 01-07, Jan 2013.
- Perspective of Mass Modelling through Roles and Ontology. International Journal of Recent Trends in Engineering (IJRTE), 1(2), 294-298, May 2009.

## Conference Papers:

- Islam, M. U., Fathima, A., & Ghosh, D. (2025). An Improved Technique for Bone Fracture Classification using Visual Transformers and Convolutional Neural Networks. Proceedings of the International Conference on Innovative Computing & Communication (ICICC 2024), SSRN. https://dx.doi.org/10.2139/ssrn.5191555
- Fathima, A., Khan, A., Uddin, M. F., & Waris, M. M. (2024). Optimizing Network Performance and Availability in Game Servers: A Comparative Study of Load Balancing Techniques in Sophos Firewalls. Proceedings of ICICC 2024, SSRN.

https://dx.doi.org/10.2139/ssrn.4931512

- Two papers presented at the International Conference ICCIDSDT-2026, MANUU, Hyderabad, 15-16 January 2026.
- Movie Recommendation System Using RNN (LSTM): Enhancing User Experience Through Mood Shift Based Prediction. ICCMDN-2025, MANUU, Hyderabad, January 2025.
- Fashion Retail Demand Forecasting Using Machine Learning. ICCMDN-2025, MANUU, Hyderabad, January 2025.
- Revolutionizing Indian Agriculture Through Machine Learning Based Crop Recommendation System. IEEE Knock DOWN 2023 (TKD-23).
- Home Vision: AI Based House Forecasting. 2nd International Congress on Innovation Technologies & Engineering, Ege University, Izmir, Turkiye, June 2023.
- Elevating Network Efficiency: Leveraging Colasoft Capsa for Monitoring and Performance Optimization in Large Networks. 8th International Conference on Research in Intelligent Computing in Engineering (RICE-2023), MANUU, Hyderabad, 2023.
- Extracting Signal Conversation from Android Smart Phones Using ELCOMSOFT Forensic Tool. International Hazar Scientific Researches Conference-II, Baku, Azerbaijan, 10-12 April 2021.
- Parallel Virtualization in IaaS to Community Cloud. IEEE International Conference on Communication Systems and Network Technologies (CSNT-2015).
- A Novel Approach to Enhance QoS of Cell Edge User. International Conference on Emerging Trends in Information Technology, BBAU, Lucknow, March 2015.
- Roles and Ontology for Agent Systems. National Conference on Next Generation Computing Technologies, ITS, India.
- Prototyping a Distance Learning Environment on Internet. National Conference on Higher Education: Role of Indian Language Universities, MANUU, Hyderabad.
- Challenges of Corporate Governance in India: The Need for Proactive Approach. National Conference, Dept. of Business Management, Kakatiya University, Warangal.

### Chapters:

- Privacy of Big Data for Cyber Physical System. CRC Press, USA.
- Security & Encryption. E-Commerce Study Material, Directorate of Distance Education, MANUU, Hyderabad.

### Edited Proceedings:

- 1st International Conference on Computers & Electronics Engineering (ICCEE-2016), Conference Proceedings, McGraw Hill, January 2016.

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**DETAILS OF CONFERENCE/SEMINAR /WORKSHOP/FDP (PARTICIPATED/PRESENTED/ORGANIZED)**

- Microsoft Excel Using AI Workshop, OfficeMaster, 28-06-2026.
- International Conference ICCIDSDT-2026, MANUU, 15-16 January 2026 (Organising Committee, Session Coordinator & Paper Presenter).
- One-Day Workshop on “Graph Mining with LLMs”, Institution's Innovation Council (IIC), BITS Pilani, Hyderabad Campus, 15-11-2025.
- Rashtriya Karmayogi Large Scale Jan Seva Programme, Capacity Building Commission, DoPT, Govt. of India, 16-10-2025.
- Coordinator, Two-Week UGC MMTTC Staff College Programme, MANUU, July 2025.
- International Conference ICCMDN-2025, MANUU, 16-17 January 2025 (Co-Convenor).
- One Week FDP on Emerging Research Trends in Computer Science, Dept. of CS&IT, MANUU, 16-01-2024 to 20-01-2024.
- AICTE ATAL Academy FDP on Artificial Intelligence and Quantum Machine Learning, MANUU, 20-11-2023 to 25-11-2023.
- Coordinator & Host, C-DAC Awareness Workshop on e-Governance Standards & Guidelines, Dept. of CS&IT, MANUU, 13-10-2023.
- 5-Day Online FDP on Inculcating Universal Human Values in Technical Education, AICTE, March 2022.
- AICTE ATAL FDP on Data Science, MANUU, November 2021.
- AICTE ATAL FDP on Digital Forensics and Investigations, K.L.E. Technological University, July 2021.
- FDP on Cyber Security and Forensics, MANUU, February 2020.
- FDP on Sensor Networks, Internet of Things and Internet of Everything, MANUU, Nov-Dec 2019.

- Training of Trainers (TOT) under TLC Project, NITTTR Bhopal at MANUU, November 2019.
- Refresher Course in Computer Science & IT, MANUU, 25-07-2019 to 07-08-2019.
- Refresher Course on Disaster Management, MANUU, 05-02-2019 to 25-02-2019.
- Scilab Workshop, VNR VJIET, Hyderabad, May 2019.
- Two-Day National Seminar on Internet of Things (IoT) and Data Analytics, TEQIP-II, Osmania University, March 2018.
- Induction Programme for Newly Appointed Assistant Professors, MANUU, 17-10-2016 to 23-10-2016.
- UGC Sponsored 30th Orientation Programme, MANUU, 27-04-2016 to 24-05-2016.
- Workshop on Research Trends in Computer Science, Muffakham Jah College of Engineering & Technology, Hyderabad, 4-5 March 2011.
- Cisco Education Day, UGC Academic Staff College, JNTU Hyderabad, 19 March 2008.
- Workshop on Network Simulator 2 (NS-2), Osmania University.

**DETAILS OF KEYNOTE SPEAKER/RESOURCE PERSON/ SESSION CHAIR ETC**.

- **Resource Person:** "Intrusion Detection & Prevention", CyberCentinal Internship "Securing the Future of Digital Defense", Shri Krishan Chander Govt. Degree College, Poonch & Govt. Degree College, Rajouri (Online), 8-18 January 2024.
- **Resource Person**: "Tools for Cybersecurity", CyberCentinal Internship, 2025.
- **Session Coordinator,** International Conference ICCIDSDT-2026, MANUU, January 2026.
- **Judge, Hackathon,** MANUU, September 2026.
- **Jury Member,** EY Techathon 6.0 - Internal Hackathon on Agentic AI, MANUU, 15-10-2025.
- **Mentor,** Internal Hackathon for Smart India Hackathon 2025, MANUU, 27-09-2025.
- **Judge,** Vigilance Awareness Programme, MANUU, 2025.

**ACHIEVEMENTS**

- **Awarded Ph.D**. (Computer Applications) by B.S. Abdur Rahman Crescent Institute of Science & Technology, Chennai, January 2026.
- Indian Patent published (Application No. 202441060273 A) and Design registered (Design No. 458532-001).
- **Reviewer,** Scientific Reports (Springer Nature), September & November 2025.
- **Reviewer,** Discover Mental Health (Springer), November 2025.
- **Google Scholar**: 156 citations, h-index 6, i10-index 4 (as on 19-11-2026).

**DETAILS OF SUPERVISION (M.TECH/PH.D.)**

- **M.Tech.:** Supervising M.Tech. dissertations and projects for 10 years (Dept. of CS&IT, MANUU).
- **Ph.D.:** Guiding Ph.D. research (6 months).
- **B.Tech. / MCA:** Supervising B.Tech. Project Work and MCA Industry/Major Projects.

**Languages Known** English, Urdu, Hindi

**Address:** Department of CS&IT, MANUU, Gachibowli, Hyderabad - 500032, Telangana

**Date: 25/11/2026**
**Place: Hyderabad**

**(Dr. Afrah Fathima)**