

ENGR. SHAISTA ASHRAF FAROOQI

Assistant Professor | AI & Cybersecurity Researcher | PhD Candidate

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EXECUTIVE SUMMARY

Accomplished academic leader with over 23 years of progressive experience in higher education, specializing in Computer Systems Engineering and Computer Science. Proven track record of research excellence with 20+ peer-reviewed publications in areas such as AI regulations, federated learning, differential privacy, and AI applications in healthcare and education. Currently completing a PhD in Computer Science with expertise in IoMT security, AI regulations, and Healthcare 5.0.

Recognized for delivering high-impact teaching through well-structured lectures, hands-on labs, and outcome-based curriculum design across core computing subjects, including Computer Systems, Computer Systems Engineering Courses. Skilled in integrating theoretical foundations with practical implementation to enhance student understanding and industry readiness. Further strengthening applied expertise with industry-based certifications in Ethical Hacking and a Postgraduate Diploma in Cyber Threat Intelligence, and participated as an individual member in Pakistan's first cybersecurity hackathon, earning an appreciation certificate.

CORE COMPETENCIES

- Cybersecurity & IoMT
- Privacy Preserving AI
- Federated Learning
- Differential Privacy
- AI Ethics & Regulations
- Research Collaborations
- Machine Learning & AI
- Curriculum Development

EDUCATION

Doctor of Philosophy (PhD) in Computer Science (in-Progress)

Asia e University, Malaysia | Expected Completion: December 2026

Dissertation Focus: Privacy-preserving AI, Federated Learning with Differential Privacy, IoMT Security

Post Graduate Diploma (PGD) in Cyber Threat Intelligence & Privacy Preservation

NED University of Engineering & Technology, Karachi | 2022-2023

Master of Engineering (ME) in Computer Systems Engineering

NED University of Engineering & Technology, Karachi

Bachelor of Engineering (BE) in Computer Systems Engineering

NED University of Engineering & Technology, Karachi

PROFESSIONAL EXPERIENCE

Fast Learner, VinnCorp. USA Based Software Development Company

Part Time Online Course Instructor | September 2024-to-date

BAHRIA UNIVERSITY, Karachi, Pakistan

Assistant Professor, Computer Science Department | August 2010 – September 2024

USMAN INSTITUTE OF TECHNOLOGY, Karachi, Pakistan

Assistant Professor, Computer Systems | August 2003 – December 2008

RESEARCH AREA & SCHOLARLY CONTRIBUTIONS

Research Profile: 20+ peer-reviewed publications

Research Focus Areas:

- Privacy-Preserving AI: Federated Learning with Differential Privacy, Privacy-Utility Optimization
- Healthcare Technology: Internet of Medical Things (IoMT) Security, Healthcare 5.0 Applications
- AI Applications: AI in Education, Cybersecurity Compliance, Environmental Impact Studies, Financial Risk Assessment
- Emerging Technologies: AI-driven Cybersecurity, Real-time Data Processing in IoT Networks, Blockchain Integration.

Peer Review Activities:

- Reviewed research manuscripts and book chapters for academic journals, conferences, and edited volumes
- Assessed the quality, originality, and methodological soundness of submissions to ensure academic standards
- Contributed to the scholarly publication process through timely, objective, and constructive evaluations

PUBLICATIONS

Conferences

1. Farooqi, S.A., Abd Rahman, A., & Saad, A. (2024). Differential privacy based federated learning techniques in IoMT: A review. *2024 18th International Conference on Ubiquitous Information Management and Communication (IMCOM)*.
2. Farooqi, S.A., et al. (2025). Leveraging AI and Machine Learning for Enhanced Fraud Detection in Digital Banking System: A Comparative Study. *First International Conference on Advances in Computer Science*.
3. Farooqi, S. A., Abd Rahman, A., & Saad, A. (2026, January). Inversion, Membership, and Poisoning Attacks in Federated Learning-Challenges and Defenses. In *2026 20th International Conference on Ubiquitous Information Management and Communication (IMCOM)* (pp. 1-8). IEEE.
4. Nair, S. S., Lakshmikanthan, G., Belagalla, N., Belagalla, S., Ahmad, S. K., & Farooqi, S. A. (2025, February). Leveraging ai and machine learning for enhanced fraud detection in digital banking system: A comparative study. In *2025 First International Conference on Advances in Computer Science, Electrical, Electronics, and Communication Technologies (CE2CT)* (pp. 1278-1282). IEEE.

Journal Articles

1. Farooqi, S.A., et al. (2024). Navigating AI in the real world: Transformations, regulations, and challenges. *Policy Research Journal*, 2(4), 1083-1099.
2. Lakho, S., Farooqi, S. A., Zafar, F., & Siraj, S. (2024). Developing AI-Powered Chatbots for Mental Health Support. *Spectrum of engineering sciences*, 179-199.
3. Farooqi, S. A., & Zafar, F. (2024). Security and privacy challenges in the internet of medical things (IoMT): A comprehensive review. *International Journal of Social Sciences Bulletin*, 2(4), 519-532.
4. Farooqi, S. A., Rahman, A. A., & Saad, A. (2025). Advanced Privacy-Utility Optimization Techniques in Federated Learning with Differential Privacy for IoMT—A Review. *International Journal of Interactive Mobile Technologies*, 19(19).
5. Shaista Ashraf Farooqi, Bharat Kumar Essarani, Arish Khan, Dr. Wahab Khan, Sajid Mehmood, & Muhammad Abdul Rehman. (2025). Ai-Driven Methodologies for Real-Time Data Processing In IOT Networks. *Dialogue Social Science Review (DSSR)*, 3(6`), 303–319. Retrieved from <https://dialoguessr.com/index.php/2/article/view/613>.
6. Farooqi, S. A. A., Rahman, A. A., & Saad, A. (December, 2025). Federated Learning with Differential Privacy and Blockchain for Security and Privacy in IoMT: A Theoretical Comparison and Review. *Advances in Science, Technology and Engineering Systems Journal*, 10(6), 65–76. <https://doi.org/10.25046/aj100606>
7. Sadiq, Z. M., Shah, S., Farooqi, S. A., & Haq, D. U. (2025). Revolutionizing Learning: The Role of Artificial Intelligence in 21st Century Education. *Liberal Journal of Language & Literature Review*, 3(3), 1416-1425.
8. Shukla, M., Gupta, A., Farooqi, S. A., & Galingana, C. D. (February, 2025). *Machine learning methodologies for enhancing predictive accuracy in environmental impact studies*. *Journal of Information Systems Engineering and Management*.
9. Yousha, S., Khan, A. A., Farooqi, S. A. A., Aslam, R. A., & Shah, S. N. J. (2025). *The role of machine learning in risk assessment and management in finance*. *Policy Research Journal*, 3(2). <https://doi.org/10.5281/zenodo.14963077>.
10. Fiaz, S., Khan, A.A., Aziz, F., Farooqi, S.A., Ghazi, S. (January, 2025). FROM HUMAN TO MACHINE: HOW AI IS TRANSFORMING CONTENT PRODUCTION IN MEDIA. *Journal of Media Horizons*, 6(1), 55-59. <https://jmhorizons.com/index.php/journal/article/view/100>

Book Chapters

1. Farooqi, S. A. (2025). Federated Learning for Secure and Resilient AI Systems. In *Challenges and Solutions for Cybersecurity and Adversarial Machine Learning* (pp. 307-344). IGI Global Scientific Publishing. DOI: 10.4018/979-8-3373-2200-1.ch010.
2. Farooqi, S. A. (2026). Ethical Framework for AI in Education: Navigating Challenges and Building Solutions. In *AI in education, governance, and leadership: Adoption, impact, and ethics* (pp. 153-188). IGI Global Scientific Publishing. DOI: 10.4018/979-8-3373-5550-4.ch007
3. Farooqi, S.A. [May, 2026]. Federated Learning and Collaborative AI in Medical Diagnostics: A Conceptual and Literature-Based Study. In *Managing Sensitive Health Data Through Federated Learning and Generative AI: Privacy Preserving Techniques* [Preprint]. IGI Global Scientific Publishing. DOI://10.4018/979-8-3373-7426-0.
4. Farooqi, S.A [June, 2026]. Smart Cyber Defense Systems AI Approaches for Threat Detection and Incident Management in *AI-Driven Cybersecurity Systems, Applications, and Resilient Infrastructure*. IGI Global Scientific Publishing. DOI: 10.4018/979-8-2600-1608-4.ch001
5. Farooqi, S.A [June. 2026] **[Preprint]**. AI-Driven Threat Intelligence Integration in SOCs; Techniques, Applications, and Future Directions in *Predictive Analytics and Risk Intelligence in AI-Driven Cybersecurity*. IGI Global Scientific Publishing. DOI://10.4018/979-8-3373-5860-4.
6. Farooqi, S.A [2026] **[Preprint]**. Blockchain for Academic Credentials and Learning Records in *Beyond Traditional Universities: The Rise of Smart Institutions*. Berghahn Books Inc.

In conclusion, I am eager to contribute my teaching expertise and academic experience to a progressive institution, committed to excellence in teaching and dedicated to supporting the academic growth and success of the organization.

“Education is not the filling of a pail, but the lighting of a fire!”