Dr. Asif Umer
PhD Computer Science, 2024
Email: asifumer1990@gmail.com, asifumer@hu.edu.pk
Phone: +92 3429314692
Country: Pakistan

Lecturer in Computer Science | Distributed Systems | IoT | Cloud–Fog Computing | Intelligent Transportation & Task Scheduling| Hazara University Mansehra Pakistan| April 2017 to Present

Lecturer in Computer Science with 10+ years of academic and research experience and a strong record of Q1 journal publications. Research expertise includes fault-tolerant IoT systems, cloud–fog computing, and intelligent task scheduling, with demonstrated impact through deployable prototypes and large-scale simulation-based validation. An experienced academic mentor, having supervised 25+ undergraduate and postgraduate research projects, several of which resulted in peer-reviewed journal publications. I am actively engaged in teaching, curriculum development, research supervision, and interdisciplinary collaboration.

Research Interests

Internet of Things (IoT) • Cloud & Fog Computing • Distributed & Edge Systems • Task Offloading & Scheduling • Fault Tolerance • AI-assisted Resource Optimization • Wireless Sensor & Vehicular Networks • Max Plus Algebra •AHP process

Research Experience & Methods

- Designed and evaluated fault-tolerant and mobility-aware task offloading models for IoT logistics.
- Developed multi-objective optimization frameworks improving task latency, reliability, and resource utilization.
- Conducted large-scale simulations using CloudSim, iFogSim2, and OMNeT++.
- Validated proposed models across heterogeneous cloud–fog architectures.
- Applied AI-assisted optimization techniques for scheduling and resource allocation.

Education

PhD, Computer Science
Hazara University, Pakistan — **2024**
CGPA: **3.90 / 4.00**
Dissertation: Fault-Tolerant and Mobility-Aware Task Offloading and Scheduling for IoT Logistics

MS, Computer Science
COMSATS University Islamabad — **2016**
CGPA: **3.46 / 4.00**

MCS, Computer Science
University of Science & Technology, Bannu — **2013**

Publications (Peer-Reviewed Journals)

First Author — Q1 Journals (4)

S. No	Authors, Paper Title, Journal Name	Year
1.	**Asif Umer**, Ali, M. & Jehangiri, A.I. Fault tolerant and mobility-aware task offloading and scheduling model for IoT logistics. *"Journal of Supercomputing"* 81, 1203 (2025). https://doi.org/10.1007/s11227-025-07627-7 **(Impact Factor 2.6, Q1)**	**2025**
2.	**Asif Umer,** Mushtaq Ali, Ali Daud, Lal Hussain, Amal Bukhari, and Ali Imran Jehangiri. "**Fault tolerant & priority basis task offloading and scheduling model for IoT logistics.**" *Alexandria Engineering Journal 110 (2025): 400-419.* https://doi.org/10.1016/j.aej.2024.10.018 **(Impact Factor 6.2, Q1)**	**2025**
3.	**Asif Umer**, Mushtaq Ali, Ali Imran Jehangiri, Muhammad Bilal, and Junaid Shuja. "**Multi- Objective Task-Aware Offloading and Scheduling Framework for Internet of Things Logistics**" *Sensors* 24 *(*2024), no. 8: 2381. https://doi.org/10.3390/s24082381 **(Impact Factor 3.8, Q1)**	**2024**
4.	**Asif Umer,** Babar Nazir, & Zulfiqar Ahmad**. Adaptive market-oriented combinatorial double auction resource allocation model in cloud computing.** *The Journal of Supercomputing* (2021). https://doi.org/10.1007/s11227-021-03918-x **(Impact Factor 2.6, Q1)**	**2021**

Co-Author — Q1/Q2 Journals (10)

S. No	Authors, Paper Title, Journal Name	Year
5.	Adnan, Muhammad, Jawaid Iqbal, Abdul Waheed, Noor Ul Amin, Mahdi Zareei, Shidrokh Goudarzi, and Asif Umer. "On the Design of Efficient Hierarchic Architecture for Software Defined Vehicular Networks." *Sensors* 21, no. 4 (2021): 1400. https://doi.org/10.3390/s21041400 (Impact Factor 3.8, Q1)	**Published 2021**
6.	Ahmad, Zulfiqar, Babar Nazir, and Asif Umer. "A fault-tolerant workflow management system with Quality-of-Service-aware scheduling for scientific workflows in cloud computing." *International Journal of Communication Systems* 34, no. 1 (2021): e4649. https://doi.org/10.3390/s21113902 (Impact Factor 2.2, Q2)	**Published 2021**
7.	Adnan, Muhammad; Iqbal, Jawaid; Waheed, Abdul; Amin, Noor U.; Zareei, Mahdi; Umer, Asif; Mohamed, Ehab M. 2021. "Towards the Design of Efficient and Secure Architecture for Software-Defined Vehicular Networks" *Sensors* 21, no. 11: 3902. https://doi.org/10.3390/s21113902 (Impact Factor 3.8, Q1)	**Published 2021**
8.	Ullah, Zakir, Asif Umer, Mahdi Zaree, Jamil Ahmad, Faisal Alanazi, Noor Ul Amin, Arif Iqbal Umar, Ali Imran Jehangiri, and Muhammad Adnan. (2021). Negotiation Based Combinatorial Double Auction Mechanism in Cloud Computing. *CMC-Computers, Materials & Continua*, 69(2), 2123–2140. https://doi.org/10.32604/cmc.2021.015445 (Impact Factor 2.9, Q2)	**Published 2021**
9.	Syed, Sidra A., Munaf Rashid, Samreen Hussain, Fahad Azim, Hira Zahid, Asif Umer, Abdul Waheed, Mahdi Zareei, and Cesar Vargas-Rosales. 2022. "QoS Aware and Fault Tolerance Based Software-Defined Vehicular Networks Using Cloud-Fog Computing" *Sensors 22*, no. 1: 401. https://doi.org/10.3390/s22010401 (Imact Factor 3.8, Q1)	**Published 2022**
10.	Muhammad Khan, Ali Imran Jehangiri, Zulfiqar Ahmad, Mohammed Alaa Ala'anzy, Asif Umer "An exploration to graphics processing unit spot price prediction." Cluster Computing-3499-3515-2022 https://doi.org/10.1007/s10586-022-03581-8 (Imact Factor 3.5, Q1)	**Published 2022**
11.	Hira Zahid, Sidra Abid Syed, Munaf Rashid, Samreen Hussain, Asif Umer, Abdul Waheed, Shahzad Nasim, Mahdi Zareei, Nafees Mansoor "A Computer Vision-Based System for Recognition and Classification of Urdu Sign Language Dataset for Differently Abled People Using Artificial Intelligence" Mobile Information Systems-2023 https://doi.org/10.1155/2023/1060135 (Imact Factor 1.01, Q3)	**Published 2023**
12.	Ahmad, Imtiaz, Muhammad Adnan, Noor ul Amin, Asif Umer, Adnan Khurshid, Khursheed Aurangzeb, and Muhammad Gulistan. "Adaptive and Priority-Based Data Aggregation and Scheduling Model for Wireless Sensor Network." Knowledge-Based Systems 303 (2024): 112393. https://doi.org/10.1016/j.knosys.2024.112393 (Imact Factor 7.2, Q1)	**Published 2024**
13.	Noor, Allah, Asif Umer, A. I. Umar, Zulfiqar Ahmad, and Mohsin Khan. "Usability evaluation of brain-computer interaction (BCI), based game for normal users." Int. J. Comput. Sci. Netw. Secur 18, no. 6 (2018): 168-175.	**2018**
14.	Alam, A., Umer, A., Ullah, I., & Alsayat, A. (2026). AI-enabled cybersecurity framework for future 5G wireless infrastructures. Scientific Reports. Q1 Journal	**2026**

Total: 14 peer-reviewed journal publications (majority Q1)

Google Scholar Profile
https://scholar.google.com/citations?hl=en&user=ko4RvPsAAAAJ&view_op=list_works&sortby=pubdate

MSCS Thesis Title: "Adaptive market-oriented combinatorial double auction resource allocation model in cloud computing"

PhD Computer Science Thesis Title: "Multi- Objective Task-Aware Offloading and Scheduling Framework for Internet of Things Logistics"

Academic Appointments

Lecturer (Full-Time, Regular)

Hazara University, Pakistan | *2017 – Present*

- Delivered **15+ undergraduate and graduate courses** in Computer Science and Software Engineering with strong emphasis on applied research.
- **Supervised 25+ undergraduate and postgraduate research projects**, multiple resulting in **journal publications and conference papers**.
- Designed and executed **simulation-driven research experiments** using **CloudSim, iFogSim2, and OMNeT++**.
- Initiated **real-world IoT deployments**, including a **live university bus tracking system**, formally recognized by **provincial government leadership**.
- Contributed to **curriculum design, academic planning, and accreditation compliance**.
- Served on **research review, academic audit, and student advisory committees**.
- Mentored junior faculty and organized **research seminars and technical workshops** to strengthen departmental research output.

Lecturer (Contract)

COMSATS University Islamabad | *2016 – 2017*

- Taught core undergraduate and graduate Computer Science courses.
- Supervised early-stage research projects, several progressed to **publishable studies**.
- Supported departmental research coordination and academic operations.

Industry Experience

Software Developer (Contract)
MAG & Associates Software Ltd., Islamabad | *2013 – 2014*

- Developed **web-based applications** using **JavaScript, HTML/CSS**, and modular UI components.
- Collaborated in **agile development teams**, contributing to sprint planning, debugging, and performance optimization.
- Built **reusable front-end modules**, improving maintainability and development efficiency.
- Used **Git and Jira** for version control and project management.

Technical Skills

- Programming: Java, C++, JavaScript
- Distributed & Simulation Tools: CloudSim, iFogSim2, OMNeT++
- Research & Analysis: MATLAB, LaTeX
- Databases: MySQL, Oracle, SQL Server
- Systems: Linux, Windows

Teaching Experience (Selected)

- Cloud Computing (Graduate)
- Internet of Things (Graduate)
- Distributed Systems
- Data Structures & Algorithms
- Programming Fundamentals & OOP

Professional Service & Honors

- Organizer, International Conference on Frontiers of Information Technology (FIT-14, FIT-15)
- HEC-Approved Scholar, Pakistan
- Trainer, Digital Media Marketing Workshop
- Academic service in conference organization and student mentoring

References

Available upon request