Qasim Zia

Atlanta, GA | 404-532-9684 | qzia1@student.gsu.edu | https://www.linkedin.com/in/qasimzia/ | https://qasimziaphd.github.io/

RESEARCH INTERESTS

Artificial Intelligence | Machine Learning | Data Science | Software Engineering | Vehicular Ad hoc Networks | Digital Twin Networks | User Privacy

EDUCATION

Ph.D. - Computer Science   May 2027
Georgia State University   Atlanta, GA
- GPA: 3.85/4.0
- Graduate Research and Teaching Assistant recipient
- USPKC Scholarship recipient

Relevant coursework: Artificial Intelligence | Fundamentals of Data Science

Master of Science – Computer Science   December 2024
Georgia State University   Atlanta, GA
- GPA: 3.90/4.0
- Graduate Research and Teaching Assistant recipient
- USPKC Scholarship recipient

Relevant coursework: Approximation Algorithms | Advanced Database Systems | Advanced Machine Learning | Secure and Private AI | Adv Human Computer Inter | Privacy-Aware Computing

CERTIFICATIONS

Computer Graphic Design from the National College of Arts, Lahore

Technical Course Track Freelancing from e-Rozgaar Program

Capacity Building Program from Punjab Higher Education Commission at Qasim Ali Shah Foundation

Huawei Certification HCIA (Security) Certificate No. 010100301808038654483671

Huawei Certification HCIP (Routing and Switching) Certificate No. 010200010380804265530223

Huawei Certification HCIA (A.I.) Certificate No. 010102000162380804297543277

SKILLS

- **HTML & CSS**
- **C**
- **C++**
- **JAVA**
- **Microsoft Visio**
- **Rational Rose**
- **Assembly Language**
- **JavaScript**
- **Servlet & JSP**
- **Java Enterprise Programming**
- **System Programming**
- **Linux**

• **Photoshop**	• **SQL**	• **Ruby on Rails**	• **Packet Tracer**
• **Oracle**	• **C#**	• **Matlab**	• **NS2 & NS3**
• **SIMCA**	• **Weka**	• **WordPress**	• **CANVA**
• **WIX**	• **MS Office**	• **Python**	• **Big Query**

PROJECTS

Design High and Low-Level Architecture of **Retail Management Systems**

Brick Game by using object-oriented programming in **C++**

Messenger Development using Internet Programming

RIP and Other Networking Protocols Simulation in **Packet Tracer**

Implement **DES** in C++

Implement the fundamental functionality of **Oracle Database**

Pharmacy System by using desktop and web programming in **JAVA**

Linux kernel programming, removing a Debian bug

Watermarking insertion in an Image through programming using MATLAB

WSN Thesis (Data-centric protocols in WSN)

Simulation of different **Benchmarks** on **Simulators**

LISP and **Prolog** programming for Sorting

Implement diverse **Data-Centric** protocols in **NS2**

Implement **AODV** and **VANET Priority Protocol** in **NS2**

Research Project on **PHP** and **.NET**

Final Project of Retail Management System in **C#.NET**

MS(SE) Thesis title: **" Improving Response Time and Security of Vehicular Ad hoc NETworks (VANET)"**

Approximation Algorithm Project of "**Comparison of Greedy Node Deletion and DFS Backtracking vs. Bron-Kerbosch without pivots and Greedy Color.**"

Advanced Machine Learning Project of "**Rocket League Predictor"** to determine which team will score within the next ten seconds

Database Project of **"Comparison of MySQL and Big Query"** using Advanced Database Concepts(Indexing, Clustering, Query Evaluation)

Secure and Private AI Project compares techniques for privacy-preserving machine learning: **"Federated Learning, Split Learning, Differential Privacy, PATE, SplitFed Learning(SFL), Envasion Attacks, Poisoning Attacks, Extraction Attacks."**

Human-Computer Interaction Project of **"Online Tutorial Website Interface Redesign"** using Advanced HCI concepts

Privacy-Aware Computing Projects: **"Seed-based De-anonymization and Seed-free De-Anonymization,"** **"Membership Inference Attack,"** and **"A method (algorithm) to realize privacy-utility tradeoff in data publishing."**

Data Science Project of **"Income Prediction Analysis"** on the UCI Adult Dataset.

DISTINCTIONS, HONORS, AND AWARDS

- Recognized as a Fellow of the Computer Science Research Council(FCSRC), Global Journals, **Open Association of Research Society(USA)**

- **Graduate Teaching Assistant (GTA)** at **Georgia State University**

- Ph.D. Funding as a **Graduate Student Research Assistant(GRA)** for 5 Years under the "**US Pakistan Knowledge Corridor**"

PUBLICATIONS

PUBLIC PROFILE

Google Scholar: https://scholar.google.com/citations?user=IOTa9CUAAAAJ&hl=en&oi=ao

ResearchGate: https://www.researchgate.net/profile/Qasim-Zia

SSRN: https://ssrn.com/author=2356560

INTERNATIONAL JOURNAL PUBLICATION

Zia, Q. (2015). A survey of data-centric protocols for wireless sensor networks. *Computer Science Systems Biology, OMICS Publishing Group*, *8*(3), 127-131.
http://dx.doi.org/10.4172/jcsb.1000180

Zia, Q. (2015). Metrics for quality assurance of web-based applications. *Global Journal of Computer Science and Technology: E-Network, Web & Security*, *15*(7).
http://computerresearch.org/index.php/computer/article/download/1312/1299

Zhang, W., Yin, G., Dong, Y., Chen, F., & **Zia, Q.** (2023). DPTP-LICD: A differential privacy trajectory protection method based on latent interest community detection. *High-Confidence Computing*, *3*(2), 100134. **Impact Factor: 3.0**
https://www.sciencedirect.com/science/article/pii/S2667295223000326

Zhang, W., Xie, Z., Sai, A. M. V. V., **Zia, Q.**, He, Z., & Yin, G. (2023). A Local Differential Privacy Trajectory Protection Method Based on Temporal and Spatial Restrictions for Staying Detection. *Tsinghua Science and Technology*, *29*(2), 617-633. **Impact Factor: 3.5**
https://ieeexplore.ieee.org/abstract/document/10258267

Sun, X., Wang, Y., Duan, P., **Zia, Q.**, Wang, W., & Cai, Z. (2024). Bilateral Privacy Protection Scheme Based On Adaptive Location Generalization and Grouping Aggregation in Mobile Crowdsourcing. *IEEE Internet of Things Journal*. **Impact Factor: 8.9**
https://ieeexplore.ieee.org/abstract/document/10413995

Zia, Q., Wang, C., Zhu, S., & Li, Y. (2024). Priority-based inter-twin communication in vehicular digital twin networks. *International Journal of Parallel, Emergent and Distributed Systems*, 1-16.
https://www.tandfonline.com/doi/full/10.1080/17445760.2024.2398082

Zhenfei, W., Ali, M.M., Sahibzada, K.I., Maqsood, F., Rehman, N.U., Aftab, M., **Zia, Q.**, Weiyan, H. and Wei, D.Q., 2024. Hybrid Feature Extraction for Breast Cancer Classification Using the Ensemble Residual VGG16 Deep Learning Model. *Bentham Science Publishers,20(2)*,149-163.
https://www.benthamdirect.com/content/journals/cbio/10.2174/0115748936333380240816053223

Iqbal, Z., Rahman, M. M., Mahmood, U., **Zia, Q.**, Fu, Z., Calhoun, V. D., & Plis, S. (2025). Explainable Self-Supervised Dynamic Neuroimaging Using Time Reversal. Brain Sciences, 15(1), 60.
https://www.mdpi.com/2076-3425/15/1/60

Zia, Q., Zhu, S., Wang, H., Iqbal, Z. & Li, Y. (2025). Optimized Real-Time Decision Making with EfficientNet in Digital Twin-Based Vehicular Ad NETwork. Electronics MDPI.
https://www.mdpi.com/2079-9292/14/6/1084

Zia, Q., Zhu, S., Wang, H., Iqbal, Z. & Li, Y. (2025). Hierarchical Federated Transfer Learning in Digital Twin-Based Vehicular Networks.*High Confidence Computing*. **Impact Factor: 3.0**
https://www.sciencedirect.com/science/article/pii/S2667295225000078

Iqbal, Z., Rahman, M., **Zia, Q.**, Popov, P., Fu, Z., Calhoun, V.D., and Plis, S., 2025. Interpretable Disorder Signatures: Probing Neural Latent Spaces for Schizophrenia, Alzheimer's, and Autism Stratification. Brain Sciences, 15(9), 954.
https://www.mdpi.com/2076-3425/15/9/954

CONFERENCE PUBLICATIONS

Zia, Q., Farooq, M. S., & Abid, A. (2016). Improving Response Time of Vehicular Ad hoc NETworks (VANET).
https://admin.umt.edu.pk/Media/Site/icic/FileManager/Proceedings/Papers/ICIC_2016_paper_8.pdf

Zia, Q., Jan, A., Iqbal, Z., Ali, M.M., Ali, M., & Patterson, M. (2025, January). EfficientNet in Digital Twin-based Cardiac Arrest Prediction and Analysis. In *International Conference on Computational Advances in Bio and Medical Sciences*. Cham: Springer Nature Switzerland.
https://arxiv.org/pdf/2509.07388

Jan, A., **Zia, Q.**, & Patterson, M. (2025, January). Enhancing Privacy Preservation and Reducing Analysis Time with Federated Transfer Learning in Digital Twins-based Computed Tomography (CT) Scan Analysis. In International Conference on Computational Advances in Bio and Medical Sciences. Cham: Springer Nature Switzerland.
https://arxiv.org/pdf/2509.08018?

SUBMITTED PAPERS

Zia, Q., Ali, M.M. A Taxonomy-Driven Meta-Analysis of Machine Learning-Based Solutions for Malware Detection in Internet of Things Environments: A Comparative Analysis and an Open Research Roadmap. Computer Networks

Zia, Q., Ali, M.M., Jan, N., Khan, H. In-Storage Computing: A Survey of Architectures and Applications in Cloud, Edge, and IoT Systems. Wireless Personal Communications

PROFESSIONAL SERVICES

REVIEWERS OF JOURNALS

Journal of Computer Science, Science Publications, Journal of Artificial Intelligence, Scientific Federation

TEACHING EXPERIENCE

UNDERGRADUATE LEVEL COURSES

Software Engineering

Computer Communications and Networking

Network Security

Data Mining

Computer Programming

GRADUATE LEVEL COURSES

Advanced Theory of Computation

RESEARCH/PROJECT SUPERVISION

BS PROJECT SUPERVISION

Online Vehicle Management Systems

Web Portal of Global

Online School Management System

Online Web Shopping Store

You Link

WORK EXPERIENCE

Georgia State University | Teaching Assistant   **Aug 2023 – April 2025**
- Design taught and assessed labs of **System Level Programming**   Atlanta, GA
- Preparation and Grading of Labs and Exams in **Software Engineering**
- Preparation and Grading of Assignments and Exams of **Fundamentals of CyberSecurity**
- Preparation and Grading of Assignments and Exams of **Principles of Computer Science I**

Higher Education Department | Assistant Professor   **Dec 2017 – Dec 2021**
- Develop appropriate assessments and examine projects   Lahore, Punjab
- Providing support and guidance on academic issues
- Delivering lectures and tutorials
- Conducting Research
- Developing Curriculum and Course Materials
- Participating in Academic and Administrative Activities

Government College Township | Website In-Charge   **Jan 2018 – Dec 2021**
- Planning, managing, and monitoring the college website.   Lahore, Punjab
- Identifying and responding to all website security breaches.
- Updating HTML, CSS, and JavaScript regularly.
- Conducting content audits to eliminate redundant and duplicate information.
- Creating appropriate website content aligned with the college strategy.
- Ensuring website quality and efficiency by conducting regular test plans.
- Collaborating with all staff and management to ensure the website has updated information.
- Keep up-to-date with HEC best practices and monitor other college websites**.**

Superior University | Lecturer   **Jan 2017 – Nov 2017**
- Develop appropriate assessments and examine projects   Lahore, Punjab
- Providing support and guidance on academic issues
- Delivering lectures and tutorials
- Conducting Research
- Developing Curriculum and Course Materials
- Participating in Academic and Administrative Activities

Virtual Force | Software Engineer   Lahore, Punjab
- Develop and Execute Project Plans
- Manage and execute the software development life cycle
- Write well-designed and testable code
- Apply best practices and standard operating procedures
- Create innovative solutions to meet technical needs