DR. YASIR AZIZ

Ph.D. in Electrical & Computer Engineering | Permanent Assistant Professor (BPS-19) | Senior IT Consultant

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EXECUTIVE SUMMARY

Accomplished Computer Engineer, Researcher, and IT Consultant with over 16 years of combined academic and industry experience, including nearly 14 years of continuous university teaching as a permanent Assistant Professor at Bahauddin Zakariya University (BZU), Multan. Author of a novel, distance-free nearest-neighbor search algorithm published in Pattern Recognition (Elsevier, Impact Factor 8.1). Author of 18 peer-reviewed publications spanning Machine Learning for medical diagnosis (cancer, arrhythmia, food allergy), Cybersecurity (intrusion detection, Android malware, cloud defense), and Computer Vision. Proven enterprise software architect with extensive hands-on experience designing international GPS fleet management systems, hospital information systems (HIS), and multi-city diagnostic IT infrastructures.

CORE COMPETENCIES & TECHNICAL SKILLS

AI, ML & Pattern Recognition	Nearest-Neighbor Algorithms, Pattern Recognition, Deep Learning (CNNs, GCNs, LSTMs, FNN/DNN), Feature Selection (Swarm Intelligence, ACO), Medical Informatics
Software Engineering & OOP	C#, VB.NET, Java, PHP, Verilog HDL, Object-Oriented Programming, Data Structures & Algorithms, REST APIs, Google Maps API Integration
Databases & Architecture	SQL Server 2005/2008/2019, MySQL, Relational Database Modeling, Query Optimization, Automated Disaster Recovery & Online Backups
Cybersecurity & Infrastructure	Intrusion Detection Systems (IDS), Android Malware Analysis, IoT & Cloud Security, ISA Server & DNS Admin, Cisco Routing & Subnetting, Security Cameras
Domain Expertise & IT Consulting	Hospital Information Systems (HIS), GPS/GSM Telematics & Fleet Tracking, Multi-City Diagnostic Networks, EMR & Auditing Systems (GRN/GIN)

ACADEMIC & UNIVERSITY TEACHING EXPERIENCE

Assistant Professor (Permanent, BPS-19) — Department of Computer Engineering, Bahauddin Zakariya University (BZU), Multan, Pakistan

January 2013 – Present | Nearly 14 Years Continuous Academic Service

- **Pedagogical Leadership:** Deliver core undergraduate and graduate courses including Advanced Computer Architecture, Programming Fundamentals, Object-Oriented Programming, and Data Structures & Algorithms in the Department of Computer Engineering.
- **Departmental Teaching:** Instruct programming and computing courses across the Department of Electrical Engineering and inter-disciplinary faculties.
- **Research Supervision:** Direct active research initiatives supervising graduate students across machine learning for biomedical diagnosis (cancer, arrhythmia, food allergies) and cybersecurity (IoT defense, Android malware).

- **Curriculum Development:** Designed research-oriented laboratory modules bridging theoretical Computer Science fundamentals with modern software engineering practices.

INDUSTRY & CONSULTANCY LEADERSHIP

Senior IT & Software Consultant — Healthcare & Diagnostic Organizations / Freelance

2013 – Present

- **Multi-City Diagnostic Network Strategy:** Provide IT and software consultancy to Al-Khidmat Organization Diagnostics Department across 6 cities, optimizing diagnostic data integrity and system scalability.
- **Hospital Information Systems (HIS):** Advise executive leadership at Bakhtawar Amin Memorial Trust Hospital on healthcare software architecture, relational database management, and IT infrastructure.
- **Global Independent Consulting:** Deliver bespoke web and desktop application development, UI design, database administration, network engineering, and SEO optimization for international clients.

IT Manager — Bakhtawar Amin Memorial Trust Hospital, Multan

October 2011 – December 2013

- **Healthcare Enterprise Architecture:** Designed and implemented an end-to-end Tuberculosis Management System using C# and SQL Server 2008.
- **Module Integration:** Integrated Employee Referral System with Accounts module; developed centralized Hepatitis Patients Module integrated with Doctors Module.
- **Operational Auditing & Financial Reporting:** Built comprehensive financial and operational reporting tools: OPD/IPD reports, monthly income/expenditure, GRN/GIN issuance, employee share reports, and department-wise inventory reports.
- **Web & Infrastructure Administration:** Developed and maintained international hospital portal (PHP/MySQL); configured ISA security and DNS servers; established automated SQL Server online backup architecture.
- **Network Security & Operational Efficiency:** Introduced network security-camera recording infrastructure; optimized system operations to reduce printer overhead; positioned hospital as a research partner for international NGOs.

Software Engineer — DEVMET Technologies, Lahore & Multan

January 2010 – October 2011

- **Global GPS Telematics Platform:** Individually engineered an enterprise vehicle tracking platform (C#, SQL Server 2008) deployed internationally for real-time fleet telematics.
- **Location Engine Development:** Engineered a global Location Engine leveraging Google Maps API, C#, and SQL Server for global device location and proximity search (desktop & web versions).
- **Fleet Management Reporting Suite:** Built registration, driver, vehicle activity history, mileage, geo-fencing alert, and user log auditing systems.
- **Enterprise Software & Mobile Development:** Developed Inventory, Hospital, and Departmental Store Management Systems (VB.NET, SQL Server 2005) and JABWT mobile applications using Java Bluetooth Wireless Technology.
- **Network Infrastructure Engineering:** Configured 100-workstation network utilizing Cisco routers, subnetting, super-netting, and Verilog HDL electric-valve opening control systems.

EDUCATION & QUALIFICATIONS

Ph.D. in Electrical/Computer Engineering — Islamia University of Bahawalpur (IUB), Pakistan

2019 – 2024

Dissertation: Geometrical Extraction of Nearest Neighbors from Multi-Dimensional Data.
Key Accomplishment: Proposed a novel algorithm identifying nearest neighbors in multi-dimensional datasets without distance calculations. Published in Pattern Recognition (Elsevier, Impact Factor 8.1).

M.S. in Computer Engineering — University of Engineering and Technology (UET), Lahore, Pakistan

2010 – 2014

Thesis: Design and Implementation of a Vigilant Tracking Management System using GPS and GSM Modules (C# / SQL Server 2008). Published in IEEEP New Horizons.

B.Sc. in Computer Systems Engineering — Multan, Pakistan

2005 – 2010

Capstone Project (Project Leader): Design and Implementation of Content Management System for Micro Devices using Java Bluetooth Wireless Technology (JABWT, JSR-77/JSR-82).

FLAGSHIP RESEARCH ACHIEVEMENT

FLAGSHIP PUBLICATION (IMPACT FACTOR: 8.1):
Yasir Aziz & K. H. Memon (2023). "Fast Geometrical Extraction of Nearest Neighbors from Multi-Dimensional Data." ***Pattern Recognition*** (Elsevier), Vol. 136, Article 109183. **[Impact Factor 8.1 | Top-Tier Journal in AI & Pattern Recognition]**

COMPLETE PEER-REVIEWED PUBLICATIONS (18 TOTAL)

Research Metrics: 18 Publications (17 Journal Articles, 1 Elsevier Book Chapter) | 77 Citations | h-index: 5 | Impact Factor: 8.1

• Book Chapter

1. S. Ashraf, F. Memon, F. Akram, T. A. Siddique, **Y. Aziz**. "Modeling wireless sensors network using shrewd neural networks." In *Blockchain and Digital Twin for Smart Healthcare*, Elsevier, 2025, pp. 373–393.

• 2026 Journal Articles

2. Z. Ahmad, **Y. Aziz**. "Integrating Median Filtering with Deep Pattern Recognition Models for Improved Breast Ultrasound Cancer Detection." *Journal of Computing & Biomedical Informatics*, Vol. 12(1), 2026.

• 2025 Journal Articles

3. M. Rafiq, M. Yousaf, **Y. Aziz**, M. Fuzail, A. Naeem, N. Aslam. "Sentiment Analysis of Customer Feedback on Online Platform Using Deep Learning." *Kashf Journal of Multidisciplinary Research*, Vol. 2(6), pp. 240–254.

4. Z. Ahmad, A. Farooq, M. Fuzail, **Y. Aziz**, N. Aslam. "Food Allergy Detection Using Machine Learning Approach." *Kashf Journal of Multidisciplinary Research*, Vol. 2(4), pp. 116–127.

5. A. M. Ahmad, N. Aslam, M. K. Abid, **Y. Aziz**, M. Fuzail, N. Umer, T. F. Khan. "Strengthening IoT Security with Machine Learning-Based Anomaly Detection and Adaptive Defense Mechanisms." *Kashf Journal of Multidisciplinary Research*, Vol. 2(3), pp. 74–88.

6. M. Aslam, A. Naeem, A. Sarfraz, M. K. Abid, **Y. Aziz**, N. Aslam, M. Fuzail. "AMalLSTM: Android Malware Detection Using LSTM." *Kashf Journal of Multidisciplinary Research*, Vol. 2(3), pp. 61–73.

7. M. A. Ayub, A. Naeem, M. K. Abid, **Y. Aziz**, N. Aslam, M. Fuzail. "Hybrid Approach for Intrusion Detection Using Machine Learning." *Kashf Journal of Multidisciplinary Research*, Vol. 2(3), pp. 33–45.

8. Tanzeel-Ur-Rehman, N. Aslam, M. Baqer, M. K. Abid, **Y. Aziz***, M. Fuzail. "Intelligent Intrusion Detection for Enhanced Security in Cloud Computing." *Kashf Journal of Multidisciplinary Research*, Vol. 2(3), pp. 22–32.

9. B. Hakeem, M. K. Abid, M. Baqer, **Y. Aziz**, N. Aslam, N. Umer. "Hybrid Approaches in Machine Learning: Integrating Ant Colony Optimization for Improved Lung Cancer Detection." *Kashf Journal of Multidisciplinary Research*, Vol. 2(2), pp. 177–189.

10. D. Ali, M. K. Abid, M. Baqer, **Y. Aziz**, N. Aslam, N. Umer. "Improving the Explainability and Transparency of Deep Learning Models in Intrusion Detection Systems." *Kashf Journal of Multidisciplinary Research*, Vol. 2(2), pp. 149–164.

11. K. Manzoor, M. K. Abid, M. Fuzail, **Y. Aziz**, N. Aslam, N. Umer. "Swarm Intelligence-Based Feature Selection for Skin Cancer Data Analysis Using Convolutional Neural Networks." *Kashf Journal of Multidisciplinary Research*, Vol. 2(2), pp. 133–148.

- **2024 Journal Articles**

12. R. Islam, M. K. Abid, **Y. Aziz**, A. Naeem, N. Aslam. "Hybrid FNN-DNN Approach for Early Detection of Cardiac Arrhythmia: A Novel Framework for Enhanced Diagnosis." *VAWKUM Transactions on Computer Sciences*, Vol. 12(1), pp. 48–64.

13. S. Batool, M. K. Abid, M. A. Salahuddin, **Y. Aziz**, A. Naeem, N. Aslam. "Integrating IoT and Machine Learning to Provide Intelligent Security in Smart Homes." *Journal of Computing & Biomedical Informatics*, Vol. 7(1), pp. 224–238.

14. S. H. Zaidi, M. Fuzail, A. Raza, **Y. Aziz**, M. K. Abid, N. Aslam. "A Deep Learning Framework Based on GCN Model for Android Malware Detection." *Journal of Computing & Biomedical Informatics*, Vol. 7(1), pp. 484–500.

- **2023 Flagship Article**

15. Y. Aziz, K. H. Memon. "Fast Geometrical Extraction of Nearest Neighbors from Multi-Dimensional Data." *Pattern Recognition* (Elsevier), Vol. 136, Article 109183, 2023. [Impact Factor: 8.1]

- **2014–2017 Early Publications**

16. Y. Aziz, T. Aziz, M. I. Malik, M. K. Baig, M. Z. Ali, M. Baqer. "Non-Functional Requirements in Agile Software Development." *University of Engineering and Technology Taxila Technical Journal*, Vol. 22(1), 2017, p. 107.

17. Y. Aziz, T. Aziz, M. I. Malik. "Data Mining in Healthcare Management." *International Journal of Research in Engineering, IT and Social Sciences*, Vol. 6(5), 2016, pp. 21–25.

18. Y. Aziz. "Vigilant Tracking Management System." *IEEEP New Horizons*, No. 83, September 2014.

PERSONAL PROFILE & PROFESSIONAL CREDENTIALS

- PEC Registration: Registered Computer Engineer, Pakistan Engineering Council (PEC Reg No: COMP/7194)
- Father's Name: Malik Abdul Aziz Javed
- Date of Birth: 27 May 1987
- Domicile: Multan, Punjab, Pakistan
- Nationality: Pakistani
- References: Available upon request