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Fiza Siyal

Date of birth: 01/12/1981 | **Place of birth:** Pakistan | **Nationality:** Pakistani | **Email address:**

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Address: Olastorpsvagen 17F, Lgh 1001, 29139, Kristianstad , Sweden (Home)

WORK EXPERIENCE

ASSISTANT PROFESSOR – QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE AND TECHNOLOGY (QUEST) –
01/01/2012 – Current – NAWABSHAH, PAKISTAN

LECTURER – QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE AND TECHNOLOGY (QUEST) – 01/01/2010 –
01/01/2012 – NAWABSHAH, PAKISTAN

EDUCATION AND TRAINING

15/01/2025 – 15/07/2025 Malmö, Sweden

DOCTOR OF PHILOSOPHY PHD (EXCHANGE PHD STUDENT) Malmö University Sweden

Website <https://mau.se/en/> | **Field of study** Distributed Ledger Technology and Blockchain for Supply Chain Traceability

01/11/2022 – CURRENT Rende , Italy

DOCTOR OF PHILOSOPHY PHD University of Calabria, Rende, Italy

Website <https://labs.dimes.unical.it/speme/people/> | **Field of study** Information and Communication Technologies |

Thesis Distributed Ledger Technology and Blockchain for Supply Chain Traceability

01/01/2009 – 01/01/2011 Jamshoro, Pakistan

MASTERS OF ENGINEERING Mehran university of Engineering and Technology

1. Advanced Operating Systems
2. Data Communication & Networks
3. Relational Database Management Systems
4. Visual Programming
5. Software Engineering

Field of study Information Technology | **Final grade** 3.93 (out of 4)

01/01/2001 – 31/01/2005 Jamshoro, Pakistan

BACHELORS OF ENGINEERING Mehran university of Engineering and Technology, Jamshoro, Pakistan

- Computer Communication & Networks
Operating Systems Design and Concepts
Database Management Systems
Management Information Systems
Visual Programming
Data Warehousing
Object Oriented Programming

Website <https://www.muet.edu.pk/> | **Field of study** Software Engineering | **Final grade** 3.25 out of 4

LANGUAGE SKILLS

Mother tongue(s): **SINDHI** | **SINDHI**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2
SWEDISH	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

PUBLICATIONS

2018

A Goal Model for Crowdsourced Software Engineering

Authors: Fiza Siyal, Xavier Franch | **Journal Name:** Proceedings of Eleventh International i* Workshop: (CEUR), vol. 2118, 2018, Tallin, Estonia

2023

Exploiting Bytecode Analysis for Re-entrancy Vulnerability Detection in Ethereum Smart Contracts

Authors: Usman Tahir, Fiza siyal, Michele Ianni and Antonella Guzzo, and Giancarlo Fortino | **Journal Name:** Intl Conf on Dependable, Autonomic and Secure Computing

2025

PRO-CHAIN: A Provenance Tracking Framework Leveraging Blockchain and PUF

Authors: Fiza Siyal, Fahed Alkhabbas, Antonella Guzzo, Domenico Sacca, Giancarlo Fortino | **Journal Name:** The 7th International Conference on Blockchain Computing and Applications (BCCA 2025) | **Publisher:** IEEEXplore, dblp and Scopus

2025

Towards a Blockchain-based Federated Learning Framework for Sustainable Supply Chain

Authors: Fiz Siyal, Fahed Alkhabbas, Sadi Alawadi, Antonella Guzzo, Giancarlo Fortino | **Journal Name:** The 3rd IEEE International Conference on Federated Learning Technologies and Applications (FLTA25) | **Publisher:** IEEEXplore

2025

Energy-Efficient Workload orchestration for 6G Vehicular Edge Computing

Authors: Nawaz Ali, Fiza Siyal, Gianluca Alois, Fahed Alkhabbas, Raffaele Gravina, Ali Hassan Sodhro | **Journal Name:** SecureEdge6G'2025 Workshop | **Publisher:** IEEEXplore

2025

Secure Supply Chain Provenance via PUF-Anchored NFTs and 6G Edge Networks

Authors: Fiza Siyal, Fahed Alkhabbas, Antonella Guzzo, Domenico Sacca, Giancarlo Fortino | **Journal Name:** IEEE Wireless Communications Magazine | **Publisher:** IEEE

2025

Blockchain for Sustainable Supply Chain Transparency: A comprehensive Review (Under Review)

Write here the description...

Authors: Fiza Siyal, Fahed Alkhabbas, Antonella Guzzo, Francesco Pasqua, Domenico Sacca | **Journal Name:** Cluster Computing Journal

2025

Detecting Ethereum Smart Contract Vulnerabilities via Bytecode Image Analysis (Under Review)

Authors: Giancarlo Fortino, Claudia Greco, Antonella Guzzo, Usman Tahir and Fiza Siyal | **Journal Name:** IEEE Internet of Things Journal | **Publisher:** IEEE

2025

Towards Opcode-Based Smart Contract Reentrancy Vulnerability Detection Using Explainable Deep Learning

● **NETWORKS AND MEMBERSHIPS**

Institute of Electrical and Electronics Engineers (IEEE)

Pakistan Engineering Council (PEC)

● **SOCIAL AND POLITICAL ACTIVITIES**

Quaid-e-Awam University of Engineering, Sciences, and Technology (QUEST), Pakistan

Advocacy for Women in STEM Education

Led campaigns to promote female participation in IT education, organizing seminars and mentorship programs for female students. Advocated for policy changes at the university level to include gender-sensitive IT curricula.

Quaid-e-Awam University of Engineering, Sciences, and Technology (QUEST), Pakistan

Cybersecurity Public Awareness Campaign

Initiated a campaign to educate communities on cybersecurity threats (e.g., phishing, data breaches), targeting women and youth. Developed workshops and materials on secure server practices and collaborated with local leaders to push for stronger data protection policies.

Pakistan Engineering Council (PEC) Election Campaign Coordinator

Coordinated a campaign for the PEC Governing Body Election (2015–20), promoting candidates advocating for inclusive engineering education policies, particularly for women in IT and engineering.

● **CONFERENCES AND SEMINARS**

The International Conference on Embedded Wireless Systems and Networks (EWSN 2023)

24/09/2024 – 24/09/2024 Online

Digital Twins in Action: From IoT Continuum to UAV Control Theory (IEEE Webinar University of Calabria Italy)

worked as an organizing member

14/10/2025 – 17/10/2025 Dubrovnik, Croatia

7th International Conference on Blockchain Computing and Applications (BCCA)

Attended as an Author and Online Session Chair.

14/10/2025 – 17/10/2025 Dubrovnik, Croatia

IEEE Federated Learning Technologies and Applications (FLTA 2025) Conference

Participated as an Author

09/06/2025 – 11/06/2025 Pizzo, Italy

Scientific School on Distributed Ledger Technologies

worked as an Organizing Committee member and participant.

12/06/2025 – 14/06/2025 Pizzo, Italy

7th Distributed Ledger Technologies Workshop

worked as an Organizing Committee member.

11th International i* Workshop: (CEUR), vol. 2118, 2018, Tallin, Estonia

1st National Conference on Trends and Innovations in Information Technology, 24-26 February 2016, Nawabshah, Pakistan

● **RECOMMENDATIONS**

Sadi Alawadi Research Collaborator

We have mutually collaborated on some research projects. For further information, Dr. Sadi Alawadi can be contacted at his email.

Email sadi.alawadi@bth.se | **Phone** (+46) 0455385880

Fahed Alkhabbas Exchange PhD Supervisor

Dr. Fahad Alkhabbas is supervising my PhD thesis during my exchange PhD visit in Malmo University. For further information he may kindly be contacted on his email.

Email fahed.alkhabbas@mau.se

Ali Hassan Sodhro Research Collaborator

We have mutually collaborated on some research projects. For further information, Dr. Ali Hassan can be contacted at his email.

Email ali.hassan_sodhro@hkr.se | **Phone** (+46) 0735347254

● **PROJECTS**

Blockchain and IoT Integration for Supply Chain Traceability

A research prototype and paper under development exploring the synergy of blockchain with IoT sensors for real-time, tamper-resistant traceability in supply chain logistics.

Detection of Counterfeit Products using Deep Learning

Experimental research leveraging adversarial machine learning to simulate and detect counterfeit logos and product features in the fashion and consumer goods sectors.

● **HOBBIES AND INTERESTS**

Open-Source Software Contribution

Community IT Outreach

Educational Content Creation

● **VOLUNTEERING**

12/06/2025 – 14/06/2025 Italy

Local organizer for workshop on Distributed Ledger Technologies

Organization: Local NGO or Community Center, Pakistan.

Role: Organized and led free workshops to teach basic IT skills, such as MS Office, Linux basics, and internet safety, to underprivileged students and adults. Developed hands-on exercises and provided one-on-one mentoring.

Mentor for IT Student Competitions

Organization: EEE PlugIn Project and Poster Competitions and C-CUBE annually organised by Quaid-e-Awam University of Engineering, Science and Technology (QUEST) Pakistan.

Role: Volunteered as a mentor for student teams preparing for coding, networking, or cybersecurity competitions. Guided students in projects involving server setup, network design, or Azure deployments.

● **POSTGRADUATE THESIS SUPERVISION**

Analytical Study of Knowledge Process Outsourcing of Pakistani Business Organizations

Program: MS in Software Technology (2017)

Summary: This study explored the emerging landscape of KPO (Knowledge Process Outsourcing) in Pakistan, examining its strategic role, challenges, and opportunities in business competitiveness. The research involved qualitative data collection from local firms and a comparative analysis with global outsourcing practices.

A Survey of Software Testing Techniques in Pakistan Software Industry

Program: MS in Information Technology (2016)

Summary: The thesis investigated the adoption of manual and automated software testing methods across IT firms in Pakistan. The research highlighted prevailing challenges in quality assurance and proposed recommendations for process improvement and tool integration.

Testing Usability and Interoperability of Educational Websites of Pakistan

Program: MS in Software Technology (2016)

Summary: This work evaluated a sample of government and private university websites for usability, accessibility, and cross-platform interoperability. It applied user-centered testing methods and generated a framework for improved e-learning interface design.

Evaluating Students' Perception of Google+ for Educational Purpose

Program: MS in Information Technology (2017)

Summary: The research assessed the effectiveness of Google+ as a collaborative learning tool in higher education. Through surveys and focus groups, the study measured usability, engagement, and learning outcomes associated with social media in education.

Bridging Communication Gap in Software Requirements Engineering Education

Program: MS in Software Technology

Summary: Focused on improving the teaching of requirements engineering, this research identified communication challenges between students and instructors and proposed pedagogical strategies to align academic training with industry expectations.

Comparison of Static Analysis Software Testing Tools

Program: MS in Information Technology

Summary: This project conducted a comparative evaluation of static code analysis tools based on criteria such as bug detection, integration, reporting, and ease of use. The findings were useful for academic and industrial quality assurance teams.

● UNDERGRADUATE THESIS PROJECTS SUPERVISED

Design and Implementation of a Secure Campus Wi-Fi Network.

Objective: To plan, simulate, and deploy a secure wireless infrastructure using WPA2 and VLAN segmentation

Surveying Developer Attitudes Toward Reusing Internal Code Libraries

Objective: Gather and statistically analyze developers' perceptions, usage frequency, and barriers related to internal code reuse through a structured survey.

Static-Analysis Comparison: Reused vs. Newly Written Modules

Objective: Compare static-analysis warning counts between a set of reused modules and an equal set of freshly written modules to assess whether reuse correlates with higher or lower code-quality issues.

Network Simulation and Traffic Analysis Using Cisco Packet Tracer

Objective: To simulate LAN/WAN architectures and evaluate performance under different traffic scenarios.

IoT-Based Smart Home Security System

Objective: To develop an IoT prototype integrating sensors, Raspberry Pi, and cloud services for home monitoring.

Implementation of VPN for a Small Enterprise

Objective: To design and configure a secure VPN setup (using OpenVPN) with encrypted tunnels for remote access.

- **SUBJECTS TAUGHT IN UNDERGRADUATE (BE SOFTWARE ENGINEERING)**

Information Security

Software Project Management

Operating Systems

Object Oriented Analysis and Design

Data Structures and Algorithms

Object Oriented Programming

Programming Languages include: C/C++, Java , Python

Software Testing and Quality Assurance

Enterpreneurship

Management Information systems

- **SUBJECTS TAUGHT IN POSTGRADUATE (MS SOFTWARE ENGINEERING)**

Advanced Software Engineering

Software Requirements Engineering

Network Design and Security

Cybersecurity Fundamentals

Software Testing

Software Security
