



Muhammad Rehan

| **Nationality:** Pakistani |

ABOUT ME

Experienced **Lead SQA Engineer** and **DevOps Specialist** with 8+ years in web development, software testing, automation, and cloud operations. Skilled in **Selenium, JUnit, TestNG**, and **OWASP ZAP** for testing, and proficient in **Azure DevOps, AWS, Docker**, and **Kubernetes** for DevOps practices. Expertise in **CI/CD pipeline development, Ansible and Terraform infrastructure automation**, and cloud-based solutions.

Currently pursuing a **PhD in Computer Science** at the **University of Palermo**, focusing on **Computer Vision** and **Blockchain** for infection control in high-risk hospital environments, blending healthcare innovation with tech expertise.

WORK EXPERIENCE

01/11/2024 – CURRENT Palermo, Italy

RESEARCH DOCTORATE UNIVERSITY OF PALERMO

Research Focus: Leveraging *Artificial Intelligence, Computer Vision, and Blockchain Technology* to track hygiene practices and access in high-risk hospital environments. Automated Hygiene Compliance in ICUs (Research Paper)

Key Technologies:

- AI-powered Computer Vision for real-time monitoring of hygiene practices.
- Blockchain for secure, immutable records of hygiene interventions and compliance.

Industry Relevance: Focus on the intersection of *healthcare, AI, and data security*, addressing key challenges in infection control.

01/03/2022 – 20/10/2024 Islamabad, Pakistan

LEAD SOFTWARE QUALITY ASSURANCE / DEVOPS ENGINEER NATIONAL AEROSPACE SCIENCE AND TECHNOLOGY PARK (PAF)

- Designing and implementing comprehensive testing strategies using tools such as Selenium, JUnit, and TestNG for automated testing, Owasp Zap/Burp for vulnerability assessment, Sonar Cube/MobSF for static code analysis and Katalon Studio/Robot Framework for test cases
- Unit testing, integration testing, black box, white box testing across CI/CD pipeline
- Managing Docker for building containers and Kubernetes for orchestrating and managing containers in production environments
- Building CI/CD pipelines with tools like Azure DevOps, Jenkins, or GitLab CI to automate software release
- Automating processes with tools such as PowerShell, Azure CLI, Ansible and Terraform
- Using Git to manage source code and configurations
- Scripting using (eg. bash, Java, Python)
- Cloud platforms resource utilization

01/12/2021 – 31/07/2022 Islamabad, Pakistan

DEVOPS ENGINEER MERIK SOLUTIONS

- Development, Testing, and Automation using Git for version control
- Continuous Integration: Jenkins, Gitlab Runner and Github Actions
- Configuration Management: Ansible and Puppet
- Containerization: Docker, Kubernetes
- Infrastructure as Code: Terraform, Azure DevOps
- Monitoring: Prometheus, Grafana, ELK Stack (Elasticsearch, Logstash, Kibana)
- Automation: Shell scripting (Bash), Python scripting
- Cloud Platforms: AWS, Azure
- Operating Systems: Linux (various distributions like Ubuntu, CentOS)

- Communication: Slack, Microsoft Teams, Zoom
- For Tickets: Trello, Jira
- Virtualization: VMware, VirtualBox

07/09/2021 – 28/02/2022 Islamabad, Pakistan

SENIOR LECTURER RIPHAIH INTERNATIONAL UNIVERSITY

- Designing and developing curriculum for courses
- Delivering lectures, seminars, and tutorials to undergraduate and/or postgraduate students
- Mentoring and supervising students on research projects, dissertations, and thesis
- Conducting original research in your field of specialization, contributing to the academic body of knowledge
- Publishing research findings in peer-reviewed journals, conference proceedings
- Applying for research grants and funding to support ongoing projects
- Serving on departmental and university committees related to curriculum development, assessment, or faculty governance
- Providing academic and career guidance to students, participating in student recruitment activities
- Assisting in the coordination and management of academic programs within the Faculty of Computing
- Building relationships with industry professionals and stakeholders to enhance student opportunities and partnerships
- Participating in outreach activities such as public lectures, workshops, or community events related to computing and technology

16/08/2016 – 31/08/2021 Islamabad, Pakistan

NATIONAL INFORMATION TECHNOLOGY COORDINATOR NORWEGIAN EMBASSY PROGRAM

- Technical support to the General Manager Program for proposal writing and documentation
- Development and maintenance of the official websites
- Capacity building of operational team working in the field
- Manage and maintain software and hardware (PC & Mac)
- Monitor system and network performance LAN, WAN and Firewall
- Maintain server response and backups
- Development and designing of Training Tools like brochures, Posters, Game Cards, and other digital content for social media campaigns, etc.
- Develop and design counseling web portal templates and digital content for awareness raising and sustainability.
- Implementation of IT policies and technical support to staff members
- Compilation of monthly reports and web analytics for IT audits
- Technical correspondence with the Norwegian embassy and other donors
- Firewall and proxy server installation against cyber attacks

15/07/2015 – 30/06/2016 San Jose, Canada

SOFTWARE ENGINEER SURFACE ART

- Remotely supervise a team of 5 members for web development projects
- Maintenance of MVC-based existing system and new updates
- Engineered modern applications with Java, JavaScript, SQL Server, and No SQL
- Built innovative microservices and Web Services (incl. REACT/REST/XML)
- Utilized Cloud Foundry for efficient building on top of Kubernetes
- Efficiently deployed and integrated software engineered by the team and updated integration/deployment scripts to improve continuous integration practices
- Web solutions using PHP, HTML5, CSS, .Net, jQuery, Ajax
- Worked on Laravel framework
- PCB designing and web fabrication

01/01/2015 – 30/06/2015 Multan, Pakistan

SOFTWARE ENGINEER SOFTUSION

- PSD to HTML conversion of themes
- Software deployment and data integration
- Search Engine Optimization and social media campaign
- Design Website Wireframes
- Hospital Management System development integration
- Marketing and product demonstration

- Capacity building of student interns to develop financial solutions using Ethereum
- Development support in Hyperledger Fabric framework
- Ethereum platform configuration and assessment
- Requirement analysis of newly funded projects and requirements gathering
- Proposal writing and domain analysis
- ERC token analyzer

● **EDUCATION AND TRAINING**

06/09/2017 – 10/02/2021 Islamabad, Pakistan

MASTER OF SCIENCE IN COMPUTER SCIENCE Air University

Website www.au.edu.pk

01/04/2011 – 31/01/2015 Islamabad, Pakistan

BACHELOR OF SCIENCE IN COMPUTER SCIENCE Air University

Website www.au.edu.pk

01/02/2020 – 10/02/2022 Islamabad, Pakistan

BLOCKCHAIN ESSENTIALS Presidential Initiative for Artificial Intelligence and Computing

Website www.piaic.org

01/05/2018 – 11/11/2018 Rawalpindi, Pakistan

ADVANCED 3D ANIMATION Aptech

Website www.aptech-education.com.pk

● **DIGITAL SKILLS**

Software Quality Assurance

Automation Test | OWASP Zed Attack Proxy | Proxy & Reverse Proxy | JIRA: working with Projects and Issues | Remote Communication tools: Skype, Teams, Meet, Discord, TeamSpeak | QA Tools: Bamboo, Jenkins, Hudson, Selenium, Appium, SonarQube, JUnit, TestNG.

DevOps

GIT version control, Linux Command | Azure, Azure DevOps, AWS | GitLab Runners | GitHub, GitHub Actions | Terraform / Ansible / Kubernetes / Docker / Jenkins | GitLab CI/CD - Continuous integration and continuous delivery

● **PUBLICATIONS**

2023

[Supply Chain Management Using an Industrial Internet of Things Hyperledger Fabric Network](#)

This research uses IBM Watson IoT as an Internet of Things (IoT) device for input temperature. The Kubernetes cluster is used as a platform for deploying Hyperledger Fabric. Docker Hub and Hyperledger Composer Playground provide business network connections for importers, suppliers, retailers, manufacturers, and consumers/end-users.

M.R, A.R.J, N.K, 2023, Supply Chain Management Using an IIOT Hyperledger Fabric, hcisj Journal

● **COMMUNICATION AND INTERPERSONAL SKILLS**

Client Interaction

- Proven experience of client interaction and satisfaction from kick start meeting to product delivery
- Professional communication skills include product analysis, product demonstration and quality analysis