

**MUHAMMAD RAHIL RAFIQ**  
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## SUMMARY

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- 8+ years of experience in ICT (managed services) projects, with hands on experience on vendor-neutral and vendor specific technologies
  - Prepared proposals, technical memorandums, reports, policies, procedure and guidelines related to the scope of the projects and business requirements
  - Assisted in identifying and handling projects risks, and escalating them to higher management, if needed
  - Authored research papers/articles to be published in high impact ISI indexed journals
  - Part of the High Powered Steering Committee which include the Vice Rectors, Dean of Faculty, Dean of Scientific Research for hiring of Top Highly Cited Researchers
  - Functioned in team lead role for hiring 30+ highly cited faculty (based on H-Index, Citations etc.) from top 100 universities worldwide for sponsors (Saudi Aramco, SABIC, GE and Bugshan Bell)
  - Oversaw procurement of laboratory equipment
  - Managed and configured Information Systems, product updates, and upgrades
  - Trained students for project related tasks and activities
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## EDUCATION

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**King Fahd University of Petroleum and Minerals (KFUPM)** Dhahran, Saudi Arabia

- Master of Science (Computer Networks), 2010

**Sir Syed University of Engineering & Technology (SSUET)** Karachi, Pakistan

- Bachelor of Science, Computer Engineering, 2006

**Saudi Arabian International School** Al-Khobar, Saudi Arabia

- Higher Secondary School, Pre Engineering, 2001
  - Secondary School, Science, 1999
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## SKILL SET

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Data Analytics, Data Mining, Machine Learning, RF Radiation Measurement, Quality of Service, Questionnaire Design, Project Coordination

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## PROFESSIONAL EXPERIENCE

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**King Fahd University of Petroleum & Minerals** Dhahran, Saudi Arabia  
Center for Communications & IT Research, Research Institute Nov 2010 - Present  
*Engineer I*

Participated in following funded projects worth SAR 20.8 million by Communications and Information Technology Commission (CITC), which is ICT regulator in the Kingdom of Saudi Arabia.

### **1. Cloud Computing Facility at KFUPM**

- Prepared Request for Proposal (RFP) for Cloud Computing Product overview and architecture with KFUPM Team
- Evaluated the bids with KFUPM Tenders Committee for the selection of KFUPM Cloud Implementation. Fujitsu was chosen as the best vendor to fulfill all the technical needs (SAR 2.3 Million)
- Worked with Fujitsu Team to configure portal of Resource Orchestrator, functions of Self Service Portal, tasks of Infrastructure Administrators, tasks of tenant administrators, tasks of tenant users, RAID, Migration, Thin Provisioning, Local Copies and Snapshots etc.
- Designed the processes and workflow for the Cloud Computing portal for resource allocation and billing
- Coordinated the logistics related to administrative and management work with the help of the Project Manager
- Provisioned resources i.e. allocation of VMs, Memory and storage for projects, faculty and students

### **2. ICT Market Study**

- Assessed the current CITC practices and principles used in data collection, management, analysis and reporting, and to perform a benchmarking study.
- Developed sampling strategy, data management techniques, and questionnaire.
- Provided internal and external stakeholders of CITC with unbiased, accurate and reliable data and information about the ICT ecosystem of the Kingdom.
- Assessed the suitability of available questionnaires, data management methods and tools, and provide recommendations for improvement
- Designed and implemented Questionnaires for Individuals and establishments (Gov., Education and private sector)
- Performed data analytics on Survey data and provided critical insights
- Provided CITC with a set of high level recommendations that will impact ICT market development in the future
- Provided CITC with quantitative and qualitative analysis reports on the state of market development within the Saudi Arabian ICT ecosystem for three consecutive years: 2014, 2015, and 2016
- Managed the surveyors' deployment and respondents for the Southern regions of KSA
- Conducted workshops for training students for the individuals, establishments' surveys in Marriott Riyadh and Effat University.

### **3. Field Measurement of Radio Frequency Radiation for Kingdom of Saudi Arabia – CITC**

- Worked as a team lead to measure the level of RF Radiation Emission from base stations to verify the CITC laid compliance according to the International standards (International Commission on Non-Ionizing Radiological Protection (ICNIRP)) within the Kingdom
- Configured and executed setup profiles and measurement routines for all telecom related spectrum bandwidth
- Configured Narrow Band Measurement – Frequency Selection Radiation Meter (NARDA - SRM 3000) with Anisotropic Antenna (75 MHz- 3 GHz)
- Estimated resource, effort, time duration and cost/budget requirements and developed the complete schedule of batch wise site visits
- Developed the complete schedule of batch wise site visits
- Prepared pre-visit report and site visit report and performed quality audits before the final delivery of each site report
- Supervised and test the online system to host and collect data for RF project to ease the job of site report development
- Authored a research article about the “Assessment of Broadband RF Radiations near Cellular Base Stations Areas in Southern and Eastern Regions of Saudi Arabia”
- Conducted training workshops for students training titled “RF Radiation Measurement Workshop and Training on NARDA Selective Radiation Meter (SRM)” on 25th April 2013
- Procured new equipment with additional features of LTE and 4G Spectrum Analyzer

#### 4. Mobile Network Testing – CITC

- Measured and assessed the performance of mobile networks and services in terms of quality of service (QoS) and quality of experience (QoE) Kingdom wide
- Attended one-week training workshop in Riyadh for the SwissQual Diversity Benchmarking II and QualiPoc Freerider II
- Developed procedures based on Service quality monitoring to assess the relative quality of various services using mean opinion score (MOS). Main KPIs include signal intensity, quality, interference and dropped/blocked calls
- Developed Laboratory for hosting the CITC Server for Benchmarking and Database
- Prepared RFP for hiring of Technical Staff that will be required for the project

**King Fahd University of Petroleum & Minerals**

*Research Assistant*

Dhahran, Saudi Arabia

Feb 2007–June 2010

- Collected, analyzed and summarized data to prepare materials for submission to granting agencies and foundations
- Co-authored articles for ISI indexed journals, reports, and presentations
- Assisted with writing codes and perform simulation instructed by PI. Also edited and prepared manuscripts (technical writing, plots, figures etc.)
- Prepared progress reports for the PI, funding agency and website material
- Attended project meetings and seminars as necessary
- Assisted with grading of student assignments.

- Part of the ABET committee to review and comply with computer engineering department degree/curriculum requirements
- Worked on research projects related to communication, network optimization, security and machine learning

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**MULTINET Pakistan Pvt. Ltd.**

Karachi, Pakistan

*Network Engineer*

Mar 2006–Jan 2007

- Administrated and configured Cisco 2600 routers for routing protocols and access lists etc. and Cisco switches 2950 for STP, VTP and VLAN's.
- Monitored network Outage and Speed Test activity through network management system (NMS) & MRTG.
- Administrated network environment which included Windows 2000/2003 Server with VPN, Terminal Service and Active Directory.
- Worked on ISA SERVER 2004 to work as Proxy Server, Firewall and for caching as well.
- Involved in gathering user requirements and preparing all the write-ups.
- Performed Backups, and upgrades of software (Antivirus, Firmware etc.)
- Coordinated with clients for the smooth implementation of network enhancements by maintaining close communication with different departments and IT teams.
- Resolved IT troubleshooting issues and assisted clients in setting up the configuration of emails (Outlook, Exchange, IMAP etc.) and VPNs.

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**COMMITTEE SERVICE (2012-Present)**

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**Steering Committee for Research Chair Professors**

Jan 2012 - Present

- Member of Steering Committee for Chaired Professors which comprises of the Vice Rector for Academic Affairs, Dean of Scientific Research and the Dean of Faculty & Personnel Affairs
- Functioned in team lead role for head-hunting of 30+ highly cited researchers (based on H-Index, Citations etc.) from top 50 universities worldwide for sponsors (Saudi Aramco, SABIC, GE and Bugshan Bell).
- Contributed as key team member to improve the QS World University Rankings of KFUPM (ranked 225th internationally and 1<sup>st</sup> in Arab Region)
- Designed a research intelligence based application for KFUPM using ISI Thomson Reuters publications raw data for bibliometric analysis, citation indexing (h-Index), analysis, strategic research decisions and scholarly discoveries in order to manage, measure and track researchers' performances.
- Defined strategies, evaluated performances, pinpoint experts, promoted accomplishments and demonstrated impact.
- Prepared policy and procedure guidelines for sponsored Chair Professors and guidelines to incentivize raising research money
- Coordinated with college/departmental administrators, DSR Research Groups and CoREs, and RI Center Directors, of the suitability of the candidates and arrange for the evaluation of credentials.
- Provided all relevant information to the relevant department, explain his role, expectations, the HiCi program, the Chair Professor's program.

- Monitored all the activities of the researcher during his entire period of the contract and participate in his appraisal and renewal decisions.

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## PUBLICATIONS

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- *"A Delay-Based Countermeasure Against the Discovery of Default Rules in Firewalls"*, Sattar, K.; Salah, K.; Sqalli, M.; Rafiq, R, Rizwan, M.; Arabian Journal For Science And Engineering, Volume: 42 Issue: 2 Pages: 833-844 Published: FEB 2017
- *"Assessment of Broadband RF Radiations near Cellular Base Stations Areas in Southern and Eastern Regions of Saudi Arabia"*, Sadiq M. Sait, Syed Faraz Ahmed, Muhammad Rahil Rafiq, under review (November 2018), AJSE (2191-4281)
- *"Routing Prediction of Probabilistic Mobility Model Using Extreme Learning Machine for Ad-Hoc Networks,"* Muhammad Rahil, Tarek Sheltami, Lahouari Ghouti, Ashraf Mahmoud, The International Conference on Ambient Systems, Networks and Technologies (ANT-2010), Paris, France, November 8-10, 2010, pp. 165-172.

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## ACHIEVEMENTS

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- Achieved full scholarship for the M.S. program at King Fahd University of Petroleum & Minerals (KFUPM) in 2006.

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## ADDITIONAL INFORMATION

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**Date of Birth:** October 02, 1983

**Marital Status:** Married

**Children:** 2 Sons (6+ Years & 3+ Years)

**Educational Attestation/Assessment:**

- Pakistan Engineering Council (B. Sc.)
- International Credential Assessment Service of Canada (ICAS) (B. Sc. & M.Sc.)

**Languages:** English (IELTS – Overall 7 band), Urdu (Native) and Arabic (Elementary)