Personal Information

First name(s) / Surname(s) | **MUHAMMAD UMAIR**

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Work Experience

Dates | January 2010 to July 2010

Occupational position held | System Integrator (Java, JavaScript, MATLAB, MySQL, MicroLogix, OPC Server)

Main activities and responsibilities

- Design and develop control, instrumentation and automation platforms related to the flour industry.
- Identify momentous aspects of the automated platform architecture to pull off the state of the art, specifying requirements to the system administration team, electrical designs, hardware and software installation as well as configuration and designing of **SCADA & HMI** displays.
- Scrutinize the Key Performance Indicators (**KPI's**) for the automation, maximizing their accuracy for the goal triumph, thus optimizing the dashboards which endorsement the management reports.
- Develop complete technical specifications for Flour Industry Automation project in order to acquire the state of the art equipments and processes, which include solution analysis, technical specifications and cost estimation.
- Assure the integrity of the automated platform applying specialized maintenance to instrumentation, **Allen Bradley PLC**, HMI, radios and special equipment's integrity, using **SCADA** and site supervisions with P&ID's, in flour industry.
- Schedule precautionary maintenance plans to optimize the performance of the platform, based in KPI's.
- **SCADA** supervisory service on daily bases "Data Quality" from field's source, through the final user.

Company Name | **Buraq Integrated Solutions, Multinational Australian based company.**

Dates | 25th July 2007 to 7th September 2007

Occupational position held | Internship

Main activities and responsibilities

- Monitor network performance and generate reports using RNO tools.
- Hands on experience on Home Location Server (HLS) deployed by **Motorola** at **Mobilink Network Switching Subsystem** (NSS) department.
- Alarm monitoring and handling on **Huawei NGN switches**, Routine hardware checks for **NGN** switches, Trunk out of services (**TOS**) reports for NGN switches, Quality of Services (**QOS**) Testing, Customer Identity (**CID**) and Location Area Code **(LAC**) addition and deletion.
- Visiting sites for the detection and solution of the on ground switch issues.

Company Name | **Mobilink Telecom (PMCL), Group of Multinational Orascom Telecom.**

Education Training

Dates | August 2010 to present

Title of qualification awarded | Master of Science in Engineering

Majors | Electrical Engineering

Specialization | Wireless Systems

Name of Institute/University | **Royal Institute of Technology (KTH), Stockholm, Sweden.**

Dates | September 2005 to August 2009

Title of qualification awarded | Bachelors in Information and Communication System Engineering (16 Years of Education).

Name of Institute/University | **National University of Sciences and Technology (NUST)**, **Pakistan.**

Degree Level | Bachelors (16 Years of Education)

Major GPA | 3.50/4.0 CGPA: 3.09/4.0

Training Course

Dates | 30th July 2008 to 24th August 2008

Course Title | Course on "Wireless Channel Modeling and Simulation" has being organized in collaboration with University of Surrey and conducted by "Dr. M. Ali Imran" Research Fellow at University of Surrey.

Course Content | Overview of Wireless Communication, Modelling of Wireless Channels, Path loss, Doppler Effect, Multipath fading and Shadow fading, Time and frequency coherence in wireless channel, Using Matlab for Wireless Channel Studies: Statistical channel models, Multipath fading Rayleigh & Rician fading.

Undergraduate Dissertation

Dates: "Selected **FINAL YEAR DEGREE PROJECT** for the **RECTOR'S GOLD MEDAL** among 50 PROJECTS**".** 1st October 2008 to 31th July 2009

Title:
- Design and Development of **"Automatic Frequency Planning Tool"**.

Abstract:

The project encompasses the design of a novel and ingenious algorithm for automatic generation and optimization of the frequency plan whereby curtailing the intra-system interference levels within the acceptable ranges of the key performance indicators (**KPIs**) defined for any real time cellular network. The automatic frequency planning and optimization has been done using the concept of Inter-Cell Dependency Matrix (**ICDM**) which contains cell correlations in terms of the affect one cell has on the other primarily with regards to the co-channel interference. The proposed algorithm and tool have been set forth and tested using inputs from live network data. It has been found to satisfy the verifiable network performance metrics

The project has been done in collaboration with a team of RF engineers from **Warid Telecom (Pvt) Limited, Abu Dhabi and SingTel Alliance.** Industrial verification of the produced results has been done by **TEMS (Test Equipment for Mobile Systems) Cell Planner Universal (TCPU) at Warid Telecom Mobile Switching Center (MSC).**

Research Publication

Research paper title: **"Automatic Frequency Planning and Optimization Algorithm to Cellular Networks"** has been submitted to **"20th IEEE International Conference on Computer Communication and Networks (ICCCN 2011), Maui Hawaii".**

Master Semester Projects

- **Speech coding using Sub-Band Technique in MATLAB:** Speech coding is the field concerned with compact digital representations of speech signals for the purpose of efficient transmission or storage.
- Implemented Image Copyrighting using the concept of Visible & Invisible Watermarking in MATLAB.

Selected Undergraduate Semester Projects

- Developed a Student Registration System for an institute using object oriented concepts (data abstraction, encapsulation, messaging, modularity, polymorphism, and inheritance).
- Developed a multi-client/server application based on the Sliding Window Protocol using TCP/IP sockets, Java, threads and C#.
- Developed a website using Microsoft Visual Studio 2008 (C#, SQL, ASP.NET) to allow the faculty members to build their web pages by entering their information and carry out their academia related tasks.

Professional Certifications

- **GSM Certification** – ExpertRating Certified Professional.
- Qualified the **QUALCOMM CDMA Certification (USA)** for RC1 & RC2 course.

Honours and Awards

- Selected **FINALYEAR DEGREE PROJECT** For the **RECTOR'S GOLD MEDAL** among 50 projects.
- Awarded Best Final Year Project in Open House 2009 held at NUST-SEECS.
- Awarded NUST School of Electrical Engineering and Computer Science **OUTSTANDING** Badge of Honor and NUST Merit Scholarship.
- Maintained a position amongst the top fifteen students of the faculty at each semester examination.
- Organized Workshop on **"From Ideas to Assets: Investing Wisely in Intellectual Capital"**.
- Organizer NUST Olympiad 2009.
- Participated in Fast-Track Workshop on **"Next Generation Networks and IP Telephony"**.

Personal Skills

Technical skills and competences

Programming Languages: C, C++, C#, Java, JavaScript, SQL, HTML, MATLAB, VHDL, XML.
Programming Tools: MS Visual C++ 6, MS Visual Studio.NET, NetBeans IDE 6.9.1, Turbo C.
PLC Tools: MicroLogix 500, Kepserver OPC Server, Open Control OPC Server.
DSP Tools: TMS320C5510™ DSP Starter Kit, MATLAB.
Microprocessor Tools: MASM615, Keil µ Vision 2.10
FPGA Tools: Xilinx ISE 9.2i.
Radio Frequency (RF) Tools: Mapinfo, TEMS, ADS, Multisim, CST Microwave studio.
Database Tools: MySQL, MS-Access, Microsoft SQL Server, Oracle, Postgres.
Web Development Tools: Asp.Net, MS front Page, Macromedia Dreamweaver, Flash MX.
Operating Systems: Linux, Unix, Solaris, Windows.

References

References will be furnished upon request.