Nauman Shahid

Department of Computer Engineering
College of Electrical and Mechanical Engineering
National University of Sciences and Technology
Islamabad, Pakistan

Phone: +92 314 4086199
Email: naumanshahid@msn.com
LinkedIn: https://pk.linkedin.com/in/snaumanshahid/
Website: https://naumanshahid.github.com/

Research Interests: Computer Architecture, Reconfigurable Computing, High Level Synthesis, Signal Processing, System on a chip, Network Paradigms, Embedded Software

Education

Bachelor of Engineering with majors in Computer Engineering — 2014
College of Electrical and Mechanical Engineering
National University of Sciences and Technology, Islamabad, Pakistan
Final Year Project: An FPGA based approach to deep packet inspection for the purpose of application aware routing in multi gigabit content delivery networks
CGPA: 3.68/4.00 | Major GPA: 3.79/4.00 | Senior Year GPA: 4.00/4.00

University of Cambridge International Examinations GCE A-Levels — 2010
St. Anthony's College, Lawrence Road, Lahore, Pakistan
Mathematics (A), Physics (A), Chemistry (A*), Computing (A) | Gold Medal

University of Cambridge International Examinations GCE O-Levels — 2008
St. Anthony's College, Lawrence Road, Lahore, Pakistan
8 O-Levels including Mathematics (A), Physics (A), Chemistry (A), Computer Studies (A)

Professional Experience

Associate Engineer at u-blox Lahore (Pvt) Ltd. (A subsidiary of u-blox AG, Thalwil, Switzerland)
August 2014 - Present

- Part of the handpicked team of three collaborating with the California based counterpart of u-blox to develop a delta encoding and compression solution for Firmware Over-The-Air project
- Benchmarked and tweaked several open source delta encoding algorithms to get an insight into the world of binary difference generation
- Solely responsible for the modular, platform independent, and backwards compatible architectural design (and documentation) of the entire delta file generation solution
- Set up the cross platform build environment for the entire delta file generation solution
- Sole author of the source code for the entire delta file generation solution
- Past responsibilities included maintenance of 4G LTE/LTE-A Protocol Stack in accordance with the specifications defined by 3GPP
- Scripted test benches for conformance, modular, and regression testing of the communication protocol stack
- Experienced in working with software revision control systems (Perforce), project tracking systems (Jira and Swarm), and continuous integration systems (Jenkins)

Business Process Automation Intern at Telenor Pakistan (A subsidiary of Telenor Group Norway)
July 2014 - August 2014

- Single-handedly responsible for the development and centralization (across Telenor Pakistan intranet) of a sales pipeline web portal
- Created a secure, infallible, and SQL injection-proof user login and permissions approval system using session state functionality of ASP.NET
- Used an amalgamation of C#, HTML, CSS, ASP.NET, and SQL to create a highly responsive and aesthetically pleasing information retrieval and logging system
- Moulded the system to present different and dedicated views for directors, regional managers, area/assistant managers, regional officers and system administrators

- Shaped the web portal to sport data entry and editing of individual records and batches of records using CSV files
- Added graphical representations and comparisons of predicted, achieved, and targeted sales (monthly, as well as annual)
- Completed the project in five weeks despite the allocated time being eight weeks

Final Year Project Research Student at Centre for Advanced Research in Engineering, Islamabad, Pakistan
October 2013 - June 2014

- Led a group of three to develop an intelligent OSI layer 4-7 device which aims to provide better QoS and bandwidth efficiency over computer networks
- The project exploits the hour-glass shape of the internet protocol stack's layered architecture
- Supervised by Professor Dr Shoab Ahmed Khan (PhD Georgia Institute of Technology) and Dr Zaheer Ahmed (Director, Centre for Advanced Research in Engineering, Islamabad, Pakistan)
- Designed and implemented an IEEE 802.3 packet routing mechanism in Verilog and VHDL
- Used deep packet inspection and string matching techniques to extract OSI Layer 4 and 7 features (Protocol and URL) from incoming packets
- Routed packets to designated output ports depending upon required bandwidth to achieve better QoS
- Prototyped the design on NetFPGA 10G Development Board (Xilinx Virtex 5 FPGA Processor)
- Final Year Project received a nomination for Rector's Gold Medal

Business Intelligence Intern at Techlogix Pakistan (Pvt) Ltd.
June 2013 - August 2013

- Allocated to the team working on business intelligence reporting project for Gulf International Bank, Bahrain
- Developed reports using SQL queries and RTF templates, and then uploaded them to Oracle Business Intelligence Enterprise Edition server portal
- Monitored and controlled the project's servers and virtual machines (remote and local)
- Responsible for infrastructure software installations, maintenance (Oracle Business Intelligence enterprise manager and administration console), deployment and enhancements
- Performed thorough testing of every release of reports and logged the results on Seapine TestTrack
- Single-handedly developed Oracle Business Intelligence Enterprise Edition dashboards using HTML and CSS for every release of reports
- Managed the information security part (permissions, users, groups and application roles) of the project
- Set up domain controllers and integrated active directory with Oracle Business Intelligence Enterprise Edition as an alternate authentication provider/identity store over Lightweight Directory Access Protocol
- Sole author of the System Integration Testing guide for the entire project

Electrical Engineering Intern at Siemens Pakistan Engineering Co. Ltd. (A subsidiary of Siemens AG, Munich, Germany)
July 2012 - August 2012

- Gained an insight into power, instrument, and distribution transformers along with SF_6 high voltage circuit breakers
- Learned about the energy sector and the challenges faced by it and how Siemens and other energy solution providers the world over are collaborating to tackle those challenges with 'green' solutions
- Learned to interpret electrical substation drawings

Skills C/C++, Visual Basic, C#, Python, MATLAB, Verilog, VHDL, Assembly, SQL, EDA, CAD