SYED HAMZA RAFIQUE (SOFTWARE ENGINEER)

RIGHT TO WORK: (SETTLED/INDEFINITE LEAVE TO REMAIN)

PERSONAL SUMMARY

During my 4+ years of professional work, I have been involved in software design/development, systems engineering and functional and conformance testing. I like problem solving and bringing innovative ideas to technical discussions, evident by my patent, that was filed as an intern in a team of 4. Currently working in the telecommunication industry as a software engineer, I don't shy away from trying new fields of technology.

WORK EXPERIENCE: 4+YRS OF COMMERCIAL WORK, DURATION: 2014-PRESENT

RF R&D SENIOR SOFTWARE ENGINEER AT QUALCOMM: *Cambridge, June 2016 to present*

- Working on 5G/4G envelope tracking technology for Qualcomm's RFFE solutions.
- Designing, Developing and Testing tools for Qualcomm's Envelope Tracking chips. These test tools include GUI code in C# and low-level driver coder in MATLAB.
- Developing and testing drivers for instruments (signal generators, signal analyzers, envelope generators, power supplies, power meters and RF tuners) to communicate over protocols/interfaces (MIPI, TCPIP, Serial, GPIB, etc.) using SCPI/ASCII commands and IVI drivers.
- Writing scripts in Perl and Python for parsing data.
- Working on RF front-end algorithms from a hardware, software and systems perspective.
- Daily activities: Bug tracking, bug fixing, lab testing, meetings, working with global as well as local teams to successfully meet customer requirements, correspondence over email and skype.

EMBEDDED SOFTWARE ENGINEER AT QUALCOMM: *Farnborough, Sep 2014 to June 2016*

- Developed embedded C code for mobile phone modems (Qualcomm's own OS and ARM processor).
- Developed test cases in C++ test frame work to mimic real life scenarios e.g. voice calls, data transfer and dual transfer mode etc. (Test driven development)
- Debugged, resolved and tested customer issues.

SYSTEMS ENGINEER INTERN AT QUALCOMM: *Farnborough, July 2012 to Aug 2013*

- Developed C/C++ code for GSM air-interface simulator: Implemented decoding algorithms and channel encoding (ACK/NAK PAN Field) enhancements in C/C++ based simulation platforms in Linux operating system.
- Tested Qualcomm's chipsets for performance and functionality
- Collaborated with other system engineers to develop algorithms

AREAS OF EXPERTISE: 3+YRS COMMERCIAL WORK EXPERIENCE.

- **OBJECT ORIENTED PROGRAMING:** *C++, C#, MATLAB, Python and Perl software for Windows applications.*
- **PROCEDURAL PROGRAMMING:** *C programming for embedded real-time operating systems*
- **VERSION CONTROL**: *Perforce, GitHub*
- **DEVELOPING/ DEBUGGING:** *Microsoft Visual Studio, PyCharm, Eclipse and NetBeans*
- **EDITING AND COMPARING:** *Source Insight, Araxis Merge, Slick Edit and Beyond Compare*
- **OPERATING SYSTEMS:** *Experience of working in Linux and Windows environments*
- **DAILY OFFICE TOOLS:** *Microsoft office package (Word, Excel, PowerPoint, Outlook, Visio, etc.)*
- **TECHNOLOGIES:** *GSM, EDGE, LTE, 5G*
- **OTHER TOOLS:** *LabView*

PROJECT WORK: LATEST TO OLDEST

- **5G:** Working on latest Qualcomm modems to run simulations, generate 5G waveforms, making them EVM decodable with 3rd party signal analyzers, compliant with 3GPP standard.
- **LTE-TDD:** *Working on providing LTE-TDD support for our PA test tools.*
- **RF-TUNER:** *Developed and integrated driver code for the tuner to find RF transmission losses etc.*
- **C CODE GENERATION:** Converted MATLAB code (IP) to a C based library to be used by external users.
- **GSM-TDD:** Provided GSM-TDD support to our test tools. (Driver layer, Controller layer and GUI).
- **KEYSIGHT PXI TX/RX/ET UNIT:** Developed and integrated driver code to support Keysight equipment.
- **INTERMODULATION:** Developed and integrated driver code to perform intermodulation measurements.
- **RX BAND NOISE:** Developed driver code to perform RX band noise measurements.
- **VAMOS** (Voice services over Adaptive Multi-user channels on one slot): Simulations, testing and verification lab testing, simulations and field-testing assistance.
- **FINAL YEAR PROJECT:** Routing different Internet traffic over different paths to reduce network delays
- **VISUAL SEARCH:** Computer Vision project to sort images in a database in the order of most to least relevant images to the input image.
- **PHOTO CHECKER SOFTWARE**: Computer vision project to check, if a given image meets the official requirements and standards.
- **POWERSCAN** cell connectivity optimization project (time and power optimized) **Patent granted**
- Tested latest features on Qualcomm's chipsets for performance over a network when commercialized using Agilent boxes, Jtag.
- **FREQUENCY CORRECTION** control channel tone detection and frequency estimation MATLAB GUI tool
- **TRAINING SEQUENCE CODE** search study and appreciated its usefulness for equalization purposes I in phase and **Q** quadrature phase parts of modulated signal used for debugging in the C/C++ simulator
- **AUDIO AMPLIFIER:** Using Op Amps (bridge amplifier) in preamp stage and transistors in push pull configuration at the output stage, we had designed and implemented an audio amplifier which took input signals from an audio device (iPod) and generated the amplified output heard using 8ohm speaker.

ACADEMIC QUALIFICATIONS: UNIVERSITY, COLLEGE AND HIGH-SCHOOL, DURATION: 2007-2014

BENG ELECTRONIC ENGINEERING, UNIVERSITY OF SURREY (PLACEMENT YEAR): ***2:1 (upper division) 2010-2014***

A LEVEL CAMBRIDGE INTERNATIONAL EXAMINATION: ***(2008-2010)***

O LEVEL CAMBRIDGE INTERNATIONAL EXAMINATION: ***(2007)***

EXTRA-CURRICULAR ACTIVITIES/ ACHIEVEMENTS

- STARS award holder for achieving 1st class in Year 2 of my degree.
- Stood first in the interschool javelin and discus throw and was second in shot put athletics.
- Participated in the Mathematics International Kangaroo test.
- Awarded a high achiever shield for gaining a total of 90% in O levels.
- Member of societies (Science, Music, Arts, Drama, Spanish, Asian, African, Gaming)
- Provided IT support for Nazia Hassan Charity Foundation in London.

PERSONAL DETAILS

ADDRESS: 8 Heron Road, Cambridge, CB24 1AR
MOBILE: 07795651835
EMAIL: hamzah_shah@hotmail.com

REFERENCES

Available on request