Arslan Chaudhry

Contact Information

7 Weston Buildings, New College Sports Ground,
St. Cross Road, Oxford OX1 3TJ,
United Kingdom

(44)7491-875617
arslan.chaudhry@new.ox.ac.uk
arslan_mac@yahoo.com

Education

University of Oxford **Oct 2016 - Present**
Doctor of Philosophy (DPhil) in Machine Learning and Computer Vision

- *Advisor:* Philip H.S. Torr
- *Focus:* I am working in *Torr Vision Group (TVG)* as a Doctoral Researcher focusing on the fusion of Computer Vision and Machine Learning.
- Rhodes Scholar (2016)

University of Engineering & Technology, Lahore, Pakistan **June 2013**
Bachelor of Science in Electrical Engineering

- *CGPA:* 3.946/4.0 (Graduated at the TOP of 400+ students graduating class)
- **Three Gold Medals** for scoring the highest *CGPA*
- *Thesis:* Load Balancing of Compute Intensive Applications on Beowulf Clusters.

Experience

Sr. Software Development Engineer, Mentor Graphics **Aug 2015 - Aug 2016**
Developed Virtual Machine Monitor (MMU) for *Intel* SOCs. Exploited *Intel's VT-x* and *VT-d* technologies. Developed *Extended Page Table (EPT)* based memory virtualization model. Developed *virt-IO* based networking driver for network sharing among multiple guests.

Senior Software Development Engineer, Mentor Graphics **Jul 2014 - Jul 2015**
Ported *Xilinx's zynq-zc702*, *FreeScale's i.MX6* and *TI's Jacinto6* on Mentor Embedded Hypervisor (MEHV). Exploited *ARM TrustZone* to implement *Trusted Execution Environment (TEE)* in the VMM. Developed *virt-IO* based *console* and *net* drivers.

Software Development Engineer, Mentor Graphics **June 2013 - July 2014**
Worked on Mentor's virtualization solution, *MEHV*, for *ARM* SOCs. Developed *Profiling* solution, *DDC* tool - which can extract multiple device tree blobs from a parent device tree based on *VM* definitions - Eclipse P2 based packaging solution and build/configuration system of MEHV.

Internee, Al-Khawarizmi Institute of Computer Science **April 2013 - May 2013**
Worked on the development of Urdu Search Engine using Elastic *MapReduce* technique. Exploited the capabilities of *Hadoop* Distributed File System (DFS) and MapReduce paradigm to build an autonomous cluster. Setup an eight-node cluster, and developed an algorithm for top-level domain extraction from *Amazon*'s web crawl.

Teaching Assistant, EE UET Lahore **April 2013 - May 2013**
Conducted tutorials on *C* and Operating System programming for a junior session as an assistant of Dr Amir Mehmood.

Internee, Mentor Graphics **June 2012 - September 2012**
Worked on Real Time Operating Systems *(Nucleus + Linux)* and Open Source Build Systems *(Yocto, Buildroot and Open Embedded).* Verified *Mentor Embedded Linux (MEL)* on hardware platforms *(i.MX233 and Omap Pandaboard)*, and developed device drivers for character devices on Linux platform.

Projects

Load Balancing on Beowulf Cluster **June 2013**
As a senior year thesis, worked on cloud, cluster and distributed computing. Compared performance and timing issues of different algorithms on Beowulf cluster. Also developed a load-balancer which can run various numerical and sorting algorithms on an AMP cluster.

IEEE 802.11 Simulation **February 2013**
On *MATLAB*, simulated convolution encoder, used in the transmitter of 802.11, and *Viterbi* decoder which is an integral part of various receivers including 802.11 receiver. Simulated Digital Modulation schemes (PAM, PSK, QAM) performance over AWGN channel and also simulated *Rayleigh* Model of wireless channels.

Digital Library **December 2012**
Designed and developed library database using WAMP. Database supports all the regular queries expected from a digital library.

Application to Check Real Time Behavior of Nucleus **June 2012**
As an intern at Mentor Graphics, developed an anti-missile demo application to gauge hard real-time behavior of Nucleus (Mentor's Proprietary OS).

Computer Skills

Languages:	C, C++, Python, Ruby, Shell Scripting, SQL, PHP, Eclipse P2 Development, Verilog (HDL), Assembly language (ARM, x86, MIPS and 80c51), GNU/Linux Programming, MATLAB, LaTeX
Programming Paradigms:	System Programming, Linux Kernel and Driver Development, Parallel Programming, Application Level Programming, Agile Sprint Development
Advanced MPS Modules:	ARM TrustZone, Intel's VT-d and VT-x

Leadership Activities

President, IEEE UET Lahore **June 2012 - June 2013**
As president, I was responsible for the overall performance of the chapter. Presided all technical, budget and alumni committee meetings. Represented the society at the *Pakistan Student Congress 2012*. The chapter won the *Best Student Branch of Lahore Section* award during my tenure.

Honours

Rhodes Scholar, **2016**
Performance Excellence Award, Virtualization Team, Mentor Graphics ESD, **2015**
Topper and Gold medalist of Electrical Engineering Department, UET Lahore, **2013**
Deans Honors List, UET Lahore, **2009-2013**
Nominated for IEEE Region 10 executive comity by IEEE Lahore Section, **2013**
Obtained third position in BLOSSOM held by MIT officials at PYF, **2012**
Winner of Race to Innovation in Pakistan Student Congress, **2012**
Obtained third position in Pakistan in IEEE Xtreme Programming Competition, **2012**
PCS scholarship recipient worth PKR 113980, **2007-2009**

Side Activities

Mountains Explorer
Sports Freak
Follower of the Indian sub-continent music and semi-pop
Mentor Graphics, Lahore office Foosball, Pool champion and Cricket league winner

Referees

Dr. Asim Loan
Professor
Department of Electrical Engineering
University of Engineering & Technology
Lahore, Pakistan
email: aloan@uet.edu.pk

Dr. Atif Alvi
Associate Professor and Chairperson
Department of Computer Science
Forman Christian College (A Chartered University) Lahore, Pakistan
email: atifalvi@fccollege.edu.pk