

Muhammad Arslan Chaudhry

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| 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 <i>Doctor of Philosophy (DPhil) in Machine Learning and Computer Vision</i> <ul style="list-style-type: none">• <i>Advisor:</i> Philip H.S. Torr• <i>Focus:</i> I am working in <i>Torr Vision Group (TVG)</i> 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 <i>Bachelor of Science in Electrical Engineering</i> <ul style="list-style-type: none">• <i>CGPA:</i> 3.946/4.0 (Graduated at the TOP of 400+ students graduating class)• Three Gold Medals for scoring the highest <i>CGPA</i>• <i>Thesis:</i> 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 <i>Intel</i> SOC's. Exploited <i>Intel's VT-x</i> and <i>VT-d</i> technologies. Developed <i>Extended Page Table (EPT)</i> based memory virtualization model. Developed <i>virt-IO</i> based networking driver for network sharing among multiple guests. Senior Software Development Engineer, Mentor Graphics Jul 2014 - Jul 2015 Ported <i>Xilinx's zynq-zc702</i> , <i>FreeScale's i.MX6</i> and <i>TI's Jacinto6</i> on Mentor Embedded Hypervisor (MEHV). Exploited <i>ARM TrustZone</i> to implement <i>Trusted Execution Environment (TEE)</i> in the VMM. Developed <i>virt-IO</i> based <i>console</i> and <i>net</i> drivers. Software Development Engineer, Mentor Graphics June 2013 - July 2014 Worked on Mentor's virtualization solution, <i>MEHV</i> , for <i>ARM</i> SOC's. Developed <i>Profiling</i> solution, <i>DDC</i> tool - which can extract multiple device tree blobs from a parent device tree based on <i>VM</i> definitions - Eclipse P2 based packaging solution and build/configuration system of <i>MEHV</i> . Internee, Al-Khawarizmi Institute of Computer Science April 2013 - May 2013 Worked on the development of Urdu Search Engine using Elastic <i>MapReduce</i> technique. Exploited the capabilities of <i>Hadoop</i> 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 <i>Amazon's</i> web crawl. Teaching Assistant, EE UET Lahore April 2013 - May 2013 Conducted tutorials on <i>C</i> 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 (<i>Nucleus + Linux</i>) and Open Source Build Systems (<i>Yocto, Buildroot and Open Embedded</i>). Verified <i>Mentor Embedded Linux (MEL)</i> on hardware platforms (<i>i.MX233 and Omap Pandaboard</i>), and developed device drivers for character devices on Linux platform. | |

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| 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 <i>MATLAB</i> , simulated convolution encoder, used in the transmitter of 802.11, and <i>Viterbi</i> 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 <i>Rayleigh</i> Model of wireless channels. | |
| Computer Skills | 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 | <u>Languages:</u> | C, C++, Python, Ruby, Shell Scripting, SQL, PHP, Eclipse P2 Development, Verilog (HDL), Assembly language (ARM, x86, MIPS and 80c51), GNU/Linux Programming, MATLAB, L ^A T _E X |
| | <u>Programming Paradigms:</u> | System Programming, Linux Kernel and Driver Development, Parallel Programming, Application Level Programming, Agile Sprint Development |
| | <u>Advanced MPS Modules:</u> | 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 <i>Pakistan Student Congress 2012</i> . The chapter won the <i>Best Student Branch of Lahore Section</i> 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

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