Arslan Chaudhry

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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.

Publications

Discovering Class-Specific Pixels for Weakly-Supervised Semantic Segmentation, In the Proceedings of the British Machine Vision Conference (BMVC), 2017. **(oral)**

Experience

Doctoral Researcher, University of Oxford **Oct 2016 - Present**
Working in Torr Vision Group to develop a continual learning scene understanding system. Particularly, studying weakly-supervised segmentation systems and life-long learning in neural networks.

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.

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.

Teaching

Lab Demonstrator, **Software Engineering**, Hilary 2017, University of Oxford

Teaching Assistant, **Operating Systems**, Spring 2013, University of Engineering and Technology, Lahore

Computer Skills

Languages:	C, C++, Python, numpy, Shell Scripting, SQL, PHP, Eclipse P2 Development, Verilog (HDL), Assembly language (ARM, x86, MIPS and 80c51), GNU/Linux Programming, MATLAB, LaTeX
Programming Paradigms:	CUDA Programming, System Programming, Linux Kernel and Driver Development, Parallel Programming, Application Level Programming, Agile Sprint Development
Machine Learning Frameworks:	Tensorflow, Keras
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

Philip Torr	**Puneet Dokania**
Professor	Post-Doctoral Researcher
Department of Engineering Science	Department of Engineering Science
University of Oxford, United Kingdom	University of Oxford, United Kingdom
email: philip.torr@eng.ox.ac.uk	email: puneetkdokania@gmail.com