Arslan Chaudhry

Contact Information

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Education

University of Oxford, United Kingdom
Oct 2016 - Present

Doctor of Philosophy (DPhil) in Machine Learning and Computer Vision

- Advisor: Philip H.S. Torr
- Focus: Machine learning models for continual/ lifelong learning and modular representations in deep networks.
- Rhodes Scholar (2016)

University of Engineering & Technology, Lahore, Pakistan August 2013

Bachelor of Science in Electrical Engineering

- *CGPA*: 3.95/4.0 (Highest honors)
- Multiple gold medals for graduating at the top of 400+ students graduating class
- Thesis: Load balancing of compute intensive applications on Beowulf clusters

Professional Experience

Research Intern, Facebook AI

June 2019 - September 2019

- Mentors: Albert Gordo, David Lopez-Paz
- Project: Experience Replay for Continual Learning

Visiting Researcher, Facebook AI Research (FAIR) June 2018 - February 2019

- Mentors: Marc'aurelio Ranzato, Marcus Rohrbach, Mohamed Elhoseiny,
- Project: Efficient Lifelong Learning.

Sr. Software Development Engineer, Mentor Graphics June 2013 - Aug 2016 Developed a Virtual Machine Monitor (VMM)/ Hypervisor for ARM and Intel platforms. Lead the development of:

- Secured (using TrustZone ARM) and virtualized (VT-x/VT-d Intel) Memory Management Unit (MMU)
- Networking and console drivers based on virt-IO
- Profiling and visualization toolkit
- Build/ configure and packaging system
- \rightarrow Received multiple performance excellence awards

Publications

- 1. **Arslan Chaudhry**, Marcus Rohrbach, Mohamed Elhoseiny, Thalaiyasingam Ajanthan, Puneet K. Dokania, Philip H.S. Torr, Marc'Aurelio Ranzato; *Continual Learning with Tiny Episodic Memories*, International Joint Conference on Artificial Intelligence (IJCAI), 2019. Under submission
- 2. **Arslan Chaudhry**, MarcAurelio Ranzato, Marcus Rohrbach, Mohamed Elhoseiny; *Efficient Lifelong Learning with A-GEM*, International Conference on Learning Representations (ICLR), 2019.

- 3. **Arslan Chaudhry**, Puneet K. Dokania, Thalaiyasingam Ajanthan, Philip Torr; Riemannian Walk for Incremental Learning: Understanding Forgetting and Intransigence, In the Proceedings of the European Conference on Computer Vision (ECCV), 2018.
- 4. **Arslan Chaudhry**, Puneet K. Dokania, Philip Torr; *Discovering Class-Specific Pixels for Weakly-Supervised Semantic Segmentation*, In the Proceedings of the British Machine Vision Conference (BMVC), 2017. (oral)

Teaching

Tutorials, Machine Learning, Trinity 2018, Stanford House Tutorials, Networking, Trinity [2018, 2019] University of Oxford Tutorials, Operating Systems, Hilary [2018, 2019], University of Oxford Lab, Software Engineering, Hilary [2017, 2018, 2019], University of Oxford Teaching Assistant, Operating Systems, Spring 2013, UET, Lahore

Computing Expertise

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, Pytorch, 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.

Awards Grants Fellowships

Murray Speight Grant, Rhodes House, 2018

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

Service

Reviewer for ICML [2019-], NeurIPS [2019-], CVPR [2019-], ICCV [2019-]

Reviewer for IEEE Transaction on Multimedia

Referees

Philip Torr

Professor

University of Oxford, United Kingdom email: philip.torr@eng.ox.ac.uk

Marc'Aurelio Ranzato

Research Scientist Facebook AI Research email: ranzato@fb.com