www.mil.ad
milad.alizadeh@cs.ox.ac.uk

Milad Alizadeh

Linacre College
St. Cross Road
Oxford OX1 3JA

Summary

I am a third-year PhD student at the University of Oxford where I work under the supervision of Yarin Gal and Nic Lane on compressing Deep Neural Networks. I have five years of industry experience designing algorithms and software for various wireless communication standards. I am passionate about machine learning, statistics, and software design.

Education

Oct 2017 - Now

DPhil in Computer Science
University of Oxford, UK

Supervisors: Nicholas Lane & Yarin Gal

2010 - 2011

MSc in Communication Networks & Signal Processing
University of Bristol, UK

Overall Mark: **79/100 (with Distinction)**

Class Rank: **2 in 70**

Final Project: Studying the impact of various **QoS-aware scheduling** algorithms on the end-to-end performance of **WiMAX** transport protocols in mixed TCP/UDP traffic scenarios.

2005 - 2010

BSc in Electrical Engineering — Telecommunication Systems
Ferdowsi University of Mashhad, Iran

Final Project: Designed a C++ library for encoding and decoding files using **LDPC codes** for reliable data backup solutions.

Publications

ICLR 2020

- **Milad Alizadeh**, Arash Behboodi, Mart van Baalen, Christos Louizos, Tijmen Blankevoort and Max Welling. "Gradient L1 Regularization for Quantization Robustness." International Conference on Learning Representations (ICLR), 2020

ICLR 2019

- **Milad Alizadeh**, Javier Fernández-Marqués, Nicholas D. Lane and Yarin Gal. "A Systematic Study of Binary Neural Networks' Optimisation." International Conference on Learning Representations (ICLR), 2019

IJCAI 2018

- Vincent W.-S. Tseng, Sourav Bhattachara, Javier Fernández-Marqués, **Milad Alizadeh**, Catherine Tong and Nicholas D. Lane. "Deterministic Binary Filters for Convolutional Neural Networks." International Joint Conference on Artificial Intelligence (IJCAI), 2018

WPC 2015

- Rudzidatul Akmam Dziyauddin, Dritan Kaleshi, Angela Doufexi, and **Milad Alizadeh**. "Performance evaluation of quality of service for joint packet dropping and scheduling." Wireless Personal Communications 83, no. 2 (2015): 1549-1566.

VTC 2012

- **Milad Alizadeh**, Rudzidatul Akmam Dziyauddin, Dritan Kaleshi, and Angela Doufexi. "A comparative study of mixed traffic scenarios for different scheduling algorithms in WiMAX." In Vehicular Technology Conference (VTC Spring), 2012 IEEE 75th, pp. 1-6. IEEE, 2012.

Work Experience

Summer 2019

Qualcomm AI Research — Amsterdam, Netherlands
Research Intern

Quantisation:
- Worked in the AI research team led by **Max Welling** on designing **quantisation-robust neural networks**. The work was submitted to, and accepted at, **ICLR 2020.**

2016 - 2017 | **Qualcomm Technologies — Cambridge, UK**
Senior Software Engineer

Audio DSP:
- Designed and developed **audio signal processing algorithms** and embedded software frameworks optimised for memory and power constrained platforms.
- Responsible for expanding Qualcomm's audio IP into a more scalable and customer-configurable solution accommodating chips with multiple cores.

2011 - 2016 | **Enigma Communications, Imagination Technologies — Chepstow, UK**
Leading Software Design Engineer

Bluetooth:
- Responsible for design and implementation of the **Bluetooth Low-Energy MAC** and **PHY** firmwares for Imagination's IoT IP portfolio.
- Created the software/hardware testing framework using **Python** and **Jenkins** and successfully led the product through official **Bluetooth SIG qualification**.
- **Managed** a small team, performed **code reviews** and **mentored** graduate engineers.

TV:
- Investigated algorithms and developed **DSP MATLAB models** for various PHY blocks of TV demodulators (e.g. **LDPC error correction**, gain control loops).
- Implemented and debugged algorithms in **assembly** and **C** for Ensigma's **SIMD Parallel DSP**. Made sure implementations were as **optimised** as possible.

2009 - 2010 | **Department of Electrical Engineering, Ferdowsi University of Mashhad – Iran**
Teaching Assistant

- Delivered lectures and problem-solving sessions for **"Electromagnetic Fields & Waves"** course.

Honours

2017 | **Joint DPhil scholarship from EPSRC and ARM**

2011 | **IEEE UK/RI Communication Chapter Prize** for Best Communications-related MSc Project

2011 | **Ranked 2nd** among all 70 MSc students of **University of Bristol**, Department of Electrical and Electronic Engineering.

2005 | **Ranked top 1%** in Iran's nationwide university entrance exam among **400,000+** students.

1997-2004 | Admitted to Iran's national educational programme for gifted students (NODET).

Software Skills

Languages | **Python, C, MATLAB, Scala, R**

Frameworks | **PyTorch, NumPy, TensorFlow, CUDA, Pandas**

Tools | **Slurm, LaTeX, Docker, Jenkins**

Interests

When not behind a computer I can be found:

- Playing squash in local leagues.
- Playing Kamanche – a traditional Persian instrument.