evcu.github.io Utku Evci Montreal, QC utkuevci@gmail.com Montreal Qci August 11, 2019

#### EDUCATION

May 2018 New York University, Courant Institute

New York, NY

M.Sc. in Computer Science, GPA:3.95/4

June 2016 Koc University, College of Engineering

Istanbul, Turkey

B.Sc. in Electrical and Electronics Engineering, GPA: 3.99/4.30, 2<sup>nd</sup> in class

B.Sc. in Computer Engineering, GPA: 4.02/4.30, 2<sup>nd</sup> in class

### Work & Research Experience

### Present Google, Google Brain

Montreal, Canada

2018 AI Residency Program

- Selected from over 5k applications (< 1%).
- Learned Tensorflow framework and checked-in 10k+ peer-reviewed code in 10 months.
- Submitted a paper to ICLR 2019 [4] on a new neural network pruning method that reduces the damage at the time of pruning efficiently.
- Currently working on training sparse neural networks. Initial results are published in ICML 2019 Deep Phenomena Workshop [3].

# Spring 2017 NYU, Courant Institute

New York, United States

Research Assistant: 2 different projects

- $\bullet$  Worked with L. Sagun on energy landscapes of deep neural networks and co-authored a paper accepted to ICLR 2018[5]
- Worked with A. Rives(PhD student) on predicting protein structure from sequence information.

### Summer 2017 Amazon, AWS EC2

Seattle, United States

Software Development Engineer(SDE) Intern: Auditing Big-Data

- Wrote 3000+ lines of pyspark/python-code using 14 different API/library for auditing TBs of data.
- Resulting spark program was able to reach 50mb/s per node processing speed and scaled linearly.

## Summer 2015 Swiss Federal Institute of Technology (EPFL), IIG

Lausanne, Switzerland

Research Intern: Modeling Human Stepping

- Processed 3D marker data sequence to detect steps and their locations on 2D plane, which led to a short paper published in CASA '16 [1]
- Wrote a full-paper remotely along with an online .js implementation summing up to 4000+ lines of MATLAB/javascript which is accepted to MIG '16 as poster.

## OTHER PROJECTS<sup>1</sup>

### Spring 2018 Detecting Dead Weights and Units[2], Python/Bash

M.Sc. Thesis advised by Prof. Bottou

- Implemented pytorchpruner: pruning library for pytorch with 1k+ lines.
- Wrote exp-bootstrp for managing large scale experiments.

### Fall 2016 Neural Network Pruning, Python/Bash

Computer-Vision Class Project

• Wrote 1500+ lines of code in 6 weeks along with a report and literature review of 15+ papers.

#### Achievements

- 2016 Fulbright Scholarship & NYU GSAS Tuition Scholarship, for M.Sc. at NYU.
- 2011 Ranked  $1^{st}$  in Turkey, in College Entrance Exam (LYS) out of more than a million people.
- 2013-2016 American Football College Team Captain, led the team in offense.
  - 2011 **Semahat Arsel Scholarship**, most prestigious full scholarship for the B.Sc. at Koc University.

# SKILLS & INTEREST

> 5000 lines C  $\circ$  Python  $\circ$  Java  $\circ$  Bash

<sup>&</sup>lt;sup>1</sup>more at evcu.github.io

> 2000 lines CUDA  $\circ$  (py)Spark  $\circ$  (py,Lua)Torch  $\circ$  Tensorflow  $\circ$  Javascript/d3.js Familiar CSS/HTML  $\circ$  OpenMPI/MP  $\circ$  C++  $\circ$  Lisp/Scheme

### **Publications**

- [1] Ronan Boulic et al. "One Step from the Locomotion to the Stepping Pattern". In: Proceedings of the 29th International Conference on Computer Animation and Social Agents. CASA '16. Geneva, Switzerland: ACM, 2016, pp. 165–168. ISBN: 978-1-4503-4745-7. DOI: 10.1145/2915926.2915949. URL: http://doi.acm.org/10.1145/2915926.2915949.
- [2] Utku Evci. "Detecting Dead Weights and Units in Neural Networks". In: (2018). DOI: 10.13140/RG.2.2.32517.24804. arXiv: 1806.06068. URL: http://arxiv.org/abs/1806.06068.
- [3] Utku Evci et al. "The Difficulty of Training Sparse Neural Networks". In: (2018). URL: https://openreview.net/forum?id=BJxRVnC5Fm.
- [4] "Mean Replacement Pruning". In: (2018). URL: https://openreview.net/forum?id=BJxRVnC5Fm.
- [5] Levent Sagun et al. "Empirical Analysis of the Hessian of Over-Parametrized Neural Networks". In: CoRR abs/1706.04454 (2017). arXiv: 1706.04454. URL: http://arxiv.org/abs/1706.04454.