

Utku Evci

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Montreal, QC

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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, 2nd in class
B.Sc. in Computer Engineering, GPA: 4.02/4.30, 2nd 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 20k+ peer-reviewed code in 12 months.
 - Worked on training sparse neural networks. Initial results are presented in ICML 2019 Deep Phenomena Workshop [4] and a paper that introduces a novel method for training sparse neural networks is submitted to the ICLR 2020 [3]. The method finds SOTA sparse networks and the code is open sourced here.
 - Submitted a paper to ICLR 2019 [5] on a new neural network pruning method that efficiently reduces the Δ loss due pruning.
- 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.
- Spring 2017 **NYU**, Courant Institute New York, United States
Research Assistant: 2 different projects
 - Worked with Levent Sagun on energy landscapes of deep neural networks and co-authored a paper accepted to ICLR 2018 [6].
 - Worked with Alex Rives (PhD candidate) on predicting protein structure from sequence information.
- 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

- Spring 2018 **Detecting Dead Weights and Units [2]**, Python/Bash
M.Sc. Thesis advised by Prof. Léon Bottou
 - Implemented pytorchpruner: pruning library for pytorch with 1k+ lines.
 - Wrote exp-bootstrap 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 **Semahat Arsel Scholarship**, most prestigious full scholarship for the B.Sc. at Koc University.
- 2011 **Ranked 1st in Turkey**, in College Entrance Exam (LYS) out of more than a million people.

SKILLS & INTEREST

- > **5000 lines** C ◦ Python ◦ Java ◦ Bash ◦ Tensorflow
- > **2000 lines** CUDA ◦ (py)Spark ◦ (py,Lua)Torch ◦ Javascript/d3.js
- Familiar** CSS/HTML ◦ OpenMPI/MP ◦ C++ ◦ Lisp/Scheme

REFERENCES

- [1] Ronan Boulic, **Utku Evci**, Eray Molla, and Phanindra Pisupati. One Step from the Locomotion to the Stepping Pattern. In *Proceedings of the 29th International Conference on Computer Animation and Social Agents*, 2016.
- [2] **Utku Evci**. Detecting Dead Weights and Units in Neural Networks. 2018.
- [3] **Utku Evci**, Erich Elsen, Pablo Castro, and Trevor Gale. Rigging the Lottery: Making All Tickets Winners. 2018.
- [4] **Utku Evci**, Fabian Pedregosa, Aidan N. Gomez, and Erich Elsen. The Difficulty of Training Sparse Neural Networks. In *International Conference of Machine Learning Workshop Deep Phenomena*, 2019.
- [5] **Utku Evci**, Nicolas Le Roux, Pablo Castro, and Léon Bottou. Mean Replacement Pruning. 2018.
- [6] Levent Sagun, **Utku Evci**, V. Ugur Güney, Yann Dauphin, and Léon Bottou. Empirical Analysis of the Hessian of Over-Parametrized Neural Networks. In *International Conference on Learning Representations Workshop Track*, 2018.