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, 2^{nd} in class
B.Sc. in Computer Engineering, GPA: 4.02/4.30, 2^{nd} 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 efficiently reduces the Δ loss due pruning.
- Worked on training sparse neural networks. Initial results are published in ICML 2019 Deep Phenomena Workshop [3].

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 [5].
- 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-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 **Semahat Arsel Scholarship**, most prestigious full scholarship for the B.Sc. at Koc University.

2011 **Ranked 1^{st} 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**, 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.

[4] **Utku Evci**, Nicolas Le Roux, Pablo Castro, and Léon Bottou. Mean Replacement Pruning. 2018.

[5] 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.