Sepehr **Sameni**

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"What we lack in knowledge, we make up for in data."

Education

University of Tehran — *Tehran, Iran*

Master of Artificial Intelligence — *Sep. 2017 - Now*

- Expected graduation date : Aug. 2019
- Notable courses : Deep Learning(4/4), Human Visual System(4/4), and Machine Learning(4/4)

University of Tehran — *Tehran, Iran*

Bachelor of Software Engineering — *Sep. 2013 - Jun. 2017*

- GPA : 17.80/20
- Notable courses : Artificial Intelligence(4/4) and Engineering Mathematics(4/4)
- Notable online courses: Hinton's Neural Networks for Machine Learning, Stanford's Natural Language Processing with Deep Learning

Allameh Helli High School — *Tehran, Iran*

Diploma in Mathematics — *July 2009 – July 2012*

- Part of National Organization for Development of Exceptional Talents (NODET)

Work Experience

Neiron — *Tbilisi, Georgia*

AI Intern — *Summer 2018-Fall 2018*

- Stock price prediction with hierarchical networks: designing a time series prediction model by combining the companies hierarchy (companies, sectors, and industries) with the time hierarchy (tick, minute, hour, etc) given the diverse data sources (tick data, news, sentiment analysis, and financial reports)
- EASE(Ease is Automated Sentence Embedding): choosing the best algorithm or pretrained model of sentence embedding for a new sentence-level NLP task based on its task embedding and previous results, something like auto-sklearn for sentence level tasks

Aban Corp. — *Tehran, Iran*

Data Scientist — *Summer 2016*

- Implemented an app2vec engine for Aptoide based on the app description and its reviews to improve app recommendation.

Pars Petro Zagros Geophysics — *Tehran, Iran*

Software Developer — *Summer 2015*

- Highly efficient Ricker estimated deconvolution using C and OpenMP.

Academic Experience

University of Tehran — *Tehran, Iran*

AI Researcher — *Fall 2017-Now*

- Training a progressive-growing GAN to generate multi-channel and conditional EEG signals and evaluating them by inception score and sliced Wasserstein distance with Professor Sadeghi using TUH EEG corpus which has noisy labels; we are in the middle of writing the paper and improving the conditional part with recent advances in conditional GANs(projection-GAN and SAGAN); the code is available at my github repository

University of Tehran — *Tehran, Iran*

Teacher Assistant — *Spring 2014-Spring 2017*

- TA of many courses including Advanced Programming, OS, Internet Engineering, and Signals & Systems

Skills

- Programming Languages: Python, C, C++, CUDA, Java, Java Script, Verilog
- Deep Learning Frameworks: PyTorch, TensorFlow, Keras, OpenAI Gym
- Human Languages: Persian(native), English(TOEFL score=113 (s=30,r=29,l=29,w=25), GRE's quantitative score=170)

Honors & Awards

2015-16	**FOE Award**, ranked 3rd among students of Computer Engineering	*Tehran, Iran*
2013-14	**FOE Award**, ranked 2nd among students of Computer Engineering	*Tehran, Iran*
2013	**Ranked 91st (regional rank)**, and 160th (national rank) in the National Universities Entrance Examination among more than 300,000 contestants, 2013	*Tehran, Iran*
2012	**Ranked 1st (regional rank)**, Khwarizmi youth award	*Tehran, Iran*

Notable Projects

SSAN

Selective Self Attention Network — *Fall 2018 - Now*

- Reducing the memory cost of the transformer self attention from $\mathcal{O}(n^2)$ to $\mathcal{O}(n * k)$ by using capsule nets

ASE

Awesome Sentence Embedding — *Fall 2018 - Now*

- list of all sentence and word embedding models with pretrained weights and official implementations

PyTorch

fixing a bug in pytorch — *Fall 2018*

- fixed a bug in torch.norm function and another one in torch.jit parser

BERT-keras

BERT in keras — *Fall 2018*

- reimplementation of BERT and OpenAI's transformer LM in keras capable of loading pretrained models with a great object-oriented abstraction over tasks and training

Emoji Prediction

My Bachelor of Science Thesis — *Spring 2017*

- Emoji prediction for Persian and English with a QRNN trained over bilingual word vectors obtained from tweets with FastText and aligned with 200 anchor words

Agah Keyboard

Modular Android Keyboard — *Fall 2016 - Winter 2017*

- Design and implementation of a modular android keyboard based on AOSP with swipe feature and a 3-gram language model

F1-AR

F1's Augmented Reality Experience — *Summer 2014*

- Augmented Reality for ACM's student branch using OpenCV.

3D Soccer Simulation

Triple-A's 3d-ss team — *Spring and Summer 2011*

- Omni-directional walk.
- Multi-power kick.

Mixed Reality Soccer Simulation

Triple-A's mixed-reality team — *Fall 2010*

- Participated in Iran Open 2010.

Research Interests

- Neural Attention(both self-attention and co-attention)
- Generative Models(both GANs and flow based models)
- Multiligual Systems
- Binarized Neural Networks(or efficient networks, like MobileNet)
- Language Modeling
- Hierarchical Networks
- Multi-Task Learning