Ali Gholami

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EDUCATION

B.S. Computer Engineering @ Amirkabir University of Technology – ***GPA: 3.6/4***
[Global Rank of 97 in CE] @ USNEWS
[National Rank of 2] @ ARWU

Mathematics & Physics Diploma @ Kamal Highschool – ***GPA: 19.5/20***

RESEARCH EXPERIENCE

CEIT @ Amirkabir University of Technology Dec 2018 – Present
Computer Vision — Pattern Recognition

- Implementation of *AlexNet CNN* architecture using *Tensorflow*.
- Implementation of a *DCGAN* to draw *MNIST* characters using *Tensorflow*.
- Implementation of a *Variational Autoencoder* using *Tensorflow*.
- Implementation of various *Deep Learning* techniques using *Tensorflow*.

TECHNICAL REPORTS

Design & Implementation of Programming Languages
Advisor: Prof. Mehran S. Fallah – [docs]

Machine Learning
Advisor: Prof. Mohamad E. Shiri – [docs]

Microprocessors & Assembly Programming
Advisor: Prof. Mahdi Homayounpour – [docs]

WORK EXPERIENCE

Internship @ Arvan Cloud Jun – Sep 2017
Web Application Development

- *HTML, CSS, PHP, Laravel, Javascript, ECMAScript, Node.js, Vue.js, React.js*

Internship @ Fandogh Jun – Aug 2017
Mobile Application Development

- *Java, React Native*

TEACHING EXPERIENCE

T.A. @ CEIT @ Amirkabir University of Technology Sep – Dec 2017
Microprocessors & Assembly Programming
Advisor: Prof. Mahdi Homayounpour

T.A. @ ENG @ Kharazmi University of Tehran Sep – Dec 2017
Foundations of Programming in C++
Advisor: Dr. Azadeh Mansouri

TALKS

Machine Learning at Scale Oct 2017

- Based on the paper *Rules of Machine Learning* by Dr. Martin Zinkevich.

Energy Awareness July 2017

- Based on the paper *Energy-aware adaptation for mobile applications* by Dr. Jason Flinn.

Metasploit Framework May 2017

- Introduction to *Metasploit Framework* & *Social Engineering* techniques.

HONORS

Admitted to **Amirkabir University of Technology** among all bachelor students at Computer Engineering Department, Kharazmi University of Tehran. Aug 2018

Ranked top 3 among all bachelor students at Computer Engieering Department, Kharazmi University of Tehran. July 2016

Ranked top 0.006 in the Nationwide University Entrance Exam among all students in Mathemathics and physics (approximately 250,000). July 2014

SKILLS

Languages Persian (*native*), English (*advanced working proficiency*)

Programming *Python, VHDL, C/C++, Java, ARM Assembly, AVR Assembly, Javascript, HTML/CSS, LaTeX, Racket, ML, Scheme.*

Tools & Platforms *Tensorflow, scikit-learn, Numpy, Pandas, Matplotlib, Weka, Arduino, ARM, AVR, CodeVision, Xillinx Vivado, ModelSim, Atmel Studio, Cadence PSpice, Keil, Dr. Racket, MongoDB, PostgreSQL, MySQL, Visual Studio, TeXstudio.*

NOTABLE PROJECTS

MNIST-Drawer, *Variational Autoencoder*

- Implementation of a *Variational Autoencoder* to draw *MNIST* dataset characters using *Tensorflow.* `[code]`

notMNIST, *Convolutional Neural Network*

- Implementation of multiple machine learning classifiers and regularization techniques on the *notMNIST* dataset using *Tensorflow.* `[code]`

Freeman, *Hardware Programming & Co-design*

- Implementation of a *Parking Controller* & *Security Controller* using *VHDL.* `[code]`

Numex, *Functional Programming*

- Implementation of an *Advanced Functional Interpreter* using *Racket.* `[code]`

Hornburg, *Deep Learning Basics*

- Implementation of *Principal Machine Learning Algorithms* using *Python.* `[code]`

Iris, *Multi-nomial classification*

- Multi-nomial classification of *Iris* dataset using *scikit-learn*. [code]

ARMHE, *Advanced RISC Machine Programming*
- Implementation of the *Histogram Equalization* algorithm on the *STMF32F407VGT6* with *ARMv4T* architecture using *ARM Assembly*. [code]

Cinder, *Low Level Programming*
- Implementation of a basic *Operating System* with *C*. [code]

Sockets, *Socket Programming*
- Implementation of various types of *Sockets* in *Interprocess Communication* & *TCP/IP Protocol* with *C*. [code]

Toofan, *Android Application Development*
- Implementation of a *Weather Forecast Application* on the *Android* platform using *Java* & *Android Studio*. [code]

Huffman, *Huffman Coding*
- Implementation of the *Huffman Text Compression Algorithm* using *Java*. [code]

2048, *C++ Programming*
- Implementation of the *2048 Puzzle Game* with various gameplay tweaks using *C++*. [code]

Manobase, *VHDL Programming*
- Implementation of the *Morris Mano's Base Computer* using *VHDL*. [code]