Ali Gholami

CONTACT INFORMATION	Computer Eng. Dept., Amirkabir University of Technology Hafez St., Tehran, Iran	*Voice*: (+98) 939 6191 804 *Email*: hexpheus@gmail.com https://hexpheus.github.io

EDUCATION

Amirkabir University of Technology, Tehran, Iran
B.Sc. in Software Engineering   **Oct. 2014 – Present**

- Advisor: Mohammad Rahmati
- Cumulative GPA: **17.55/20 (3.64/4.00)**
- Last Year GPA: **17.80/20 (3.90/4.00)**
- Selected Courses GPA: **18.74/20 (4.00/4.00)**

Kamal Highschool, Tehran, Iran
Diploma in Mathematics & Physics   **Oct. 2012 – Jun. 2014**

- Cumulative GPA: **19.58/20**

RESEARCH INTERESTS

- 3D Reconstruction & Segmentation
- Neuroscientific Deep Learning
- Visual Question Answering
- Virtual Augmented Reality
- Radiogenomics & Medical Imaging
- Quantitative Imaging Biomarkers
- Tissue & Cell Morphogenesis
- DNA & RNA Sequencing

RESEARCH EXPERIENCE

Sharif University of Technology, Bio-intelligence Center
Research Assistant   **Jun. 2018 – Present**

- *Advisor: Ali Ghazizadeh*
- Developing algorithms for detection, localization and segmentation of diseases in lung magnetic resonance images.
- Developed algorithms for visualization and generation of class activation maps in convolutional neural networks.
- Implementation of novel convolutional neural network architectures with Tensorflow.

Amirkabir University of Technology, Machine Learning Lab
Research Scientist   **Sep. 2017 – Jun. 2018**

- *Advisors: Mohammad Rahmati, Mahmoud Momtazpour & Reza Safabakhsh*
- Designed & Developed a real-time face recognition system based on the maximum likelihood approximate nearest neighbor method.
- Developed an image template matching algorithm with *CUDA* technology.
- Explored novel convolutional & recurrent neural network architectures in visual question answering and image captioning.

WORK EXPERIENCE

ArvanCloud, Tehran, Iran
Web Development Internship   **Jun. 2017 – Sep. 2017**

- Developed an administrative panel for an smart lock system using PHP and Laravel.

Fandogh, Tehran, Iran
Android Development Internship   **Jun. 2017 – Sep. 2017**

- Design & implementation of a weather forecast application with *Java SE & Android Studio*.
- Development of a poetry application with *React Native*.

HONORS & AWARDS	**Ranked top 10** Among the Class of 2014, Department of Computer Engineering, Amirkabir University of Technology.	**Aug. 2018**
	Ranked top 3 Among the Most Active GitHub Developers in Iran. (Based on *https://commits.top/iran.html*)	**Jul. 2018**
	Admitted to the Class of 2014, Department of Computer Engineering, Amirkabir University of Technology.	**Oct. 2016**
	Ranked top 3 Among the Class of 2014, Department of Computer Engineering, Kharazmi University of Tehran.	**Aug. 2016**
	Ranked top 0.6% in the Nationwide University Entrance Exam, Among all Students (Approx. *270,000*) in Mathematics & Physics.	**Jul. 2014**
	Elected as the Tidiest Student at the Campus of International Summer School, *Institute Monte Rosa*, Montreux, **Switzerland**.	**Jun. 2012**

PROGRAMMING LANGUAGES

Languages: *Python, C/C++, Java SE, VHDL, ARM Assembly, AVR Assembly, Racket, ML, Scheme, HTML/CSS, Javascript, Latex.*

Frameworks and Environments: *Keras, Tensorflow, Numpy, Matplotlib, Pandas, RapidMiner, Weka, OpenMP, CUDA, React Native, Node.js, Laravel.*

Databases: *MongoDB, MySQL, PostgreSQL.*

TEACHING EXPERIENCE

Teaching Assistant, Amirkabir University of Technology
Foundations of Data Mining   **Sep. 2018 – Present**
- Advisor: Maryam Amirmazlaghani

Teaching Assistant, Amirkabir University of Technology
Microprocessors and Assembly Language   **Sep. 2017 – Dec. 2017**
- Advisor: Mohammad Mehdi Homayounpour

Teaching Assistant, Kharazmi University of Tehran
Foundations of Programming   **Sep. 2015 – Dec. 2015**
- Advisor: Azadeh Mansouri

SELECTED COURSES

Pattern Recognition:	17/20	**Machine Learning**:	19.5/20
Data Mining:	18.7/20	**Technical Research**:	17.6/20
Data Structures:	18.5/20	**Algorithm Design**:	19.31/20
Engineering Statistics:	18.5/20	**Engineering Mathematics**:	19/20
Software Engineering:	17.5/20	**Microprocessors**:	19.42/20
Computer Aided Design:	17.4/20	**Engineering Ethics**:	20/20
Systems Analysis & Design:	19.68/20	**Digital Design**:	20/20

ENGLISH PROFICIENCY

TOEFL: *Registered to take the test on October 14.*
TOEFL: *Test score for August 4th:* **91** *(20/25/22/24)*

TECHNICAL REPORTS	**A. Gholami**, ”*Real-time Face Recognition Based on the Maximum Likelihood Approximate Nearest Neighbor Method*,” Faculty of Computer Engineering, Amirkabir University of Technology, Tehran, Iran, Statistical Pattern Recognition Final Project Report, Jul. 2018. **A. Gholami**, ”*Implementation of A Naive Template Matching Algorithm with CUDA Technology*,” Faculty of Computer Engineering, Amirkabir University of Technology, Tehran, Iran, Multu-core Programming Final Project Report, Apr. 2018. **A. Gholami**, ”*Linear Discriminant Functions, Support Vector Machine and Unsupervised Learning*,” Faculty of Computer Engineering, Amirkabir University of Technology, Tehran, Iran, Statistical Pattern Recognition Coursework Report, Jun. 2018. **A. Gholami**, ”*Dimensionality reduction strategies; Principal Component Analysis, Fisher Linear Discriminant and Feature Subset Selection*,” Faculty of Computer Engineering, Amirkabir University of Technology, Tehran, Iran, Statistical Pattern Recognition Coursework Report, Feb. 2018. **A. Gholami**, ”*Parametric and Non-parametric methods; Maximum Likelihood and Bayesian Parameter Estimation and Kernel Density Estimation*,” Faculty of Computer Engineering, Amirkabir University of Technology, Tehran, Iran, Statistical Pattern Recognition Coursework Report, Jan. 2018. **A. Gholami**, ”*Analysis of Bayesian Decision Boundaries, Risk Minimization and Bayes Error Bounds*,” Faculty of Computer Engineering, Amirkabir University of Technology, Tehran, Iran, Statistical Pattern Recognition Coursework Report, Dec. 2017. More available on https://hexpheus.github.io/publications.
NOTABLE PROJECTS	**Implementation** of the SimpNet convolutional neural network architecture in Python & Tensorflow. **Implementation** of a real-time face recognition system based on the maximum likelihood approximate nearest neighbor method in Tensorflow & OpenCV. **Implementation** & optimization of a fast naive image template matching in CUDA. **Implementation** of the AlexNet convolutional neural network architecture in Tensorflow. **Implementation** of 1D & 2D kernel density estimation & visualization in Python. **Implementation** of a pure functional programming language interpreter in Racket. **Implementation** of a wireless network using nRF24L01 and Arduino UNO. **Implementation** of the histogram equalization algorithm on the STMF32F407VGT6 with ARMv4T architecture using ARM assembly. **Co-design** of a smart parking system in VHDL and C. **Implementation** of a weightless neural network library in Python. (ongoing) More available on https://github.com/hexpheus.

References

Prof. Ali Ghazizadeh
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Faculty of Computer Engineering, Amirkabir University of Technology
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