

# Reza Rajabli

☎ (+98) 912 459 6440 | ✉ rajabli@ce.sharif.edu | 🏠 rajab.li | 🌐 rajabli

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## Education

### Sharif University of Technology

Tehran, Iran

M.Sc. IN COMPUTER ENGINEERING - ARTIFICIAL INTELLIGENCE

2014 - 2017

- GPA: 19.39 / 20 [4 / 4, Ranked 1st]
- Thesis Title: "Classification of EEG signals to detect predefined words in imagined speech", Advisor: Dr. Hamid Beigy
- Neural Networks & Fuzzy Systems (20 / 20), Complex Dynamical Networks (20 / 20), Computer Vision (20 / 20), Speech Processing (20 / 20), Philosophy of Science (20 / 20), Neuroscience (19.5 / 20), Machine Learning Theory (18.7 / 20), Digital Signal Processing (18.7 / 20), Machine Learning (17.5 / 20)

### Amirkabir University of Technology

Tehran, Iran

B.Sc. IN ELECTRICAL & ELECTRONIC ENGINEERING

2009 - 2014

- GPA of Last 2 years: 18.23 / 20 [3.68 / 4]
- Thesis Title: "Automatic Circuit Design using Artificial Intelligence Algorithms in G", Advisor: Dr. Amir Hossein Rezaie
- Relevant Courses: Artificial Intelligence (20 / 20), Algorithm Design (20 / 20), Data Structures (20 / 20), Advanced Systems Programming (20 / 20), Linear Control Systems (18.7 / 20), Computer Architecture & Microprocessors (18.1 / 20), Computational Intelligence (18 / 20)

### Allameh Helli High School (NODET)

Tehran, Iran

DIPLOMA IN PHYSICS AND MATHEMATICS

2005 - 2009

- GPA: 19.47 / 20 [4 / 4]

## Research Interests

Neuroscience ● Artificial Intelligence ● Machine Learning ● Brain-Computer Interaction

## Honors & Awards

Since 2017 **Member** of Iran's National Elites Foundation (INEF).

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|----------|--|------------------------------------|
| 2017     | <b>Statistics &amp; Actuarial Science Chair's Award</b> as an incoming student with first class academic standing.       | Domestic<br>University of Waterloo |
| 2017     | <b>Graduate Scholarship</b> of University of Waterloo for international doctoral students.                               | University of Waterloo             |
| 2016     | <b>Ranked 7th</b> in nationwide university entrance exam for Ph.D. program in Cognitive Science.                         | Domestic                           |
| 2016     | <b>Ranked 1st</b> among all graduate students of Computer Engineering department in M.Sc. program.                       | Sharif U. of Tech.                 |
| 2015     | <b>Ranked 21st</b> out of more than 2,500 teams in IEEEExtreme 9.0 [Ranked 2nd in Iran].                                 | International                      |
| 2014     | <b>Ranked 23rd</b> out of more than 1,800 teams in IEEEExtreme 8.0 [Ranked 1st in Iran].                                 | International                      |
| 2014     | <b>Ranked 1st</b> in Islamic Azad University entrance exam for M.Sc. program.  | Domestic                           |
| 2014     | <b>Ranked 8th</b> in nationwide M.Sc. entrance exam among more than 30,000 participants                                  | Domestic                           |
| 2014     | <b>Semifinalist</b> in Computer Olympiad for University Students as a participant of Amirkabir U. of Tech. .             | Domestic                           |
| 2013     | <b>Merit-Based Admission Offer</b> for M.Sc. program in Artificial Intelligence at Amirkabir U. of Tech. .               | Amirkabir U. of Tech.              |
| 2013     | <b>Ranked 28th</b> out of more than 2,000 teams in IEEEExtreme 7.0 [Ranked 1st in Iran].                                 | International                      |
| 2013     | <b>3rd Place</b> in 4th AUTCUP Artificial Intelligence competition at Amirkabir U. of Tech. .                            | International                      |
| 2011     | <b>Ranked 23rd</b> in 11th ACM ICPC Regional Contest   | Tehran Site                        |
| 2009     | <b>Ranked Top 0.1%</b> in the nationwide university entrance exam for B.Sc. program with more than 300,000 participants. | Domestic                           |
| 2006, 07 | <b>Semifinalist</b> in 24th Mathematics National Olympiad & 17th Computer National Olympiad                              | Domestic                           |

## Publications

- R. Rajabli, S. Noei, H. Beigy, and R. Lashgari. "Is it Possible to Detect Persian Numbers ('1' & '2') in Imagined Speech without using Visual Stimulus?" In *2018 International Conference Brain Engineering & Computational Neuroscience Conference (BECNC)*.
- M. Falahi, B. Beigzadeh, Z. Bank, and R. Rajabli. "Design and implementation of a cognitive-ergonomic navigation interface on an optimized holonomic mechanism." In *2014 IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, pp. 1-6. IEEE, 2014.

## Projects

- 2016 **Writing a walk-through for beginners in Computational Theory of Mind**  
Final Project of Philosophy of Science course, Supervised by Dr. Mostafa Taghavi.
- 2015 **Placing a moving person from a video into another video**

Written in C++ and Objective-C for Desktop and iOS respectively. Final Project of Computer Vision course, Instructor: Dr. Hamid Aghajan.

- 2015 **Mergelt**  
As Indie Game Designer. Mergelt has been released for Android nationally and for Windows Phone internationally.
- 2015 **Evaluation of Tehran Highway Network Efficiency**  
The price of anarchy for every edges in the highway network was calculated and reported to find non-efficient edges. Final Project of Complex Dynamical Network course, Supervised by Dr. Mahdi Jalili.
- 2015 **Spoken Term Detection using Kaldi**  
Final Project of Speech Recognition course, Supervised by Dr. Hossein Sameti.
- 2014 **Implementation of a Maze Solver using Reinforcement Learning**  
Final Project of Machine Learning course, Supervised by Dr. Hamid Beigy.
- 2014 **Training of a Fully Complex-valued Neural Network for Real-valued Classification**  
Final Project of Neural Networks & Fuzzy Systems course, Supervised by Dr. Mahdi Jalili.
- 2014 **Detection of PQRS Points in Electrocardiogram using Wavelet**  
Final Project of Digital Signal Processing course, Supervised by Dr. Hossein Sameti.
- 2014 **Automobile Battery Chargers Controller**  
Developed in C# for Saba Battery, the biggest manufacturer of batteries in Iran.
- 2013 **Implementation of a GUI for Controlling a Robot in 8086 Assembly**  
It was a personal project to learn more about x86 assembly.
- 2013 **Video Inpainting to Remove Unwanted Objects**  
Proposed method for participating in 4th AUTCUP Artificial Intelligence competition.
- 2013 **Implementation of SHA-3 Finalist Algorithms in ARM v9**  
A collaborative effort for an M.Sc. thesis.
- 2012 **Designing a 4-input XOR Gate Layout**  
The design process was done in Cadence Virtuoso. Final Project of VLSI course, Supervised by Dr. Majid Shalchian.
- 2012 **Digital Oscilloscope**  
Final Project of Microcontroller Lab course, Supervised by Dr. Hadi Safdarkhani.
- 2012 **Fully Animated Multilayer Perceptron Neural Network Demonstrator**  
Final Project of Computational Intelligence course, Supervised by Dr. Kourosh Kiani.
- 2012 **Curve Approximation by specific number of line segments using Simulated Annealing**  
Developed in C#, Supervised by Dr. Kourosh Kiani.
- 2011 **Designing a 4-bit CPU in VHDL**  
Final Project of Logic Circuits Lab course, Supervised by Soheil Taheri.
- 2011 **Linking MATLAB and C++ to Each Other using MEX**  
Final Project of Advanced Programming course, Supervised by Dr. Saeed Sharifian.
- 2011 **A Quoridor Agent in Java**  
The agent was powered by Minimax and Genetics Algorithm. Final Project of Artificial Intelligence course, Supervised by Dr. Mohammad Mehdi Ebadzadeh.
- 2011 **Pulse Metering using Infrared Sensors**  
Developed using AVR microcontroller. A Project of Electronic Measurement course, Supervised by Dr. Amir Hossein Rezaie.
- 2010 **Traffic Light Controller in ARM v7 Assembly**  
Final Project of Computer Architecture course, Supervised by Dr. Abolghasem Raie.
- 2009 **A Tic-tac-toe Self-learner Agent in C++**  
Final Project of Computer Programming course, Supervised by Mohammad Reza Mohammadi.

## Teaching Experiences

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|---------|---|----------------------------------|
| 2014-16 | <b>Operating Systems Lab</b> - Head Teaching Assistance, Instructor: Dr. Hamid Beigy                    | <i>Sharif U of Tech</i>          |
| 2016    | <b>Speech Recognition</b> - Teaching Assistance, Instructor: Dr. Hossein Sameti                         | <i>Sharif U of Tech</i>          |
| 2015    | <b>Machine Learning</b> - Teaching Assistance, Instructor: Dr. Hamid Beigy                              | <i>Sharif U of Tech</i>          |
| 2015    | <b>Speech Processing</b> - Teaching Assistance, Instructor: Dr. Hossein Sameti                          | <i>Sharif U of Tech</i>          |
| 2015    | <b>Neuroscience</b> - Teaching Assistance, Instructor: Dr. Reza Lashgari                                | <i>Sharif U of Tech</i>          |
| 2015    | <b>A Workshop on How to Develop a Game</b> - Lecturer   | <i>Allameh Helli High School</i> |
| 2015    | <b>Advanced Programming</b> - Head Teaching Assistance, Instructor: Dr. Amir Jahanshahi                 | <i>Amirkabir U of Tech</i>       |
| 2013    | <b>Artificial Intelligence</b> - Teaching Assistance, Instructor: Dr. Mohammad Mehdi Ebadzadeh          | <i>Amirkabir U of Tech</i>       |
| 2013    | <b>Advanced Electronics Measurement</b> - Head Teaching Assistance, Instructor: Dr. Amir Hossein Rezaie | <i>Amirkabir U of Tech</i>       |
| 2012    | <b>A Workshop on Introduction to Electrical &amp; Computer Engineering</b> - Workshop Conductor         | <i>Farzanegan High School</i>    |
| 2012    | <b>Artificial Intelligence</b> - Teacher  | <i>Allameh Helli High School</i> |
| 2009-11 | <b>Programming</b> - Teacher  | <i>Allameh Helli High School</i> |
| 2010    | <b>Introduction to C++ Programming</b> - Head Teaching Assistance, Instructor: Dr. Hassan Taheri        | <i>Amirkabir U of Tech</i>       |

## Experiences

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**Brain Engineering Research Center - IPM**  
RESEARCHER, Doing reserach about Brain-Computer Interfaces.

*Tehran, Iran*  
*Dec. 2015 - Now*

## Cognitive Sciences and Technologies Council

RESEARCHER, Presenting cognitive experiments to people to make them more familiar with cognitive distortions.

*Tehran, Iran*

*Sep. 2016 - Mar. 2017*

## Arsheh Jaam-e-Jam

R&D DIRECTOR, Worked on the first Iranian-made "Digital Piano" as a senior embedded developer.

*Tehran, Iran*

*May. 2014 - Sep. 2016*

## AIMS Lab - Amirkabir University of Technology

INTERN, Programmed the software of first Iranian-made PMU (Phase Measurement Unit).

*Tehran, Iran*

*Jun. 2013 - Sep. 2013*

## Bazinama

VIDEO GAME EDITOR & REVIEWER, Head of game developing section and reviewed many video games for Bazinama magazine.

*Tehran, Iran*

*Sep. 2009 - Sep. 2012*

## 2nd Iranian Conference on Smart Grids (ICSG)

HEAD OF INDUSTRIAL AFFAIRS, Found potential sponsors and signed contracts with them.

*Tehran, Iran*

*Jun. 2012*

## Electrical Engineering Student Association - Amirkabir University of Technology

HEAD OF IT, Managed all IT related works in student association of electrical engineering department.

*Tehran, Iran*

*Jan. 2011 - Jan. 2012*

## Skills

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### Programming

- ★ C, C++, MATLAB
- ★ C#, Objective-C, Java, Assembly, Pascal, Delphi
- ★ Python, R, PHP, ASP, HTML5, CSS3

### Specialized Softwares

- ★ Microsoft Visual Studio, MathWorks MATLAB
- ★ Eclipse, LabVIEW, HSPICE
- ★ Altium Designer

### Languages

Persian [Native]  
English [Fluent], **TOEFL: 107** (R: 29, L: 26, S: 24, W: 28), **GRE** (Q: 170, V: 150, AW: 3.0.)  
German [Basic]

## Hobbies

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Turning everything into code ● Reading & Writing Persian Poems ● Puzzle Solving (of any kind!) ● Mountain Climbing ● Playing Tennis