



## Ariyan Zarei

Department of Computer Science  
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## Education

GPA

From-To



Shahid Beheshti  
University

### Shahid Beheshti University - Tehran, Iran

**3.95 / 4.00**  
18.82 / 20.00

2013 - 2018

Bachelor of Science in Computer Science

**Advisor:** Dr. Ali Katanforoush <sup>1</sup>

**Thesis Advisor:** Dr. Alireza Tavakoli Targhi <sup>2</sup>

### Dehkhoda High School - Karaj, Iran

19.69 / 20.00

2009-2013

High School Diploma in Mathematics

## Research Interests

- Computer Vision
- Image Processing
- Artificial Neural Networks
- Deep Learning
- Machine Learning

## Publications

- A.Zarei, A.Yousefzade Shooshtari. "A Feature Vector for Optical Character Recognition.", 2nd International Conference on Frontiers of Image Processing (ICFIP 2018), Barcelona, Spain, 9-11 March 2018. (submitted)
- A.Zarei, "IMPROVE CAPTCHA'S SECURITY USING GAUSSIAN BLUR FILTER." Signal & Image Processing 5, no. 5 (2014): 35.
- A.Zarei, "THE EFFECT OF APPLYING GAUSSIAN BLUR FILTER ON CAPTCHA'S SECURITY.", First International Conference On Signal and Image Processing (SIGL 2014), Bangalore, India, 13-14 sept. 2014.
- A.Zarei, "Computer Controlling System Using Text Messages", International Conference On Computers, Information Technologies and Digital Medias (CITADIM 2013), Tehran, Iran, Mar. 2013. (Technical Report)

## Important Research Experiences

Type

- **Motorcycle Helmet Detection Using Deep Learning Techniques**  
We have been developing a system which is capable of detecting motorcycle drivers who are not wearing helmets. We want to employ  
Thesis Project (ongoing)

VGG-16 to detect helmets and motorcycles in the input images. We are mainly using Keras and Tensorflow libraries.

- **Using gesture recognition to treat patients with neurodevelopmental disorders**

In this project we developed an application that works with Microsoft Kinect and have a positive effect in the treatment of some neurodevelopmental disorders. It asks a patient with a psychological disorder, specially “autism”, to perform a series of movements and assesses the accuracy of his/her performance.

Joint project with the Cognitive Science Research Center at Shahid Beheshti University

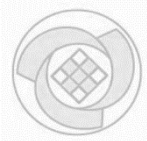
## Memberships

### From-To



Secretary of Scientific Association Of Computer Science Students, Shahid Beheshti University

2015-2016



Member of Iran's Society of Image Processing & Computer Vision

2015-now



Member of Youth Researchers and Elite Club, Islamic Azad University.

2014-2016

Editorial Board of “Pardazeh”, The Scientific Journal of Computer Science Association, Shahid Beheshti University.

2013-2014

## Awards and Honors

- Attendance in the Training Camp of the 43<sup>rd</sup> World Skills Competition.
- Ranked Third and achieved Bronze medal in the 14<sup>th</sup> national skills competition in “IT-Software solution for business” field.
- Ranked Fifth and achieved Honoring diploma in the 13<sup>th</sup> national skills competition in “IT-Software solution for business” field.
- Ranked first in the "Gomanesh" AI/NLP competition held by Shahid Beheshti University. It was a 20 question competition between computer robots.
- Ranked First in all Provincial and county levels of the national skills competition in “IT-Software solution for business” field.
- Chosen Project in the Provincial Level of the 14<sup>th</sup> Youth Khwarizmi Competition and acceded to the national level.
- Take Part in the national level of 13<sup>th</sup> “laboratory and Workshop Competitions” in the computer field.
- Ranked First in the Provincial and County level of 13<sup>th</sup> “laboratory and Workshop Competitions” in the computer field.

## Teaching Experiences

### Place

- C# programming language, from Beginning to advanced level
- **Data Structures.** Instructor: Dr. Ali Katanforoush <sup>1</sup>

7Learn Website  
Shahid Beheshti University

## Notable Course Projects

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- Pedestrian Detection using SVM classifier and HOG feature
- Implementing Canny Edge Detection Algorithm from Scratch
- Analyzing Tehran-Karaj Highway Traffic Data with R
- Ball Mania, a Game Designed with C++ Graphic Library
- Flowcharter, an Application Designed to Visually Simulate the Execution of simple programs in a Computer
- Share Generator Application for Visual Cryptography

## Selected Courses

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- Image Processing: 20/20
- Data Mining: 20/20
- Numerical Linear Algebra: 19.5/20
- Fundamental of Probability: 20/20
- Design and Analysis of Algorithms: 20/20
- Soft Computing: 20/20
- Fundamental of Numerical Analysis: 19.5/20
- Fundamental of Algebra: 18.5/20

## Certifications

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- Development of Windows Form Applications with C#.Net , Tehran Institute of technology
- Database Design and Development with SQL Server, Tehran Institute of technology
- ADO.Net and Entity Framework with C#.Net, Tehran Institute of technology
- Fundamental of programming with C#.Net, Tehran Institute of technology
- Game programming using XNA & C#, Coursera

## Skills

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- Keras – Deep Learning Library
- OpenCV
- Python
- C & C++
- SQL Server
- C#
- R (Data Mining)
- Matlab
- Kinect Programming (C#)
- Maple

## Language Skills

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- Farsi (Native)
- English:  
TOEFL ibt: Total: **110** (Reading: **30**, Listening: **29**, Speaking: **26**, Writing: **25**)  
GRE General: Total: ... (Verbal Reasoning: ..., Quantitative: ..., Analytical Writing: ...)

## Sports and Hobbies

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I'm interested in outdoor activities such as Camping, Hiking, Fishing and so on and I also do Hapkido and self-defense in order to clean my mind as well as my body.

## References

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1. Dr. Ali Katanfroush, [katanfor@gmail.com](mailto:katanfor@gmail.com), <http://facultymembers.sbu.ac.ir/katanfroush>
2. Dr. Alireza Tavakoli, [alireza.tavakoli@gmail.com](mailto:alireza.tavakoli@gmail.com)