

# Soroush Arabshahi

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Date of Birth: July 24, 1990

Nationality: Iranian

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## Education

M.Sc. in Biomedical Engineering (Bioelectric)

Sep 2013-Jan 2016

Sharif University of Technology, Tehran, IRAN

Thesis Title: Improvement and implementation of bio-inspired model (HMAX) in order to recognize red blood cell morphology (January, 2016)

Current GPA: 17.97/20 – Thesis: 19.3/20

B.Sc. in Electrical Engineering

Sep 2008-Jul 2012

Shahrood University of Technology, Shahrood, IRAN

B.Sc. Project: Face recognition using MLP network

## Research Interests

- Deep Learning, Convolutional Neural Network
- Computer Vision
- Human Vision Modeling, Cortical-Like Algorithm, Bio-inspired Vision Algorithm
- Applied Machine Learning
- Robotics

## Publication

Conference paper:

- A. Hariri, S. Arabshahi, A. Ghaffari, and E. Fatemizadeh, "Medical Images Stabilization using Sparse-Induced Similarity Measure," in *2nd International Conference on Pattern Recognition and Image Analysis*, Rasht, Iran, 2015. (Presented)
- A. Arab, J. Yi, M. M. Fateh, and S. Arabshahi, "Robust Control of a Low-Cost Mobile Robot Using a Neural Network Uncertainty Compensator," in *ASME 2014 Dynamic Systems and Control Conference*, 2014, pp. V001T17A005-V001T17A005. (Presented)
- A. Arab, S. Arabshahi, M. Neghabi, and H. Hassnpour, "Visual Servoing of a 6-DOF Robot Manipulator for Glazing Application," presented at the *3rd International Conference on Control, Instrumentation, and Automation*, 2013. ICCIA. Tehran, Iran, 2013. (Poster, In Persian)

## Patent

- Windshield 3D distortion detection system with ability to resist against light turbulence (No. 76496)
- Host robot with ability to recognize faces. (No. 78383)

## Honors

- 2st Place winner, SharifCup2013, Machine Vision league-Excavator Robot, Sharif University of Tech.
- 1st Place winner, SharifCup2012, Machine Vision league, Sharif University of Tech.
- Ranked 2st in Telecommunication branch of Electrical Eng., Shahrood University of Technology.

## Projects

- GPS Tracking software, Pishgaman Sharif Co. Spring 2016
- Elevator infoscreen, Pishgaman Sharif Co. Spring 2016
- Traffic level estimation using HMAX model, Electronic Research Institute Spring 2015
- Finger Tip Detection, Multi Camera Vision Course Fall 2014
- Portable EMG Recorder, Bio-Instrumentation Course Spring 2014
- Rotational angle detection of windshield, TAM Co. Summer 2012
- Face Recognition by MLP network, B.Sc. Project Spring 2012
- Digital Oscilloscope, as project for Fundamental of Microprocessors Spring 2012
- Medication Device, a device to save drugs and their utilization way Summer 2011
- Manual Robot as a project for Electrical machine course Fall 2011
- Mars Rover Robot, AUT Cup 2011 Fall 2011
- Electronically answer sheet, a device to save all answers. Summer 2010
- Numbers Recognition by OpenCV Spring 2009
- Vision Box for Small Size League Fall 2009
- Small Size League Simulator Summer 2009

## Teaching Experiences

- Sharif University of Technology, Tehran Spring 2015-Fall 2015  
Teacher Assistant: Specific Issue on Telecommunication – Computer vision at Smart Environments, Dr. Hamid Aghajan
- Sharif University of Technology, Tehran Fall 2014  
Teacher Assistant: Principal of Biomedical Engineering, Dr. Vosughi Vahdat
- Shahrood University of Technology, Shahrood Spring 2012  
Image Processing Work Shop, Robotic week
- Shahrood University of Technology, Shahrood Spring 2012  
Teacher Assistant: of Filter and Circuit Synthesis course, Dr. Ma'rouzi
- Shahrood University of Technology, Shahrood Fall 2010  
Teaching AVR Microcontroller
- Shahrood University of Technology, Shahrood Fall 2010  
Teaching Image Processing using OpenCV
- Hannan High School, Tehran Summer 2010  
Teaching C Programming language
- Dr. Hesabi High School, Tehran Summer 2008  
Teaching Robotic (AVR Microcontrollers, Electronic Circuit , ...)
- Abureyhan High School, Tehran Summer 2008  
Teaching Robotic (AVR Microcontrollers, Electronic Circuit , ...)

## Work Experiences

- Electronic Research Institute, Sharif Uni. of Tech., Tehran Fall 2014-Fall 2015  
Working on surveillance traffic vision data. Traffic level estimation, abnormally and crime detection, speed measurement, car counting and vehicle type detection.
- TAM Co, Tehran (Part Time) July 2012-Sep 2013  
Computer vision approach for measurement, remote sensing and industrial instrumentation.  
Supervisor: Eng. Mohammad Reza Neghabi.

## Languages

Persian: Native

English: Fluent

TOEFL: Reading: 22, Listening: 24, Speaking: 27, Writing: 23, Total: 96 (Sep 26, 2015)

GRE: Quantitative: 159, Verbal: 144, Writing: 3.0 (Oct 17, 2015) – Will be retaken.

## Computer Skills

*Languages:* Visual C#, Python, Android (Android studio, familiar with Unity and Xamarin), C++, C, Java, XAML (WPF), SQL, Familiar with KRL(KUKA Robot Language)

*Software & Applications:* OpenCV, EmguCv, MATLAB, Aforge, Qt, Proteus, Protel DXP, CodeVision, Keil, AVR Studio, ADS (beginner)

*Deep Learning Toolbox:* CUDA (C language), Caffe (Python, MATLAB, Protobuf), TensorFlow

*OS:* Windows, Ubuntu

## Participation

- 3rd International Conference of Control, Instrument and Automation, Amirkabir Uni. of Tech. 2013
- Sharif Cup 2013, Merlin Team, Machine Vision league
- International Conference of Robotic and Mechatronic (ICRoM), 2013, Sharif University of Technology
- Sharif Cup 2012, Merlin Team, Machine Vision league
- Iran Open 2009, SmallShut Team, SmallSize league
- Iran Open 2008, Merlin Team, Rescue Junior league
- Khavaran Robotic Competition, Merline Rescue Junior league, Fall 2008
- Iran Open 2007, Dr Hesabi High School Team, LineFollower league

## Affiliation

IEEE student member 2009, 2011 and 2014

## Extra-curricular

Kyokushin  
Volleyball  
PC gaming

## References:

- **Dr. Bijan Vosughi Vahdat**  
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