Mostafa **Miandari-Hossein**

(+98) 910 200 8759 | miandari91@gmail.com

Education

University of Tehran   *Tehran, Iran*

M.Sc. in Electrical Engineering - Bio-electrical Engineering   *2014 - 2017*

- GPA: 18.3 / 20 [3.82 / 4, Ranked 1st]
- Thesis Title: "Analysis and modeling of human interactive learning in a probabilistic markov environment", Advisor: Dr. Majid Nili Ahmadabadi, Dr.Bahador Bahrami
- Relevant Courses: Introduction to Cognitive Neuroscience (20 / 20), Statistical Inference (19.6 / 20), Estimation & System Identification (19.5 / 20), Biological modelling (19 / 20), Physiology II (19 / 20), Machine Learning (18 / 20), Dynamical System in Neuroscience (17 / 20), Physiology I (17 / 20)

Amirkabir University of Technology   *Tehran, Iran*

B.Sc. in Electrical & Electronic Engineering   *2009 - 2014*

- GPA of Last 2 years: 17.79 / 20 [3.81 / 4]
- Thesis Title: "Prediction of objects class in visual cortex fMRI data via sparse representation", Advisor: Dr. Abolghasem Raie
- Relevant Courses: Electronic Measurement (20 / 20), Data Mining (19.5 / 20), Advanced Computer Programming (19 / 20), Programmable Logic Circuits (18.5 / 20), Algorithm Design (17.75 / 20), Digital Image Processing (17.5 / 20), Multimedia Systems (17 / 20), Cognition & Brain Physiology (17 / 20)

Allameh Tabatabaei High school, Kargar Branch   *Tehran, Iran*

Diploma in Physics and Mathematics   *2005 - 2009*

Research Interests

Computational and Mathematical Psychology ● Artificial Intelligence ● Machine Learning ● Neuroeconomics ● Neuroscience

Honors & Awards

Since 2018	**Member** of Iran's National Elites Foundation (INEF).	*Domestic*
2017	**Ranked 1st** among all graduate students of Bio-electrical Engineering in M.Sc. program, class of 2014.	*University of Tehran*
2015	**Awarded a research grant** from Cognitive Science and Technologies Council for my master thesis.	*Cognitive Science and Technologies Council*
2014	**Ranked 98th** in nationwide M.Sc. enterance exam among more than 30,000 participants.	*Domestic*
2012	**Elected with the most vote** to Electrical Engineering department Student Association of Amirkabir U. of Tech. .	*Amirkabir U. of Tech.*
2009	**Ranked Top 0.1%** in the nationwide university entrance exam for B.Sc. program with more than 300,000 participants.	*Domestic*
2007	**Semifinalist** in Computer National Olympiad.	*Domestic*
2006	**Semifinalist** in Astronomy National Olympiad.	*Domestic*

Publications

Miandari M*, Ershadmanesh S*,Vahabi H, Bahrami B,Nili Ahmadabadi (in prep) Structured self-evaluation causes an Increase in goal-directed behavior while non-structured self-evaluation causes an Increase in habitual behavior.

Ershadmanesh S*, Miandari M*, Vahabi H, Bahrami B,Nili Ahmadabadi (in prep) Meta-cognitive ability and habitual behavior are negatively correlated.

Projects

2018-now	**Development of a deep convolutional neural network for of matching street pictures of garments to the same item in an online shop** Developed for SYNTECH Center for a shop assistant site.
2017-now	**Development of a novel version of third-party punishment Dictator Game for a neuroeconomic study** As a researcher for Cognitive System Lab.
2017-now	**Development of a novel task for studying decision-making in multidimensional environments** As a researcher for Cognitive System Lab.
2017	**Development of a LSTM deep neural network for stock market prediction** Developed for Farabi Brokerage Co. .
2017	**Development of a novel method for urban traffic forecasting based on LSTM and multifractal detrended fluctuation analysis in Tensorflow**

In collaboration with a data mining firm.

2016	**Development of a reinforcement learning algorithm for optimizing traffic lights in SUMO simulator and Python** As a researcher for Cognitive System Lab.
2016	**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. As a researcher for Cognitive System Lab.
2015	**Modelling of CA1 pyramidal neuron using dynamical system approach in Python** Final project of Dynamical System in Neuroscience course, supervised by Dr. Fariba Bahrami.
2015	**Identifying dynamics of a Steam generator using Gaussian Mixture Models** Final project of Estimation & System Identification course, supervised by Dr. Babak arabi.
2015	**Implementation of a maze solver using reinforcement learning** As a researcher for cognitive system lab.
2014	**Modeling of decision-making in the Iowa Gambling Task** A project of Machine Learning course, supervised by Dr. Majid Nili Ahmadabadi.
2014	**Implementation of a sparse regression classifier for EEG data using MATLAB** It was a personal project to learn more about biological signal processing.
2014	**Building a model for estimating the probability of return shipment in an online store with decision trees and ensemble classification** For data mining cup in Germany.
2014	**Face detection with sparse representation and SVM in Python** It was a personal project to learn more about image processing and machine learning.
2013	**Designing a 4-input XOR gate layout** The design process was done in Cadence Virtuso. Final project of VLSI course, supervised by Dr. Majid Shalchian.
2013	**Designing an efficient method for hardware matrix multiplexing on FPGA** Final project of Programmable Logic Circuits course, supervised by Dr. Mohammad Motamedi.
2013	**Implementing JPEG compression protocol in MATLAB** Final project of Multimedia Systems course, supervised by Dr. Mohammad Ahadi Sarkani.
2012	**Designing a 4-bit CPU in VHDL** Final project of Logic Circuits Lab, supervised by Mohammad Reza Eslami.
2012	**Pulse metering using infrared sensors** Developed using AVR microcontroller. A project of Electronic Measurement course, supervised by Dr. Amir Hossein Rezaie.
2011	**Implementation and control of a bilateral teleoperation system in MATLAB** Final project of Linear Control System course, supervised by Dr. Heidar Ali Talebi.
2011	**Traffic Light Controller in ARM v7 Assembly** Final project of Computer Architecture course, supervised by Dr. Abolghasem Raie.

Teaching Experiences

2018	**Probability and Statistics for Engineering** - Head Teaching Assistance, Instructor: Dr. Mohammadreza Abolghasemi	*University of Tehran*
2018	**Human Visual System** - Teaching Assistance, Instructor: Dr. Reza Rajimehr	*University of Tehran*
2018	**Introduction to Cognitive Neuroscience** - Head Teaching Assistance, Instructor: Dr. Hossein Vahabi	*University of Tehran*
2017	**Statistical Inference** - Head Teaching Assistance, Instructor: Dr. Behnam Bahrak	*University of Tehran*
2017	**Introduction to Cognitive Neuroscience** - Head Teaching Assistance, Instructor: Dr. Mohammadreza Abolghasemi	*University of Tehran*
2017	**R for Cognitive Science Workshop** - Lecturer	*Institute for Research in Fundamental Sciences(IPM)*
2016	**Probability and Statistics for Engineering** - Teaching Assistance, Instructor: Dr. Behnam Bahrak	*University of Tehran*
2016	**Digital Image Processing** - Teaching Assistance, Instructor: Dr. Hamid Soltanian Zadeh	*University of Tehran*
2016	**Machine Learning** - Head Teaching Assistance, Instructor: Dr. Majid Nili AhmadAbadi	*University of Tehran*
2015-2016	**Logic Circuits Lab** - Instructor	*Amirkabir U of Tech*
2015	**Machine Learning** - Teaching Assistance, Instructor: Dr. Majid Nili AhmadAbadi	*University of Tehran*
2015	**Advanced Programming** - Head Teaching Assistance, Instructor: Dr. Amir Jahanshahi	*Amirkabir U of Tech*

Work Experiences

SYNTECH Technology and Innovation Center — *Qazvin & Tehran, Iran*
Senior Data Scientist, Developing various machine learning products like recommender systems. — *Dec. 2017 - Now*

Cognitive System Lab - University of Tehran — *Tehran, Iran*
Researcher, Doing research in the field of cognitive science. — *Dec. 2014 - Now*

Farabi Brokerage Co. — *Tehran, Iran*
Dveloper, Developing a machine learning product for stock prediction. — *Sep. 2017 - Dec. 2017*

Cognitive Sciences and Technologies Council — *Tehran, Iran*
Researcher, Presenting cognitive experiments to people to make them more familiar with cognitive distortions. — *Sep. 2016 - Mar. 2017*

Tetis Co. — *Tehran, Iran*
Engineer, Developing a software for sensor automation and monitoring. — *Sep. 2012 - Sep. 2014*

Iranian Research Organization for Science and Technology (IROST) *Tehran, Iran*
INTERN, Developing a new sensor system for maintaining blood pressure in dialysis process. *Jun. 2012 - Sep. 2012*

Electrical Engineering Student Association - Amirkabir University of Technology *Tehran, Iran*
DIRECTOR OF CULTURAL AFFAIRS, Organizing many different cultural events like book clubs, poetry nights and free discussions to enrich students life's. *Jan. 2012 - Jan. 2013*

2nd Iranian Conference on Smart Grids (ICSG) *Tehran, Iran*
HEAD OF PUBLIC RELATIONS, Managing the PR department of the conference. *Jun. 2012*

Electrical Engineering Student Association - Amirkabir University of Technology *Tehran, Iran*
DIRECTOR OF FINANCE, Managing the student association budget for organizing events for students. *Jan. 2011 - Jan. 2012*

Skills

Programming	★ Python, MATLAB
	★ R, Java, VHDL, G
	★ C, C++, Assembly
Specialized Softwares	★ MathWorks MATLAB
	★ Eclipse, Microsoft Visual Studio,LabVIEW, HSPICE
	★ Altium Designer
Hardwares	★ Raspberry Pi
	★ FPGA
	★ ARM
General Softwares	★ Microsoft Word, Microsoft PowerPoint
	★ Prezi,LaTex, Inkscape, Microsoft Excel
	★ Adobe Illustrator
Languages	Persian [Native]
	English [Fluent], **TOEFL: 102** (R: 29, L: 29, S: 24, W: 20)
	German [Basic]
	Arabic [Basic]

Hobbies

Thinking ● Reading books ● Swimming ● Mountain Climbing ● Taichi chuan ● Pencil Painting ● Meditation

References

Dr. Majid Nili AhmadAbadi
PROFESSOR - ECE DEPT. - UNIVERSITY OF TEHRAN

- ✉ mnili@ut.ac.ir

Dr. Hossein Vahabi
SENIOR RESEARCH FELLOW - SCHOOL OF COGNITIVE SCIENCE - INSTITUTE FOR RESEARCH IN FUNDAMENTAL SCIENCES(IPM)

- ✉ h.vahabie@gmail.com

Dr. Behnam Bahrak
ASSISTANT PROFESSOR - ECE DEPT. - UNIVERSITY OF TEHRAN

- ✉ bahrak@ut.ac.ir

Dr. Reza Rajimehr
RESEARCH SCIENTIST - McGOVERN INSTITUTE FOR BRAIN RESEARCH - MIT

- ✉ rajimehr@mit.edu

Dr. Bahador Bahrami
SENIOR RESEARCH ASSOCIATE - INSTITUTE OF COGNITIVE NEUROSCIENCE. - UNIVERSITY COLLEGE LONDON.

- ✉ b.bahrami@ucl.ac.uk

Dr. Mohammadreza Abolghasemi
ASSISTANT PROFESSOR - ECE DEPT. - UNIVERSITY OF TEHRAN

- ✉ mr.abolghasemi@gmail.com

Dr. Fariba Bahrami
ASSOCIATE PROFESSOR - ECE DEPT. - UNIVERSITY OF TEHRAN

- ✉ fbahrami@ut.ac.ir