Mostafa **Miandari Hossein**

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Education

University of Tehran — *Tehran, Iran*

M.Sc. IN ELECTRICAL ENGINEERING - BIO-ELECTRICAL ENGINEERING — *2014 - 2017*

- GPA: 18.26 / 20 [3.82 / 4, Ranked 1st]
- Thesis Title: "Analysis and modeling of human interactive learning in a probabilistic markov environment", Advisors: Dr. Majid Nili Ahmadabadi, Dr.Bahador Bahrami

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

Allameh Tabatabaei high school, Kargar branch — *Tehran, Iran*

DIPLOMA IN PHYSICS AND MATHEMATICS — *2005 - 2009*

- GPA: 18.66 / 20 [4 / 4]

Research Interests

● Neuroscience ● Neuroeconomics ● Artificial Intelligence ● Learning & Decision-making ● Mathematical Psychology

Honors & Awards

2019	**Graduate Scholarship** of Dartmouth College for international doctoral students.	*Dartmouth College*
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	**Graduate Scholarship** from Cognitive Science and Technologies Council for my master thesis	*Cognitive Science and Technologies Council of Iran*
2014	**Ranked 98th** in nationwide M.Sc. enterance exam among more than 30,000 participants	*Domestic*
2013	**Ranked 13th** in international Data mining cup in Germany with Amirkabir U. of Tech. team	*International*
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*
2006, 07	**Semifinalist** in 17th Computer National Olympiad	*Domestic*
2004, 05	**Semifinalist** in 12th Astronomy National Olympiad	*Domestic*

Publications

Ershadmanesh, S., Miandari, M., Vahabie, A.-H., & Nili Ahmadabadi, M. (2019). Higher meta-cognitive ability predicts less reliance on over confident habitual learning system. bioRxiv, 650556

Miandari M, Ershadmanesh S, Vahabie, A.-H, Bahrami B, & Nili Ahmadabadi, M. (in prep) Structured self-evaluation causes an increase in goal-directed learning while non-structured self-evaluation causes an increase in habitual learning

Shiravand A, Vahabie, A.-H, Miandari M, Nili Ahmadabadi, M. (in prep) Society doesn't compensate your generosity in the case of resource limitation, even if it could

Work Experiences

People Analytics Team- Cafe Bazaar — *Tehran, Iran*

HUMAN RESOURCES ANALYST, using data-driven approaches to analyze employees performance and other related metrics to help the company make better decisions for creating a more productive work environment. — *Nov. 2019 - Now*

Cognitive System Lab - University of Tehran — *Tehran, Iran*

RESEARCHER, doing research in the field of computational cognitive science. — *Dec. 2014 - Now*

SRC Accelerator, SYNTECH Technology and Innovation Center — *Qazvin & Tehran, Iran*

SENIOR DATA SCIENTIST, developing various machine learning products like recommender systems. — *Dec. 2017 - Dec. 2018*

Farabi Brokerage Co. — *Tehran, Iran*

DATA SCIENTIST, developing a machine learning product for stock prediction. — *Sep. 2017 - Dec. 2017*

Cognitive Sciences and Technologies Council — *Tehran, Iran*
CONSULTANT, presenting cognitive experiments and findings to general public to make them more familiar with cognitive distortions. — *Jun. 2016 - Sep. 2016*

Tetis Co. — *Tehran, Iran*
ENGINEER, developing software for sensor automation and monitoring. — *Sep. 2012 - Sep. 2014*

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

Electrical Engineering Student Association — *Tehran, Iran*
DIRECTOR OF CULTURAL AFFAIRS, organizing many different cultural events like book clubs, poetry nights and free discussions to enrich students' lives. — *Jan. 2012 - Jan. 2013*

2nd Iranian Conference on Smart Grids (ICSG) — *Tehran, Iran*
HEAD OF PUBLIC RELATIONS, managing the PR department of the conference. — *Apr. 2012 - Jan. 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*

Teaching Experiences

2018	**Statistical Inference** - Head Teaching Assistance, Instructor: Dr. M.R Abolghasemi-Dehaqani	*University of Tehran*
2018	**Intelligence Systems** - Head Teaching Assistance, Instructor: Dr. Abdol-Hossein Vahabie	*University of Tehran*
2018	**Dynamical Systems in Neuroscience** - Teaching Assistance, Instructor: Dr. Fariba Bahrami	*University of Tehran*
2018	**Probability and Statistics for Engineering** - Head Teaching Assistance, Instructor: Dr. M.R Abolghasemi-Dehaqani	*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. Abdol-Hossein Vahabie	*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.M.R Abolghasemi-Dehaqani	*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-Zadedh	*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*

Projects

2019-now **Computational modelling of humans' and rats' behavior in a reversal learning task**
As a researcher for Dartmouth's Computational & Cognitive Neuroscience Lab in collaboration with Yale's Kwan Lab

2018-now **Development of a novel task for studying decision-making in multidimensional environments**
As a researcher for Cognitive System Lab.

2017-now **Development of a novel version of third-party punishment Dictator Game for a neuroeconomic study**
As a researcher for Cognitive System Lab.

2018 **Development of a deep Reinforcement learning system for predicting peoples' online shopping behavior**
Developed for SYNTECH Center for a shop assistant site.

2018 **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 **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 fluctuate analysis bin 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 using price of anarchy**
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 **Implementation of a maze solver using reinforcement learning**
It was a personal project to learn more about reinforcement learning.

2014 **Implementation of a sparse regression classifier for EEG data using MATLAB**
It was a personal project to learn more about biological signal processing.

2013 **Pulse Metering using Infrared Sensors**
Developed using AVR microcontroller. A Project of Electronic Measurement course, Supervised by Dr. Amir Hossein Rezaie.

Selected Courses

M.Sc. 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 Systems in Neuroscience (17 / 20)
- physiology I (17 / 20)

B.Sc. 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)

Skills

Programming	★★★ Python, MATLAB ★★ R, VHDL, G, SQL ★ Java, C, C++, Assembly
Specialized Software	★★★ PyCharm, MathWorks MATLAB ★★ Keras, Tensorflow, LabVIEW ★ Altium Designer
Hardware	★★★ Raspberry Pi ★★ FPGA, AVR ★ ARM
General Software	★★★ 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), **GRE** (Q: 164, V: 163) German [Very Basic]

Hobbies

● Thinking ● Reading ● Swimming ● Hiking ● Meditation ● Pencil Painting ● Running

References

Dr. Bahador Bahrami
Humboldt Senior Fellow - Department of General and Experimental Psychology - Ludwig Maximilian University

- bahador.bahrami@psy.lmu.de

Dr. Majid Nili Ahmadabadi
Professor - School of Electrical and Computer Engineering - University of Tehran

- mnili@ut.ac.ir

Dr. Abdol-Hossein Vahabie
Senior Research Fellow - School of Cognitive Science - Institute for Research in Fundamental Sciences (IPM)

- vahabi@ipm.ir

Dr. Mohammad-Reza Abolghasemi-Dehaqani
Assistant Professor - School of Electrical and Computer Engineering - University of Tehran

- dehaqani@ut.ac.ir

Dr. Reza Rajimehr
Research Scientist - MRC Cognition and Brain Sciences Unit - University of Cambridge

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Dr. Alireza Soltani
Assistant Professor - Department of Psychological and Brain Sciences - Dartmouth College)

- alireza.soltani@dartmouth.edu

Dr. Fariba Bahrami
Associate Professor - School of Electrical and Computer Engineering - University of Tehran

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Dr. Behnam Bahrak
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