

AMIRHOSEIN EBRAHIMI

Tehran,Iran

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EDUCATION

B.Sc. of Computer Engineering

2017 – 2022

Shahid Beheshti University

Tehran, Iran

- **Supervisor:** Dr. Dara Rahmati
- **Thesis:** Acceleration of biologically inspired neural network. Grade (A+)
- **GPA:** 3.3/4 (15.53/20) - (Last two years of post-secondary, 65 credits): 3.63/4 (17.25/20)

RESEARCH INTERESTS

- Deep Learning, Machine Learning
- Gaze Estimation, Eye tracking
- Generative Models (GANs & Diffusion)
- Geometric modeling & Computer Vision - Graphics
- AI accelerator by Hardware
- Cognitive science, Neuroscience

PUBLICATIONS

- **Chapter of Book** - *First Course In Machine Learning: Dimension Reduction & Feature Selection* - Chapters: 1,3 - Elsevier,2023
- **A.H Ebrahimi**, H. Vafaei, M. Asghari, D. Rahmati - 2022 - Neurocomputing - HA-BSN: Hardware acceleration of bio-SFA and bio-NICA, biological neural networks, on FPGA with HLS - **submitted**
- S.Alipour, **A.H Ebrahimi** - 2022 - European Symposium on Algorithms - ESA - A new approach for minimum dominating set problem - **submitted** - [preprint](#)
- **A.H Ebrahimi**, H. Vafaei,D. Rahmati - 2022 - National Informatics Conference of Iran (NIC) - Estimating stochastic model's parameters using residual neural networks - **Accepted**
- **A.H Ebrahimi**, H. Vafaei, A.H Hadian, D Rahmati - not determined - not determined - TempoGaze: Estimation of location and duration of gaze - **In progress**
- **A.H Ebrahimi**, H. Vafaei, J. Amani Rad - 2022 - Journal of Mathematical and Statistical Psychology - Ensemble architecture for parameter estimation of decision making models - **To be submitted**

WORK & RESEARCH EXPERIENCE

IPM | Research Assistant

2020 – present

- As an undergraduate, I joined this research institution willingly to expand my expertise of machine learning and deep learning. Later, I completed my internship there and remained as an AI researcher, collaborating with other AI researchers on various projects.

CMP Lab | Developer

2022 – present

- Computational & Mathematical Psychology Laboratory (CMP Lab) in the Institute for Cognitive and Brain Sciences (ICBS), Shahid Beheshti University directed by Dr. Jamal Amani Rad. I was employed as a programmer to develop psychological experiments.

COURSES & CERTIFICATES

Coursera

- [Structuring Machine Learning Projects](#)
- [Improving Deep Neural Networks: Hyper-parameter Tuning, Regularization and Optimization](#)
- [Neural Networks and Deep Learning](#)
- [Basic Generative Adversarial Networks \(GANs\)](#)

- Build Better Generative Adversarial Networks (GANs) soon

IPM _ CMP Lab

- Fifth IPM Advanced School on Computing and Artificial Intelligence (ASOC 2021)
- 2nd Six-day School of mathematical and computational psychology (2022)

TEACHING EXPERIENCE

Teaching Assistant - SBU

- *Computer Architecture* (Dr. Dara Rahmati) Fall 2019 - 2020
- *Microprocessors and Assembly*. (Dr. Seyed-Hosein Attarzadeh-Niaki) Fall 2020
- *Microprocessors and Assembly* . (Dr. Dara Rahmati) Spring 2021

Teaching Assistant at Onacademy

2022 - Now

- Python and R
- Basic Machine Learning
- Advanced Machine Learning
- Data Analytics for ML
- Neural Networks
- Computer Vision

SELECTED COURSES

- BSc Project | 19.5/20
- Fundamental of Information retrieval and Web Search | 20/20
- Embedded and Real time Systems | 20/20
- Hardware-Software Codesign | 19.5/20
- Internet Engineering | 20/20
- Microprocessors and Assembly Language | 19.3/20
- Operation Systems Lab | 19.5/20
- Fundamentals of Robotics | 17.8/20
- Fundamental of Computer Vision | 17/20
- Fundamentals of Cryptography | 17/20

SELECTED PROJECTS

- **Residual neural network architecture for parameter estimation**| Python , Keras
- **HA-BSN, Hardware acceleration of bio-SFA and bio-NICA**| HLS , FPGA, Python, C
- **Saliency prediction** | Python , Keras
- **Wisconsin-Card-Sorting-Test**| Python , PsychoPy
- **Motion-discriminator-Task**| Python , PsychoPy
- **Face emotion recognition**| Python , Keras
- **Comment recommender using natural language processing**| Python , Pandas , Scikit-learn , Hazm
- **Elevator Controller System**| Matlab Simulink , C++ , Arduino
- **Simulating wall-following algorithms using Webots**| C++ , Python
- **Stackoverflow Tag Recommender**| Python

TECHNICAL SKILLS

Programming Languages

- **Python**: [Keras, Tensorflow, FastAI, Pytorch, Pandas, Numpy, Scikit-learn, Scipy, Matplotlib, Selenium, Psychopy , cmdstanpy] - Advanced
- **C/C++**: [Armadillo, OpenMP] - Advanced
- Java, Golang, x86 and ARM assembly, System Verilog, Verilog, VHDL, gezel, Matlab - Expert

Others

- FPGA : Xilinx ZedBoard, DE0-Nano-SoC, Z-turn
- Arduino
- Raspberry pi3/4

LANGUAGE

- **English:** Fluent ([TOEFL](#): 102 (R=27, L=25, S=23, W=27))
- **Persian:** Native

VOLUNTARY EXPERIENCES & HONORS

Member of the SBU ACM and Robotic Club

- Contributed to the club in various ways, such as holding knowledge-sharing sessions, teaching and working on various projects like vision, ML, Arduino, robotics (Github).

Ranked 880 in the national university entrance exam among nearly 160,000 participants.

REFERENCES

Dr. Dara Rahmati

- Assistant Professor - Institute for Research in Fundamental Science IPM, and Faculty of Computer Engineering and Science Shahid Beheshti University - Email: dara.rahmati@ipm.ir

Dr. Jamal Amani Rad

- Assistant Professor - Department of Cognitive Modelling, Institute for Cognitive and Brain Sciences, Shahid Beheshti University, Tehran, Iran - Email: j.amanirad@gmail.com

Amir Hosein Hadian Rasanan

- Researcher at - Department of Cognitive Modelling, Institute for Cognitive and Brain Sciences and Institute for Research in Fundamental Science IPM, Tehran, Iran - Email: a.hadianrasanan@ipm.ir