

# Mohammad Hashemi

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## Education

### Ph.D. in Computer Science

DEPARTMENT OF COMPUTER SCIENCE AND INFORMATICS, EMORY UNIVERSITY

- Under supervision of **Prof. Li Xiong** (co-advised by **Dr. Wei Jin**) | Cumulative GPA: 3.92

Atlanta, Georgia, USA

Aug. 2023 - Present

### B.Sc. in Computer Engineering

FACULTY OF COMPUTER SCIENCE AND ENGINEERING, SHAHID BEHESHTI UNIVERSITY

- Cumulative GPA: 3.85/4

Tehran, Iran

Sep. 2018 - Feb. 2023

## Research Interests

Machine Learning | Privacy-preserving | Graph Data Mining | AI for Healthcare

## Publications

### A Comprehensive Survey on Graph Reduction: Sparsification, Coarsening, and Condensation [Slides]

INTERNATIONAL JOINT CONFERENCE ON ARTIFICIAL INTELLIGENCE(IJCAI)

- M Hashemi, S Gong, J Ni, W Fan, B. A Prakash, W Jin

IJCAI 2024

### Automated Cardiac Coverage Assessment in Cardiovascular Magnetic Resonance Imaging using a Recurrent 3D Dual-Domain Convolutional Network

MEDICAL PHYSICS

- S Nabavi, M Hashemi, M Ebrahimi Moghaddam, AA Abin, AF Frangi

Medical Physics

### A Type-2 Neuro-Fuzzy System with a Novel Learning Method for Parkinson's Disease Diagnosis

APPLIED INTELLIGENCE (APIN)

- A Salimi-Badr, M Hashemi, H Saffari

Applied Intelligence

### A Neural-Based Approach to Aid Early Parkinson's Disease Diagnosis

2020 11TH INTERNATIONAL CONFERENCE ON INFORMATION AND KNOWLEDGE TECHNOLOGY (IKT)

- A Salimi-Badr and M Hashemi

IKT 2020

## Honors & Awards

2023 **1st Place**, Best B.Sc. thesis project

Iran

2020 **6th Place**, out of 131 undergraduate students studying Computer Engineering

Iran

2017 **Passing the first stage**, of Mathematics Olympiad for two years

Iran

2016 **5th Place**, Khawarizmi Youth Nationwide Contest as a Robotic Researcher

Iran

## Experience

### RESEARCH EXPERIENCE

#### Graduate Research Assistant

AIMS LAB

- Developing privacy-preserving predictive models for multi-modal temporal Electronic Health Record (EHR) data
- Under supervision of **Prof. Li Xiong** (co-advised by **Dr. Wei Jin**).

Emory University

Sep. 2024 - Present

#### Graduate Research Assistant

MELODY LAB

- Proposing novel scalable and explainable **Graph Condensation** methods for Graph Neural Networks.
- Under supervision of **Dr. Wei Jin**.

Emory University

Aug. 2023 - Aug. 2024

## B.Sc. Thesis

Shahid Beheshti University

IMAGE PROCESSING & DISTRIBUTED SYSTEMS LAB

Sep. 2022 - Feb. 2023

- Proposing novel **Deformable Image Registration(DIR)** using **GANs** for 4D CT lung images.
- Under supervision of **Prof. Mohsen Ebrahimi Moghaddam**.

## Research Assistant

Sharif University of Technology

DATA SCIENCE AND MACHINE LEARNING LAB (DML)

Oct. 2021 - Jan 2022

- Proposing and implementing novel **Dynamic Graph Neural Networks (GNNs)** powered by self attention. [[Code](#)]
- Under supervision of **Prof. Hamid R. Rabiee** and his PhD student, **Mohammad Ostadmohammadi**.

## Research Assistant

Shahid Beheshti University

IMAGE PROCESSING & DISTRIBUTED SYSTEMS LAB

Feb. 2021 - Mar 2022

- Proposing and Implementing a novel interpretable framework for Automatic Assessment of Full Left Ventricular Coverage in Cardiac Cine Magnetic Resonance Imaging with **3D CNNs equipped with explainable machine learning methods. The paper of this work is under review.** [[Link](#)]
- Under supervision of **Prof. Mohsen Ebrahimi Moghaddam** and his PhD student, **Shahabedin Nabavi**

## Research Assistant

Shahid Beheshti University

ROIAA (ROBOTICS & INTELLIGENT AUTONOMOUS AGENTS) LAB

Oct. 2020 - Jun. 2021

- Proposing various Recurrent Neural Networks (RNNs) such as LSTMs, and GRU for sequence learning to have early detection of Parkinson's Disease. This work was **submitted as a conference paper and published in IEEE** [[Link](#)].
- In another research project, an interpretable classifier using an interval type-2 fuzzy neural network (IT2FCNN) for detecting patients suffering from Parkinson's Disease was proposed. This work also **resulted in a paper** [[Link](#)].
- Under supervision of **Dr. Armin Salimi-Badr**

## WORK EXPERIENCES

### Machine Learning Mentor

Tehran, Iran

RAHNEMA COLLEGE CO.

Jan. 2022 - Mar 2022

- Assisting several interns in carrying out a project in the field of Reinforcement Learning (RL). The project aimed to propose **a recommender system based on batch Reinforcement Learning** algorithms.

### Machine Learning Intern

Tehran, Iran

RAHNEMA COLLEGE CO.

May. 2021 - Jul. 2021

- Developing a web application powered by the ability to perform **Web Crawler Detection** using unsupervised algorithms for the Sanjagh Co. website which is one of the biggest e-commerce platform in Iran. [[Code](#)]
- Under supervision of **Dr. Seyed Ali Osia**, **Dr. Mahmood Karimian**, **Yasin Orouskhani**.

## Workshop & Certificates

Jul. 2021 **Machine Learning Intern Certificate**, Rahnema College Co.

Rahnema College

Mar. 2021 **Introduction to Data Science**, Prof. Christopher Brooks

Coursera

Dec. 2020 **Certificate of Presentation**, IKT2020 conference

IKT2020

Aug. 2020 **Convolutional Neural Networks**, Prof, Andrew NG

Deeplearning.ai

Aug. 2020 **Structuring Machine Learning Projects**, Prof, Andrew NG

Deeplearning.ai

Jul. 2020 **Hyperparameter Tuning, Regularization & Optimization**, Prof, Andrew NG

Deeplearning.ai

Jul. 2020 **Neural Networks & Deep Learning**, Prof, Andrew NG

Deeplearning.ai

May. 2020 **Machine Learning**, Prof, Andrew NG

Stanford

## Services

### CONFERENCE EXTERNAL REVIEWER

2024 **International Conference on Pattern Recognition**, (ICPR)

2024 **AAAI Conference on Artificial Intelligence**, (AAAI)

### VOLUNTEERING

2024 **The International Conference on Learning Representations**, (ICLR)