Alireza **Javaheri**

Ph.D. Applicant · Computer Science

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Education

Master of Science in Computer Science

September 2020 - December 2022

Shahid Beheshti University — *Tehran, Iran*

- **Field of Study:** Data Mining.
- **Thesis:** "Developing Meta-Learning Classification Model" under the supervision of Dr. Saeed Reza Kheradpisheh and Prof. Mohammad Ganjtabesh.
- Overall GPA: **4.0** out of 4.0.

Bachelor of Science in Computer Science

September 2016 - August 2020

Shahid Beheshti University — *Tehran, Iran*

- **Bachelor's Project:** 'Reconstructing images from fMIR data using Generative Adversarial Networks.' Dr. Saeed Reza Kheradpisheh
- Overall GPA: **3.86** out of 4.0

Research Interests

- **Computer Vision**
- **Deep Learning**
- **Meta-Learning**
- **Reinforcement Learning**
- **Optimization for Large-scale Problems**

Publications

Conference Papers

2022 — **A. Javaheri**, A. Gholamzadeh Khoee, S. R. Kheradpisheh, H. Farahani, M. Ganjtabesh; "Avid: A Variational Inference Deliberation for Meta-Learning", 2022 12th International Conference on Computer and Knowledge Engineering (ICCKE). IEEE. *Accepted*

Journal papers

2023 — A. Gholamzadeh Khoee, **A. Javaheri**, M. Ganjtabesh, and S. R. Kheradpisheh; *"Meta-Learning in Spiking Neural Networks with Reward-Modulated STDP"* *Submitted*

Research Experiences

Research Assistant

February 2021 - February 2023

Computational Neuroscience Research Lab

- **Aiming to improve the model-agnostic meta-learning (MAML) for few-shot learning.**
- **Developing Bayesian meta-learning to mitigate task uncertainty and heterogeneity by clustering input tasks in low-data regimes**
- **Designing and implementing a novel bio-plausible meta-learning model using spiking neural networks.**
- Studying visual attention mechanisms.
- Studying the novel meta-learning models.

Research Assistant

December 2019 - December 2020

Shahid Beheshti University

- Under supervision of Prof. Dr Saeed Reza Kheradpisheh.
- **Studying GAN models**
- **Studying on reconstruction the scene with FMIR signals**

Teaching Experiences

Teaching Assistant

Fall 2022	**Artificial Neural Networks**, TA of Dr. Saeed Reza Kheradpisheh	*Shahid Beheshti*
Fall 2021	**Computational Neuroscience**, TA of Dr. Saeed Reza Kheradpisheh	*Shahid Beheshti*
Spring 2020	**Neural Network**, TA of Dr. Golnaz Taheri	*Shahid Beheshti*
Fall 2019	**Advanced Programming**, TA of Dr. Saeed Reza Kheradpisheh	*Shahid Beheshti*

Workshops

2022	**AI for Healthcare Autumn School**, Principal Instructor	*Tehran University of Medical Sciences*
2022	**Mathematics for Machine Learning**, Principal Instructor	*Loop*
2021	**Reinforcement Learning**, Principal Instructor	*Loop*
2021	**Computer Vision**, Principal Instructor	*Loop*

Professional Experiences

Senior Software Engineer *September 2022 - present*

Zarinpal *Tehran Province, Iran*

- Refactoring and fixing bugs in the legacy codebase.
- Reviewing codes and managing the **Git** repository to prevent conflicts.
- Working with **GraphQl** and **Rest API**.

Co-Founder and Technical Team Lead(AI Specialist) *February 2020 - September 2022*

Loop Academy *Tehran Province, Iran*

- With the mission to equip companies and individuals with cutting-edge AI, Loop Academy has been hosting national and international level events and has assisted various companies in finding suitable individuals for their key projects.
- Participated in **Samsung AUT Tech Center** 10th acceleration cycle and was admitted.
- Launching **Talent Mine** service to match talented job seekers to exceptional companies.
- **The best startup award** of the 22nd specialized exhibition of research and technology achievements in Iran.
- Create a **cheating detection** system based on artificial intelligence for online exams.
- Implement a software system for **face detection**, **eye tracking** and **face anti-spoofing** with.
- **Leading** a team of 8 software developers.

Honors

2021	**The best startup award** of the 22nd specialized exhibition of research and technology achievements. *Tehran International Exhibition Center.*
2020	Received national graduate full-scholarship.
2015	Received national undergraduate full-scholarship.

Selected Courses

- **Advanced Algorithms (4-credit):** GPA of 4.0 out of 4.0. *M.Sc.*
- **Machine Learning (4-credit):** GPA of 4.0 out of 4.0. *M.Sc.*
- **Data mining (4-credit):** GPA of 4.0 out of 4.0. *M.Sc.*
- **Artificial Neural Networks (4-credit):** GPA of 4.0 out of 4.0. *M.Sc.*
- **Advanced Programming (3-credit):** GPA of 4.0 out of 4.0. *B.Sc.*
- **Funds. of matrix and linear algebra (3-credit):** GPA of 4.0 out of 4.0. *B.Sc.*
- **Theory of Computation (3-credit):** GPA of 4.0 out of 4.0. *B.Sc.*
- **Artificial Intelligence (3-credit):** GPA of 4.0 out of 4.0. *B.Sc.*

Skills

- **Programming:** Python, Javascript, Typescript, SQL
- **Python Libraries/Frameworks** PyTorch, TensorFlow, Keras, Scikit-Learn, Numpy, Pandas, Matplotlib
- **Web Libraries/Frameworks** Node.js, Express.js, Mongoose, React, Redux
- **Database** PostgreSQL, MongoDB, Neo4j, Redis
- **Tools** Git, LATEX, Docker, Kubernetes