Ashkan Majidi Khameneh

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Education

Sharif University of Technology (SUT) Sep 2021 — Jul 2026
Bachelor of Science in Computer Engineering Cumulative GPA: 18.24/20

Young Scholars Club Sep 2020 — Apr 2021
International Mathematical Olympiad (IMO) training camp

Research Experience

Chance-Constrained Optimization Lausanne, Switzerland
BAN Lab, École Polytechnique Fédérale de Lausanne (EPFL) May 2025 — Dec 2025
Worked with Prof. Negar Kiyavash and Prof. Patrick Thiran under the supervision of Saeed Masiha on chance-constrained optimization problems. Designed a novel algorithm to efficiently approximate solutions specifically for high-dimensional and large-scale settings using a bi-level reformulation with CVaR-based constraints. Analyzed the theoretical properties of the proposed approach and empirically compared its performance with existing methods, demonstrating consistent performance gains.

Aligning Consistency Models by Preference Optimization Tehran, Iran
Sharif University of Technology (SUT) Nov 2024 — Apr 2025
Advised by Dr. Sajjad Amini
Extended the Direct Preference Optimization (DPO) framework to consistency models, enabling direct alignment from human feedback without explicitly learning a reward model, and achieving faster inference (Voluntary/Unpaid research).

Translating Natural Language Questions to Data Visualizations Hong Kong
Hong Kong University of Science and Technology (HKUST) Jun 2024 — Nov 2024
Worked with Dr. Victor Wei and Dr. Yuanfeng Song on translating natural language queries into data visualizations. Designed and implemented a general framework for dataset generation, leveraging guided discovery to automatically convert existing Text-to-SQL datasets into Text-to-Vis benchmarks.

Infection Rate Inference Using Partially Observed Diffusion Tehran, Iran
Sharif University of Technology (SUT) Jun 2023 — Jun 2024
Advised by Dr. Ramezani
Used Graph Attention Networks to infer the infection rate of links in a diffusion network and completing the sequence of diffusion information (Voluntary/Unpaid research).

Awards and Achievements

Gold Medal - Awarded annually to the top 12 students, Iranian National Mathematical Olympiad, Iran 2020
Silver Medal (rank 3) - Iranian Geometry Olympiad Advanced Section, Iran 2020
Silver Medal (rank 3) - Silk Road Mathematical Olympiad Intermediate Section, Kazakhstan 2020
Third Prize - European Mathematical Cup, Croatia 2019
Bronze Medal (rank 6) - Iranian Geometry Olympiad Intermediate Section, Iran 2018
First Prize - European Mathematical Cup, Croatia 2018
First Place - IranOpen Junior Rescue-Line SuperTeam Section, Iran 2017
7th Place - Asia-Pacific RoboCup Junior Rescue-Line SuperTeam, Thailand 2017

Experiences

Math Olympiad Instructor 2020 — 2023
Taught Combinatorics, Algebra, Number Theory, and Geometry at the Salam Olympiad Club, Iran IMO Camp, and at the National Gold Medalists Camp.

Member of Exam Designing Group 2020 — 2023
Iranian National Math Olympiad Committee

- Contributed in problem selection process

- Proposed numerous original problems
- Prepared materials for 2nd round qualified students, national gold medalists, and the IMO preparation camp.

Voluntary Teaching Assistance

Fundamentals of Programming
Linear Algebra (2 times)
Design of Algorithms (Head TA)
Engineering Probability and Statistics (2 times)
Logic Design
Discrete Structures
Machine Learning (4 times)

Projects

IMDb IR System	A movie information retrieval system.
Skin Segmentation	A deep model for skin segmentation and color tone classification.
RL Course Projects	Implemented various RL algorithms, including PPO, SAC, and Deep Q-Learning.
Graph Clustering	An analysis of graph clustering methods, including K-means, KNN, NMF, and Node2Vec.
Animal Image Classification	A CNN model implemented with pytorch to classify different animals.
Image Compression	Analysis of diffrent compression methods.
Smart Door Lock	A simple digital lock implemented using Arduino.
Educational Tools	A project for automizing procedures in Fardaye Sabz Education department.
Civilization VI	Remake of Civilization VI strategic game using JavaFX for gralaphics.
state.io game	Remake of state.io game using SDL2 for graphics.

Selected Coursework

Machine Learning[†]	20.0/20	Deep Reinforcement Learning[†]	
Digital Image Processing[†]	19.8/20	Deep Generative Models[†]	
Convex Optimization[†]	20.0/20	Probability and Statistics	20.0/20
Artificial Intelligence	19.1/20	Data Structures and Algorithms	20.0/20
Game Theory	19.7/20	Numerical Computations	20.0/20
Linear Algebra	20.0/20	Machine Learning with Graphs (Audited, Stanford)	

Skills

Programming	C/C++, Python, Julia, R, Java, Bash, PHP, JavaScript
Machine Learning	PyTorch, OpenCV, scikit-learn, pandas, NumPy, SciPy, Matplotlib, Seaborn
Optimization	CVXPY, CVXOPT, SCIP
Databases	SQL Databases, PostgreSQL, MongoDB
Languages	Persian (Native), English (Advanced, TOEFL iBT: 105/120), Arabic (Elementary)
Other	Verilog, LaTeX, Linux, Git

Extra

Fardaye Sabz Charity 2022 — 2024
As part of the education team, I contributed to providing better educational services and the supply and procurement of provisions for underprivileged areas.

Student Council 2023 — 2024
As the vice secretary of the Student Council of SUT Computer Engineering Department, I was engaged in addressing students' demands and facilitating student life.

Babaeee Math Department 2020 — 2023
As the founder of the Math Department at this public benefit organization, I aimed to promote the Math Olympiad and provide free educational content and services to facilitate participation in Olympiad contests and take a step toward educational justice.

Philosophy and Sociology
In addition to my academic pursuits, I have a strong interest in philosophy and sociology, particularly in existential thinkers such as Kierkegaard and Nietzsche. A list of books I've read on these topics is available on my Goodreads profile.

[†]Graduate Course