

# MAHDI SALMANI

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## EDUCATION

### Sharif University of Technology

Bachelor of Computer Engineering

GPA: 19.64/20.00 | Top 2%

Tehran, Iran

2019 - 2024 (expected)

### Allameh Helli High School

Diploma of Mathematics

GPA: 19.88/20.00 | Top 0.01%

Tehran, Iran

2016 - 2019

## SELECTED ATTENDED COURSES

Machine Learning (M.Sc.)	19/20	Artificial Intelligence	20/20	Game theory	20/20
Modern Information Retrieval	20/20	Principle of Economics	20/20	Signals & Systems	20/20
Medical Image Analysis (M.Sc.)	20/20	Design Algorithms	20/20	Linear Algebra	20/20
Probability & Statistics	20/20	Data & Network Security	20/20	Data Structures	20/20

## RESEARCH INTERESTS

Trustworthy AI  
Medical Image Analysis

Optimization  
Reinforcement Learning

Natural Language Processing

## RESEARCH EXPERIENCE

### Remote Research Internship at Imperial College London

2023

Under the Supervision of [Prof. Seyed-Mohsen Moosavi-Dezfooli](#)

Working on decision-based black-box attacks and gradient estimation in zeroth-order optimization with prior knowledge and developing efficient attacks in terms of required queries to deceive models

### Undergraduate Research Assistant at RIMLab

2022 - 2023

Under the Supervision of [Prof. Mohammad-Hossein Rohban](#)

Developing fast adversarial training methods to make Vision Transformers robust alongside investigating the effects of adaptive adversarial step-sizes and randomness in fast adversarial training methods

## MANUSCRIPTS

**M. Salmani\***, A. D. Farashah\*, N. Eslami, M. Amiri, M. Azizmalayeri, M. T. Manzuri, and M. H. Rohban. "Black-smith: Fast Adversarial Training of Vision Transformers via a Mixture of Single-step and Multi-step Methods." [arXiv preprint arXiv:2310.18975](#). 2023.

under review

## PROJECTS

### Bachelor's Project Course

2023

Under the Supervision of [Dr. Ehsaneddin Asgari](#)

Estimating the death year of Shia narrators by crawling data, processing the data using prompt engineering, training language models like FastText and BERT on the data, and applying regression

### Providing Open-Source Educational Materials

2021 - 2022

Under the Supervision of [Prof. Ali Sharifi-Zarchi](#)

Making contributions to the Github repositories [Introduction to Machine Learning](#) and [Probability & Statistics](#) by providing notebooks, slides and code

### Contribution to Acclaimed Student Projects

2019 - 2023

Working on student projects such as [PintOS](#) (Operating Systems course), [a simulation-based autonomous car using CARLA simulator](#) (Hardware Lab course), and [C-minus Compiler](#) (Compiler Design course)

## ACHIEVEMENTS

### Merit-Based Admission to the M.Sc. Program

2023

Accepted to M.Sc. program of Sharif University of Technology, **bypassing the nationwide exam** as an exceptional student

### !Optimizer Competition

2022

Silver medal in the competition held by [Sharif Optimization and Applications Laboratory\(?SOAL\)](#)

<b>Iranian National Elites Foundation</b>	2019
Becoming a member of <a href="#">Iranian National Elites Foundation</a> , an organization providing its members with scholarship funds for undergraduate studies	
<b>Iranian National University Entrance Exam</b>	2019
15 <sup>th</sup> in the exam among over 160,000 participants	
<b>Iranian National Mathematical Olympiad</b>	2018
Silver medal in the Iranian National Mathematical Olympiad	

## TEACHING ASSISTANTS

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<b>Compiler Design</b>	Fall 2023
<i>Lectured by <a href="#">Prof. Gholam-Reza Ghassem-Sani</a></i>	
<b>Convex Optimization (M.Sc.)</b>	Spring 2023
<i>Lectured by <a href="#">Prof. Mahdi Jafari-Siavoshani</a></i>	
<b>Artificial Intelligence</b>	Spring 2023
<i>Lectured by <a href="#">Prof. Mohammad-Hossein Rohban</a></i>	
<b>Compiler Design</b>	Spring 2023
<i>Lectured by <a href="#">Prof. Gholam-Reza Ghassem-Sani</a></i>	
<b>Machine Learning (M.Sc.)</b>	Fall 2022
<i>Lectured by <a href="#">Prof. Ali Sharifi-Zarchi</a> and <a href="#">Behrooz Azarkhalili</a></i>	
<b>Engineering Probability &amp; Statistics</b>	Spring 2022
<i>Lectured by <a href="#">Prof. Mahdi Jafari-Siavoshani</a></i>	
<b>Artificial Intelligence</b>	Spring 2022
<i>Lectured by <a href="#">Prof. Gholam-Reza Ghassem-Sani</a></i>	
<b>Engineering Probability &amp; Statistics</b>	Fall 2021
<i>Lectured by <a href="#">Prof. Ali Sharifi-Zarchi</a></i>	

## WORK EXPERIENCE

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<b>Roshan AI Company</b>	2022
Developing algorithmic traders based on reinforcement learning alongside training models to extract trading signals, mainly focused on forex	
<b>Allameh Helli High School</b>	2019 - 2020
Olympiad instructor and examiner	

## TECHNICAL SKILLS

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<b>Programming Languages</b>
Python, C, C++, Java, R, Solidity, Racket, JavaScript
<b>Frameworks &amp; Libraries</b>
PyTorch, TensorFlow, Keras, Numpy, Matplotlib, Seaborn, Pandas, Scikit-learn, Jupyter Notebook, Transformers, Diffusers, OpenCV, NLTK, Beautiful Soup, Scrapy, NeMo, Gym, Stable-baselines, Acme, Backtrader, Django
<b>Other Technical Skills</b>
Windows, Linux, Bash, Git, Docker, SQL, Prompt Engineering, $\text{\LaTeX}$ , CellProfiler

## LANGUAGES

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<b>Persian</b>
Native
<b>English</b>
Proficient, TOEFL iBT Score: 106 (30 Reading, 29 Listening, 21 Speaking, 26 Writing)