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## MSC Course

Machine Learning  
Advanced AI  
Data Mining  
Soft Computing  
Game Theory  
Theory of Computation

## BSC Course

Artificial Intelligence  
Algorithms Design  
Software Engineering  
PL  
Automata  
Signal & Systems  
Computer Networks

## Stacks

Python ★★★★★  
Java ★★★★★  
Solidity ★★★★★  
Pandas ★★★★★  
Spring ★★★★★  
PSQL ★★★★★  
Django ★★★★★  
Flask ★★★★★  
Cellpose ★★★★★  
Spark ★★★★★  
REST ★★★★★  
NoSql ★★★★★  
C ★★★★★  
Scikit ★★★★★

# Mohammad Sadegh Maghareh

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## Research Interest

Computer Vision, Machine Learning, Software Engineering, Neuroscience

## Education

2022 - 2024 **M. Sc. Computer Science** [Amirkabir University of Technology](#)  
Supervisor: Dr. Ali Mohades  
Thesis: Gas Optimization in Smart Contracts Using Program Analysis and Correctness

2016 - 2021 **B. Sc. Computer Science Engineering** [Shiraz University](#)  
Supervisor: Dr. Zohreh Azimifar  
Project: Smart Door Phone Using Raspberry Pi

## Research Experience

2023 – Now **Research Associate at the Neuroengineering Lab** [Shahid Beheshti University](#)  
Supervisor: Dr. Reza Lashgari  
- Conducted advanced research on cell segmentation using deep learning models (e.g., U-Net), focusing on protein detection in occipital lobe brain cells.  
- Developed the Neurotrauma Registry Platform to store and analyze accident data for healthcare insights using machine learning techniques.

## Publications

2018 **Namira Soccer 2D Simulation Team Description Paper 2018** [Robocup](#)  
"Asali, E., Negahbani, F., Tafazzol, S., Maghareh, M.S., Bahmeie, Sh., Barazandeh, S., Mirian, Sh., Moshkelgosha, M."

2025 - Drafting **Classification and Interpretation of Histopathology Images: Leveraging Ensemble of EfficientNetV1 and EfficientNetV2 Models** [Scientific Reports](#)  
"Lashgari, R. Maghareh, M.S."

## Selected Projects

2024 **Gas Optimization in Smart Contracts** [Master Thesis - AUT](#)  
Research on Solidity smart contracts using program analysis techniques (static and dynamic analysis, and software testing for correctness) - Solidity, Java, Python

2024 **Cellpose and Cell Segmentation** [Neuroengineering Lab - SBU](#)  
Detection of proteins in Occipital lobe brain cells using U-Net, semantic segmentation, instance segmentation, and neural network methods - Python

2024 **SAKHT Application** [IPICB Co](#)  
Project focused on creating a registry platform, self-declaration system for manufacturers, and managing tenders for the Ministry of Petroleum - Java

2023 **CAPTCHA Text Recognition** [Advanced AI Course - AUT](#)  
Implemented a CAPTCHA image text recognition program for training and testing based on CAPTCHA datasets using Python

## Tools

Jupyter	★★★★★	2023
JetBrains	★★★★★	
Shell	★★★★★	
Git	★★★★★	
JIRA	★★★★★	2022
Redmine	★★★★★	
GNU/Linux	★★★★★	
Dbeaver	★★★★★	
MD	★★★★★	2021
L <sup>A</sup> T <sub>E</sub> X	★★★★★	
CI/CD	★★★★★	
Redis	★★★★★	
Docker	★★★★★	2017

## T.Assistant

Comp Fundamentals  
Software Tesing  
Computer Lab

## Volunteer

AISP & CSSE Symp  
BTIU  
Scientific Group

## Languages

Farsi ★★★★★  
English ★★★★★

### Keywa Application

[Keywa Co](#)

Secure shared wallets using a key distribution algorithm to enable companies to sign transactions at different financial levels and send on the blockchain - Java

### AI-based Fin-Tech & Data Engine

[Arnika AI Co](#)

Analysis of the stock market through data science and ML methods and Integration, versioning of processed data using spark - Python

### Classification of Tweets Based on Polarity

[ML Course - AUT](#)

Utilized an enhanced RBF kernel of SVM for classifying tweets by polarity, along with the implementation of Decision Trees using Python

### Smart Door Phone

[Bachelor Project - Shiraz University](#)

Implemented face detection and recognition using OpenCV and Vision algorithms on a Raspberry Pi

### Speaker Recognition

[Principles of Programming Course - Shiraz University](#)

Developed a speaker recognition system in ANSI C

### Neurotrauma Registry Platform

[Neuroengineering Lab - SBU](#)

Project focused on storing accident and incident data for statistical and machine learning analyses - Python, Java

## Certifications & Awards

2018	<b>Ranked 1st in 2D Soccer Simulation Technical Challenge</b>	<a href="#">RoboCup</a>
	Asian Pacific Competitions	
2018	<b>Ranked 8th in 2D Soccer Simulation League</b>	<a href="#">RoboCup</a>
	World Cup Competitions	
2018	<b>Ranked 7th in 2D Soccer Simulation League</b>	<a href="#">RoboCup</a>
	Asia pacific Competitions	
2018	<b>Ranked 5th in 2D Soccer Simulation League</b>	<a href="#">RoboCup</a>
	IranOpen Competitions	

## Summer School

2021	<b>Five-Day Course on “Software Testing Tools”</b>	<a href="#">Warangal University</a>
	Black box & White box Testing, Clang and Framma-C, AFL, CBMC, LLVM ,DSE, TracerX, MCDL, KLEEMA: Dr. Sangharatna Godbole	
2020	<b>Four-Day Summer School "Intelligent Learning"</b>	<a href="#">IPM &amp; Sharif University</a>
	Machine Learning, Deep Learning, Machine Vision and Reinforcement Learning	

## Work Experience

2024 - now	<b>IPICB</b>	<a href="#">Tehran</a>
	Software Engineer	
2023	<b>Keywa</b>	<a href="#">Tehran</a>
	Data Scientist - Software Engineer	
2021 - 2023	<b>Arnika AI</b>	<a href="#">Tehran</a>
	Data Scientist	