

Amirhossein Rajabpour

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Research interests Artificial Intelligence, Deep Learning, Time Series Analysis, Vision, Cloud Computing

Education **Amirkabir University Of Technology (Tehran Polytechnic)** Tehran, Iran
B.Sc. Computer Engineering 2018 – Present
• *cGPA: 17.11 (3.65/4)*
• *GPA (last two years): 18.62 (3.95/4)*

Allameh Tabatabaei High School Tehran, Iran
HighSchool, PreUniversity in Math. and Physics 2014 – 2018
• *PreUniversity GPA: 19.35 (4/4)*
• *High School GPA: 19.41 (4/4)*

Technical Skills
Programming Languages: Python, C, Java, Shell Scripting, Octave
OS: Windows, Linux (Ubuntu)
Artificial Intelligence: Tensorflow, Pytorch, Keras, Scikit learn, Fastai
Database Systems: MySQL, PostgreSQL
Web Development: Django, Flask, HTML, CSS
Miscellaneous: OpenCV, Docker, Jira, Git, LaTeX, Numpy, Pandas, Plotly, Selenium, Xampp, Wireshark, GNS3, Arduino, Verilog, VHDL

Research and work Experiences
Bachelors Thesis | Amirkabir University | Sep 2022 – Present
Image styling using GAN. Supervised by [Mohammad Rahmati](#).
Research Assistant | Amirkabir University | Feb 2022 – Present
Supervised by [Hamed Farbeh](#). Working on portfolio asset allocation using reinforcement learning and graph neural networks. I was responsible for implementing a graph convolutional network from a time series dataset.
Machine Learning Engineer | R&D Department of Crouse PJS Co. | Oct 2021 – Jan 2022
Working on an AI Vision problem. My job was to design a light model using classical ML algorithms to find malfunctioning LEDs with the following steps:
• Localizing LEDs on the monitor
• Clustering LEDs light pixels and using the more valuable clusters for extracting light information with fuzzy C-means clustering
• Extracting luminance and wavelength from those selected clusters
• Use different regression models for different LED colors to detect malfunctioning LEDs

DevOps Engineer Intern | Graph Co. | Nov 2020 – Apr 2021

Working with Docker, Minikube, and some backend technologies

Selected Projects¹

Search Engine: Implementing a search engine using different search models and algorithms like binary search, tf-idf and word embedding. Also implementing K-means clustering and KNN algorithms to speed up the search

Genetic Algorithm: Implementing genetic algorithm to solve a game

Constraint Satisfaction Problems: Implementing CSP Backtracking, Forward Checking and MAC Algorithms to solve a binary puzzle

Handwritten Digit Recognition: Implementing a neural network from scratch with/without vectorization

Fuzzy C-Means Clustering: Implementing the fuzzy version of the K-Means clustering algorithm

Searching Algorithms (IDS, BBFS, A*): Implementing search algorithms like IDS, BBFS and A* from scratch to find optimal path

Internet of Things: Implementing multiple scenarios using NodeMCU board and various sensors and actuators, programming the board using Arduino language. Moreover, implementing web-based solutions for some scenarios

Jpotify: Music player written in Java that can load/save songs, create/edit/delete playlists and connect to another client and share songs

Teaching Experiences

Teaching Assistant | Principles of Artificial Intelligence | Fall 2022

- Under the supervision of [Mahdi Javanmardi](#)
- Designing (and grading) projects about Constrained Satisfaction Problems, adversarial search, Bayes Nets, and Reinforcement Learning

Teaching Assistant | Cloud Computing | Fall 2022

- Under the supervision of [S.Ahmad Javadi](#)
- Designing (and grading) practical assignments about using APIs, working with cloud services, and working with Docker and Kubernetes

Teaching Assistant | Internet of Things | Fall 2022

- Under the supervision of [Siavash Khorsandi](#)
- Designing (and grading) assignments about various scenarios for working with different sensors and actuators and programming with Arduino

Teaching Assistant | Algorithm Design | Spring 2022 & Fall 2021 & Spring 2021

- Under the supervision of [Alireza Bagheri](#), [Sajad Shirali-Shahreza](#)
- Defining and grading assignments
- Taking quizzes

Honors and Awards

Achieved top 1% place among more than 140,000 applicants of the Nationwide University Entrance Exam for B.Sc. in Math. and Physics Iran, 2018

¹ All the projects and their descriptions can be found on my [GitHub](#)

Selected Relevant
Education and
Coursework

- **Data Mining:** 19.10/20
- **Microprocessor and Assembly lang.:** 20/20
- **Information Retrieval:** 19.28/20
- **Software Engineering2:** 20/20
- **Principals of Artificial Intelligence:** 18.6/20
- **Web Programming:** 20/20
- **Algorithm Design:** 20/20
- **Operating Systems:** 18.16/20
- **Cloud Computing:** 20/20
- **Startup Development:** 20/20
- **Computational Intelligence:** 18.5/20
- **Microeconomics:** 20/20
- **Internet of Things:** 19.57/20

Language Skills

Persian: Native
English: TOEFL iBT: 109 (R: 26, L: 28, S: 26, W: 29)
German: Professional Working Proficiency (B2)

References

[Mohammad Rahmati](#) , Professor
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**To review my projects and certificates, check my [Homepage](#).*