Amirhossein Rajabpour

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GitHub, LinkedIn, Personal website

BSc. Transcript until Jun. 2022

Research Interests

- Artificial Intelligence
- Deep Learning
- Time Series Analysis
- Business Analytics
- Financial Markets

Education

BACHELOR OF COMPUTER ENGINEERING | AMIRKABIR UNIVERSITY OF TECHNOLOGY (TEHRAN POLYTECHNIC), TEHRAN, IRAN | 2018 - PRESENT
· GPA: 17.11 / 20 (3.65/4.00) – GPA (last two years): 18.62 (4/4)

HIGH SCHOOL DIPLOMA IN MATHEMATICS AND PHYSICS | ALLAMEH TABATABAEI HIGH SCHOOL, TEHRAN, IRAN | 2014 - 2018
· GPA: Pre-University 19.35 / 20 (4/4)
· GPA: High School 19.41 / 20 (4/4)

Technical Skills

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

Selected Projects

- **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 in order to solve Super Mario game

- **Constraint Satisfaction Problems**
  - Implementing CSP Backtracking, Forward Checking and MAC Algorithms in order to solve a binary puzzle
- **Handwritten Digit Recognition from scratch**
  - Implementing a neural network from scratch with/without vectorization
- **Fuzzy C-Means Clustering**
  - Implementing the fuzzy version of the K-Means algorithm is implemented. Each data point is not forced to belong only to a specific cluster but can belong to clusters to varying degrees
- **Jpotify**
  - Music player written in Java that can load/save songs, create/edit/delete playlists and connect to another client and share songs
- **Searching Algorithms: IDS, BBFS and A***
  - Implementing searching algorithms like IDS, BBFS and A* from scratch in order to find optimal path. In this program a robot should push a piece of butter to a plate and the robot should do this optimally with no extra moves

*To review my other projects (and their descriptions) check my [Personal website](#)

Teaching Experiences

TEACHING ASSISTANT | ALGORITHM DESIGN | OCT 2021 – JAN 2022
· Under the supervision of [Alireza Bagheri](#), Amirkabir University of Technology
· grading assignments
· Taking quizzes

TEACHING ASSISTANT | ALGORITHM DESIGN | JAN 2021 – JUN 2021
· Under the supervision of [Alireza Bagheri](#), Amirkabir University of Technology
· Defining and grading assignments
· Taking quizzes

Work and Research Experiences

R&D SOFTWARE ENGINEER | CROUSE PJS CO. | OCT 2021 – JAN 2022
Working on an Artificial Intelligence Vision problem. My job was to design a light model to do the following to recognize whether LEDs on the monitor work fine:
- 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
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DEVOPS ENGINEER INTERN | GRAPH CO. | NOV 2020 – APR 2021
· Working with Docker, Minikube and some backend stuff

Honors & Awards

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

Languages

- **Persian**: Native
- **English**: Professional working proficiency. Test scheduled for Oct 22.
- **German**: Professional working proficiency (B2)

*To review my projects and grades check my [Personal website](#)