

Seyyed Soroush Mortazavi Moghaddam

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PERSONAL STATEMENT

Motivated computer engineering student, seeking to conduct research and continue his studies in the field of **computer science**, with a passion for **artificial intelligence**. Especially interested in the applications of **deep learning** and **reinforcement learning**.

EDUCATION

Amirkabir University of Technology

Tehran, Iran

Bachelor of Science in computer engineering

Sep. 2017 – Jan. 2022 (Expected)

- Total GPA: **3.86/4** — Last two year GPA: **4/4**
- Thesis: Learning the game of Gobblet through reinforcement learning

Shahid Beheshti High School of Exceptional Talents

Qayen, Iran

Diploma of mathematics and physics

Sep. 2013 – Jun. 2017

RESEARCH AND WORK EXPERIENCE

Learning The Game of Gobblet (B.Sc Thesis)

Under the supervision of Prof. Safabakhsh

Oct. 2020 – Sep. 2021

- Implemented self-play with Monte-Carlo learning and used a combination of DNN value function, Monte-Carlo tree search and minimax search to act as close as possible to the optimum policy, i.e, the Nash equilibrium
- Implemented a user interface to play the game against the self-learned agent

Research and Development Intern

Tehran, Iran

At Roshan - AI knowledge enterprise

Jul. 2020 – Oct. 2020

- Gathered a Persian text corpus by developing a web crawler application
- Used the mentioned corpus to create Persian word embeddings
- Cooperated in the data gathering and the design of a stock market predictor model

Research Assistant (Deep Learning Lab)

Amirkabir University of Technology

Under the supervision of Prof. Safabakhsh

Mar. 2020 – Jul. 2020

- Implemented RNN models for stock market prediction
- Gathered and preprocessed Iran's stock data, then experimented many different models on them
- Learned about time series data, various layer types and how to work with TensorFlow, TensorBoard and Keras; also to efficiently design and train DNNs

TEACHING EXPERIENCE

Computational Intelligence Teaching Assistant

Supervisor: Prof. Ebadzadeh

(3 semesters) Sep. 2020 – present

Artificial Intelligence Teaching Assistant

Supervisor: Dr. Javanmardi

Sep. 2021 – present

Data Mining Teaching Assistant

Supervisor: Dr. Nazerfard

Feb. 2021 – Jun. 2021

Principles of Cloud Computing Teaching Assistant

Supervisor: Dr. Javadi

Feb. 2021 – Jun. 2021

Operating Systems Teaching Assistant

Supervisor: Dr. Zarandi

Feb. 2020 – Jun. 2020

Computer Architecture Teaching Assistant

Supervisor: Dr. Zarandi

Sep. 2019 – Jan. 2020

As a teaching assistant in the courses mentioned above:

- Coordinated the teaching assistance team
- Designed and graded assignments, test-quizzes and course projects
- Created video tutorials for assignment solutions, course materials and extra resources
- Helped students with their questions and problems regarding the assignments and the projects

HONORS AND AWARDS

Ranked 19th/30K: In the national university entrance exam among 30 thousand students (2016)

Announced as an Outstanding Student: in Amirkabir University of Technology

TOP WORK AND SELECTED COURSE PROJECTS

Artificial Intelligence Related Course Projects

Sep. 2019 – Jun. 2021

- Solved the Rubik's Cube by Implementing A*, bi-directional and IDS algorithms | *python*
- Implemented MLP neural networks, evolutionary algorithms and fuzzy C-means clustering | *python*
- Implemented an image compressor (K-means) and a voice gender recognizer | *MATLAB*
- Solved CSP problems using AC-3 algorithm | *python*
- Implemented a text classification program using n-grams | *python*
- Implemented pairwise and multiple sequence alignment algorithms (Clustal, HMMs, PSSM, etc.) | *python*

Robot PI Controller | *ROS, python*

Jun. 2021

- Controlled a TurtleBot to go through spiral, oval, and square paths
- Developed a maze explorer robot

Portal CAPTCHA Solver | *Python*

Oct. 2019

- Implemented an application to solve university's portal CAPTCHA and sign into one's account
- Gathered the training data by a script and trained a CNN model on them

Java Projects

Feb. 2017 – Jun. 2017

- Developed a download manager application for Windows
- Developed a multiplayer tank game (similar to NormalTanks)

E-Shop | *Python, JavaScript, HTML, CSS*

Feb. 2021 – Jun. 2021

- Full stack development of an E-Shop website

SKILLS

Programming Languages: Python, MATLAB, Java, C, JavaScript, SQL-Server

Frameworks and Libraries: TensorFlow, PyTorch, Keras, TensorBoard, Numpy, Scikit-learn, Pandas, Matplotlib

Developer Tools: Git, Google Colab, Jupyter lab, VS Code, PyCharm, IntelliJ, Code::Blocks

Languages: English (Advanced) [TOEFL-ibt: 109, R:30, L:27, S:27, W:25], Persian (Native)

EXTRACURRICULAR ACTIVITIES

Online Courses

- Machine learning, by Andrew Ng: Coursera (100/100)
- Reinforcement learning, by David Silver: Audited

Curriculum Advisor

(Remote) Tehran, Iran

Iliyasteel - educational group

Sep. 2020 - Jun. 2021

- Helped a group of six high school students with their study plans and study methods during the year

Volunteer Member

Tehran and Qayen, Iran

Sepehr NGO - cultural enrichment and empowerment foundation

Jan. 2017 - Present

Abolmafakher NGO - student-operated foundation, for educational and cultural development

Jul. 2017 - Sep. 2018

- Helped design and create graphical materials and advertisements (posters, banners, Brochures, id cards, etc.)
- Helped with the holding of several educational and cultural events, contests and meetings in Tehran and Qayen

REFERENCES

Reza Safabakhsh, Professor: safa@aut.ac.ir

Mohammad Mehdi Ebadzadeh, Professor: ebadzadeh@aut.ac.ir

Hamidreza Zarandi, Assistant professor: h_zarandi@aut.ac.ir

Ehsan Nazerfard, Assistant Professor: nazerfard@aut.ac.ir

Seyyed Ahmad Javadi, Assistant Professor: sajavadi@aut.ac.ir