Soroush Mehraban

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RESEARCH INTEREST

- **Computer Vision**
- **Natural Language Processing**
- **Reinforcement Learning**
- **Deep Learning**
- **Machine Learning**

EDUCATION

- **Amirkabir University of Technology** (Tehran Polytechnic), Tehran, Iran
  - **B.Sc.**, Computer Engineering — *Sep. 2017 - now (expected graduation date: July, 2022)*
    GPA: **19.07** / 20 (**4.00**/4.00)
- **Farabi High School**, Tehran, Iran
  - **Diploma**, Mathematics & Physics Field — *Sep. 2013 - June. 2016*
    GPA: **19.72** / 20

PUBLICATION

- Mahmoodi, A., Mehraban, S., Hashemi, L., Jasemi, M., (2021). *A novel approach for candlestick technical analysis using a combination of the Support Vector Machine and particle swarm optimization.* Manuscript submitted for publication.

SKILLS

Programming Languages: Python (Advanced), Java (Intermediate), C (Intermediate).
Libraries: PyTorch (Beginner), scikit-learn (Beginner), NumPy (Intermediate), pandas (Intermediate), Matplotlib (Intermediate).
Database Systems: MySQL (Intermediate). PostgreSQL (Intermediate)
Operating Systems: Windows, Linux (Ubuntu).
Web Development: HTML, CSS, JavaScript, Bootstrap, JQuery, Django, Angular, ORM.
Code Versioning Tools: Git.

SELECTED PROJECTS

- **DCGANs**
  Implemented DCGANs paper using CelebA dataset with documentation.
  Code with documentation on github
- **Handwritten Digit Recognition**
  Implemented a fully-connected neural network with two hidden layers (without using any library) to detect handwritten digit images.
  Code with documentation on github
- **Poet detection using NLP**
  Detected poet of a poem with an average accuracy of 83% using bigram and unigram language models and back-off model as a smoothing technique.
  Code with documentation on github

- **Evolutionary Games**
  Implemented an agent for a simple 2D minigame to maneuver via neural network + evolution.
  Code on github
- **Fuzzy C-Means Clustering**
  Clustered multi-dimensional datasets using fuzzy C-means clustering
  Code on github

TEACHING ASSISTANT EXPERIENCE

- **Principles of Computational Intelligence (CE, AUT)** *Fall 2021*
  Instructor: Prof. Mohammad Mehdi Ebadzadeh
- **Applied Linear Algebra (CE, AUT)** *Fall 2020*
  Instructor: Dr. Ehsan Nazerfard
  - Making supplementary videos tutorials for students.
  - Grading home-works
  - Grading & defining projects.
- **Operating Systems (CE, AUT)** *Fall 2020*
  Instructor: Dr. S.Ahmad Javadi
  - Making supplementary videos tutorials for students.
  - Grading home-works

WORK EXPERIENCE

Tecvico *December 2020 - September 2021*
Vancouver, Canada
IT Director and Web developer.

Route Homes *December 2020 - December 2020*
Toronto, Canada
Web developer.

HONORS

- Eligible to **Choose Second Major** due to outstanding performance, Amirkabir University of Technology, Tehran.
- **Ranked as Top 3%** among more than 150,000 participants in National Entrance Exam for Undergraduate State Universities, Tehran, 2017.

LANGUAGES

- **Persian** (Farsi): Native
- **English**: IELTS 7.5 (Listening: 8.5, Reading: 7.5, Speaking: 7, Writing: 6.5)

REFERENCES

- **Ehsan Nazerfard, Associate Professor**
  Member of Artificial Intelligence Group, CE, AUT
  Email: nazerfard@aut.ac.ir
  Homepage: aut.ac.ir/cv/2384/Ehsan-Nazerfard
- **S.Ahmad Javadi, Assistant Professor**
  Member of Computer Networks and Architecture Group, CE, AUT
  Email: sajavadi@aut.ac.ir
  Homepage: aut.ac.ir/cv/21291/S.Ahmad-Javadi
- **Mohammad Mehdi Ebadzadeh, Professor**
  Member of Artificial Intelligent and Robotics Group, CE, AUT
  Email: ebadzadeh@aut.ac.ir
  Homepage: aut.ac.ir/cv/2130/MOHAMMAD-MEHDI-EBADZADEH