Sahar Dastani Oghani

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EDUCATION

- **École de technologie supérieure (ÉTS),** Montreal, Canada (2022- 2026)
  PhD in Computer Science.
  PhD Thesis: Spatio temporal video processing with applications to medical data.
- **Amirkabir University of Technology,** Tehran, Iran (2020- 2022)
  M.Sc. in Computer Science, Major: Soft Computing and Artificial Intelligence.
  Master Thesis: 3D Human Pose Estimation Using Neural Networks.
  Overall GPA: 4/4
- **Amirkabir University of Technology,** Tehran, Iran (2016- 2020)
  B.Sc. in Computer Science.
  Overall GPA: 3.18/4 (Last two years: 3.84/4)

RESEARCH INTERESTS

- I am interested in computer vision, machine learning, deep learning, medical imaging, and image processing.

WORKING EXPERIENCE

- **Machine Learning Researcher at Mila - Quebec AI Institute**, Montreal, Canada (2022-2026)
- **Machine Learning Expert at Holoo Software Engineering Company**,Tehran (Summer 2021)
  - Developing a Recommender System application for Holoo accounting and financial software.

TEACHING EXPERIENCE

- **Artificial Intelligence Teacher Assistant at the Amirkabir University ***
  - Under supervision of Dr. Mohammad Akbari (Winter 2022)
- **Machine Learning Teacher Assistant at the Amirkabir University ***
  - Under supervision of Dr. Mohammad Akbari (Fall 2021)

  * Responsibilities included holding problem solving sessions, course lectures, setting and grading homework, projects and exams.
- **Tutoring**
  - Python: For new students entering Amirkabir University (Summer 2019)
  - IELTS: Holding an IELTS class (Summer 2018)

HONOURS AND AWARDS

- **Ranked 1st** among M.Sc students of Soft Computing and Artificial Intelligence whom started their graduate studies in the academic year of 2020-2021.
- **Ranked within the top 0.1%** in Iran's 2020 National Universities Entrance Exam for computer science master's program.
- **Ranked within the top 2%** in Iran's 2016 National Universities Entrance Exam.

RELEVANT COURSES

M.Sc. in Computer Science:
- Advanced Artificial Intelligence(18.4/20)
- Machine Learning (18.5/20)
- Deep Learning (18.5/20)
- Advanced Algorithms (20/20)
- Computational Data Mining (20/20)

B.Sc. in Computer Science:
- Artificial Intelligence (20/20)
- Topics in Computer Science, Bioinformatics (20/20)
- Graph Theory (19/20)
- Numerical Analysis Foundation(18.3/20)
- Linear Optimization (16.5/20)
- Nonlinear Optimization (17.5/20)

Note: Amirkabir university changed its scoring system from numeric to alphabetic during coronavirus pandemic.
- Data Mining (A)

- Numerical Analysis(A)
- Numerical Linear Algebra (A)
- Theory of Computation (A)

SELECTED PROJECTS

- **Holoo Software Engineering Company**, Tehran, Iran
  - **Recommender System:** Implemented a recommender system that offers products to customers based on their interests. In this way, I used weighted collaborative filtering, association rules, customers' click-through rate in the Holoo retail website, context-aware recommender system techniques to find customers' interests, and the combination of collaborative filtering and demographics to tackle the cold start problem. I also benefit from deep learning techniques to build a convolutional neural network (CNN) based recommender system for processing multi-media data.
- **Amirkabir University of Technology**, Tehran, Iran
  - **Masters Thesis:**
    - **Human Pose Estimation using Neural Networks:** I am using deep conditional variational autoencoder (CVAE) to classify and tackle the inherent ambiguity in 2D to 3D lifting. I will also benefit from multi-view learning to consider the image from different angles and obtain the final 3D pose.
      Dataset: Human 3.6m
  - **Other Projects:**
    - **Image Processing:** Generating a program for image reconstruction and image denoising using autoencoders. You can see the project here.
    - **Production of Poems in Saadi Style:** I trained LSTM using Keras deep learning library and fitted a language model to produce poems in Saadi style. You can see the project here.
    - **Predicting the future trend of a stock exchange in Iran:** Forecasting the future trend of Iranian stock market using ARIMA model. You can see the project here.

COMPUTER SKILLS

- Programming Languages:
  - Expert: Python, Matlab, C, C++
  - Familiar: LaTex, R
- Machine Learning Libraries: Numpy, Pandas, Scikit-Learn
- Deep Learning Platforms: Keras, TensorFlow

LANGUAGE SKILLS

- Persian: Native
- English: Fluent (IELTs: 6.5/9)
- German: Elementary (ÖSD A2: 90/90)

REFERENCES

- **Dr.Mohammad Hassan Shirali-Shahreza** (Supervisor)
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  Amirkabir University of Technology
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