

# Sajjad Pakdaman Savoji

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## EDUCATION

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- 2021–2023 Master of Science in Computer Science, York University.  
Supervisor: James Elder Professor and York Research Chair in Human and Computer Vision  
GPA: 8.6/9(A+)
- 2016–2021 Bachelor of Science in Electrical Engineering, University of Tehran.  
GPA: 17.57/20 (3.77/4)
- 2018–2020 Minor program in Computer Engineering, University of Tehran.  
GPA: 18.22/20 (4/4), ranked 2<sup>nd</sup>
- 2012–2016 Diploma in Mathematics and Physics, NODET Allameh Helli 8 Branch.  
National Organization for Development of Exceptional Talents  
GPA: 19.73/20

## RESEARCH INTERESTS

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Artificial Intelligence, Deep Learning, Machine Learning, Computer Vision, Natural Language Processing, Information Retrieval, Generative Models, Data Science, Reinforcement Learning.

## RESEARCH EXPERIENCE

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- Sep'21–Aug'23 Graduate Research Assistant, York University.  
**objective:** Leveraging Attentive Sensing in Computer Vision Tasks  
**Supervisor:**James Elder, Prof.
- Sep'20–Jul'21 Undergraduate Research Assistant, University of Tehran.  
**objective:** Manifold learning using ranking loss and siamese-inspired networks)  
**Supervisor:**Ahmad Kalhor, Assoc.Prof.
- Sep'19–Sep'20 Undergraduate Research Assistant, Computer Networks Lab, University of Tehran.  
**objective:** User-focused activity and bandwidth prediction using recurrent NNs  
**Supervisor:**Vahid Shahmansouri, Asst.Prof.
- Jul'19–Sep'19 Research Intern, Secure Communication Lab, University of Tehran.  
**objective:** Iranian Sign Language (ISL) translation from visuals to text using deep NNs  
**Supervisor:**Mohammad Ali Akhaee, Asst.Prof.

## AWARDS AND ACHIEVEMENTS

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- Jun 2021 Lasonde Entrance Scholarship, York University
- May 2021 VISTA Graduate Scholarship, Vision: Science to Application
- Apr 2021 Vector Scholarship in AI, Vector Institute
- Jan 2018 Supporter Foundation of University of Tehran Scholarship

## WORK EXPERIENCE

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- Jun'21–Jun'22 Committee Member, CUPE Toronto District Council.  
Elected as the CUPE local 3903 representative in this council
- Jul'19–Sep'20 Strategic Advisor, IEEE University of Tehran Student Branch.  
Provided branch's executive committee with decisive advice and support

- Apr'20–Jun'20 Mentor, Introduction to Python and Data Science, Amirkabir University of Technology.  
Prepared course material as well as hands-on content
- Nov'19–Jan'20 Mentor, IEEEUTSB Data Science Winter School, University of Tehran.  
Held hands-on session and organized the event
- Jul'19–Sep'19 Intern, AVIR Company.  
Implemented object detective and localization neural networks such as YOLO2
- Jul'18–Jul'19 Vice chair, IEEE University of Tehran Student Branch.  
Organized the student branch's different Sections and held several workshops, classes, talks, etc.

## TECHNICAL SKILLS

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|-----------------|--|
| Prog. Languages | Python(advance), C++(advance), C, HTML, CSS, JavaScript                              |
| Tools           | Tensorflow, Keras, Pytorch, Scikit-learn, Numpy, Pandas, OpenCV, Jupyter             |
| Softwares       | MATLAB, Quartus, NI Multisim, Codevision, Proteus, $\text{\LaTeX}$ , Office programs |
| Digital Devices | AVR ATmeg series, Raspberry Pi3, Arduino   |
| OS.s            | Linux, Windows, macOS  |

## TEACHING-RELATED EXPERIENCES

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- Jan'22–Apr'22 TA, Data Mining.  
**graduate course** *Obligation:* grading projects, assignment, and exams  
*Instructor:* [Habib-ur Rehman](#), Adjunct Prof. at McMaster University
- Sep'20–Jul'22 TA, Neural Networks and Deep Learning (3 semesters).  
**graduate course** *Obligation:* designed the final project regarding Generative Adversarial Networks  
*Instructor:* [Ahmad Kalhor](#), Assoc.Prof. at University of Tehran
- Sep'21–Nov'21 TA, Software Tools.  
*Obligation:* holding hands-on sessions and grading projects  
*Instructor:* [Hui Wang](#), Research Assoc. at York University
- Sep'20–Feb'21 TA, Machine Learning.  
**graduate course** *Obligation:* held hands-on session, designed assignments  
*Instructor:* [Babak Nadjar Araabi](#), Prof. at University of Tehran
- Feb'20–Jun'20 TA, Pattern Recognition.  
**graduate course** *Obligation:* held hands-on session, designed 2 homeworks and 3 quizzes  
*Instructor:* [Mohammadreza Abolghasemi](#), Asst.Prof. at University of Tehran
- Sep'20–Feb'21 TA, Intelligent systems.  
*Obligation:* designed 6 final projects and marked them, individual assessment  
*Instructor:* [Reshad Hoseini](#), Asst.Prof. at University of Tehran
- Feb'20–Feb'21 TA, Digital Signal Processing.  
(3 semesters) *Obligation:* designed 4 CAs, one analytical assignment and organized other TAs  
*Instructor:* [Hadi Amiri](#), Asst.Prof. at University of Tehran (**graduate-level course**)  
*Instructor:* [Majid Badieirostami](#), Asst.Prof. at University of Tehran  
*Instructor:* [Mohammadali Akhaee](#), Asst.Prof. at University of Tehran
- Sep'19–Feb'21 TA, Communication Systems I.  
(3 semesters) *Obligation:* designed 4 homeworks all of which include implementation part and 4 CAs, assessed students  
*Instructor:* [Maryam Sabaghian](#), Asst.Prof. at University of Tehran  
*Instructor:* [Hadi Amiri](#), Asst.Prof. at University of Tehran
- Feb'19–Feb'20 TA, Engineering Probability and Statistics.  
(2 semesters) *Obligation:* designed homeworks and computer assignments, held Q&A session  
*Instructor:* [Mohammadreza Abolghasemi](#), Asst.Prof. at University of Tehran
- Feb'19–Jun'19 TA, Electronics I.  
*Obligation:* marked student's homeworks, mentored them in the problem-solving procedure  
*Instructor:* [Mohammadreza Kolahdooz](#), Asst.Prof. at University of Tehran

## CERTIFICATES AND WORKSHOPS

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|-----------------|--|
| January 2022    | Build Better Generative Adversarial Networks (GANs), Coursera Credential: XC3RQE34YAXS |
| January 2022    | Sample-based Learning Methods, Coursera Credential: J4YEGV3VWSQ3                       |
| November 2021   | Build Basic Generative Adversarial Networks (GANs), Coursera Credential: B9M4EX5HRXG3  |
| October 2021    | Fundamentals of Reinforcement Learning, Coursera Credential: DMPL7YR2KURX              |
| Oct 18 - Oct 20 | Ambassador for IEEEExtreme 12.0, 13.0, and 14.0 Programming Competition                |
| April 2019      | Ambassador for IEEEmadC Competition  |

## PROJECTS

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|--------------|---|
| Dec'21       | Face Generation.<br>Trained RealNVP, VAE, and DCGAN on CelebA dataset to generate faces                             |
| July'21      | Machine Translation Using Transformers.<br>Used transformer-based models for English to Persian translation         |
| April'21     | Sentiment Analysis with BERT and XLNet.<br>Used transformer-based embedding to detect hate speech                   |
| Feb'21       | Sentence Generation.<br>Used LSTM-based Language model for sentence generation                                      |
| September'20 | Auxiliary Classifier Generative Adversarial Network (ACGAN).<br>Implemented an ACGAN using Keras on CIFAR10 dataset |
| August'20    | Conditional Generative Adversarial Network (CGAN).<br>Implemented a CGAN using Keras on CIFAR10 dataset             |
| July'20      | Deep Convolutional Generative Adversarial Network (DCGAN).<br>Implemented a DCGAN using Keras on CIFAR10 dataset    |
| June'20      | Variational Auto Encoder (VAE).<br>Used Kullback-Leibler Divergence cost to train a VAE on MNIST dataset            |
| May'20       | Pollution Prediction.<br>Implemented several recurrent networks using different cells such as LSTM and GRU          |
| May'20       | German Traffic Sign Recognition Benchmark.<br>Used deep convolutional NNs to classify traffic signs                 |
| March'20     | Separation Index in CNNs.<br>Computed two different methods to examine trends of SI through layers of CNNs          |
| September'19 | American Sign Language Translation.<br>Used CNNs and RNNs alongside to develop an alphabet-level translator         |
| August'19    | Object Localization.<br>Performed YOLO-based network to localize fishes as well as classify them                    |
| June'19      | Speech Identification.<br>Used MEL Spectrum features to identify individuals  |
| June'19      | Face Recognition.<br>Used the siamese network alongside with triple-loss cost function on AT&T dataset              |

## LANGUAGES

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| Persian/Farsi | Native                                     |
| English       | Professional Proficiency (IELTS Overall 8) |