Amin Fadaeinejad

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EDUCATION

York University, Toronto, Canada	Sep. 2021 - April 2023 (Expected)
● MA.Sc in Electrical and Computer Engineering	GPA: 9/9 (A+)

University of Tehran, Tehran, Iran	Sep. 2016 - Aug. 2021
● B.Sc in Electrical Engineering (Control)	GPA: 18.59/20 (3.91/4)

Rank 3rd out of approximate 110 undergraduate students

● Minor in Computer Engineering	Sep. 2018 - Jan. 2021
Passed a number of courses in Computer Engineering	GPA: 17/20 (3.8/4)

RESEARCH EXPERIENCE

MA.Sc. Thesis	Fall 2021 & Winter 2022

- Viewpoint Synthesis for Real-Time Applications in Telecommunication.
  - Transforming faces key points based on the location of the two users.
  - Generating a face based on transformed key points.

Instructor: Prof. Nikolaus Troje ⬀ & Dr. Marcus A. Brubaker ⬀

B.Sc. Thesis	Summer & Fall 2020

- Obtaining Car Specifications in License Plate Tracking System
  - Automatic car property detection system (Color and Model).
  - Implementing a new method or a proper network architect to improve the color classification accuracy.

Instructor: Dr. Reshad Hosseini ⬀

Intership

● HARA[1]:	Summer 2019

  - Implementing a speech to text system model using Deep Speech for Persian language (using Mozilla data set).

Instructor: Dr. Reshad Hosseini ⬀

● Taarlab[2]	Summer 2018

  - Programming robot called Sanbot to do tasks based on the commands.

Instructor: Dr. Mehdi Tale Masouleh ⬀

COURSE PROJECTS (The GitHub's codes are hyperlinked)

Deep Learning with Application Course Projects [GitHub]	Spring 2020

- Implementing the Hierarchical Multi-Scale Attention Network for semantic segmentation using Pytorch library. [GitHub]
- Implementing 2 layers of Deep-RBFNetwork with robust classification and rejection and an adversarial attack using FGSM method from scratch just by using NumPy and pandas libraries. [GitHub]
- Implementing Human Pose Estimation with CNN(AlexNet) using Pytorch library. [GitHub]
- Implementing an Anomaly Detection network with auto encoders using Pytorch library [GitHub]
- Implementing Sentimental Analysis network with unidirectional, bidirectional and pyramid LSTM networks using Pytorch library. [GitHub]
- Tuning a pre-trained BERT model over a new data set using Pytorch library. [GitHub]
- Implementing the encoder section of the Transformer Network for speech recognition using Pytorch libraries. [GitHub]

Pattern Recognition Course Projects [GitHub]	Spring 2019

- Implementing Parametric and Non-parametric PDF Estimation Algorithms using NumPy.[GitHub]
- Implementing the Expectation-Maximization (EM) Algorithm for Gaussian Mixture Density Model using NumPy. [GitHub]
- Implementing Dimensionality Reduction Algorithms(PCA,LDA) using NumPy. [GitHub]
- Implementing Classifiers such as Bayes' Optimal Classifier, SVM using NumPy. [GitHub]
- Implementing Classifier such as MLP/RBF Networks using NumPy. [GitHub]
- Implementing various Clustering Algorithms such as Agglomerative Hierarchical, Sequential, and k-means using NumPy. [GitHub]

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[1]HARA is an AI start-up company based in Tehran engaged in applying state-of-the-art machine learning, natural language processing and computer vision techniques to commercial domains.

[2]Human and Robot Interaction Laboratory.

Systems Analysis Course Projects [GitHub]   Spring 2018
- Image Compression with encoder, decoders using Matlab. [GitHub]

TEACHING EXPERIENCE

Teaching Assistant, York University

- Fundamentals of Data Structures   Winter 2021
  Instructor: : Dr. Jackie Wang ⬀
- Fundamentals of Data Structures   Winter 2021
  Instructor: : Dr. Andriy Pavlovych ⬀
- Fundamentals of Data Structures   Fall 2021
  Instructor: : Prof. Hamzeh Khazaei ⬀
- Computer Organization   Fall 2019
  Instructor: Dr. Yan Shvartzshnaiderk ⬀

Teaching Assistant, University of Tehran

- Pattern Recognition   Fall 2019
  Instructor: Prof. Babak N. Araabi ⬀
- Engineering Probability and Statistics   Fall 2019
  Instructor: Dr. Behnam Bahrak ⬀
- Linear Algebra   Spring 2020
  Instructor: Prof. Mohammad Javad Yazdanpanah ⬀
- Introduction to Computing and programming Fall 2018
  Instructor: Dr. Manouchehr MoradiSabzevar ⬀
- Intelligent Systems   Fall 2019-2020
  Instructor: Dr. Reshad Hosseini ⬀
- Discrete Mathematics   Spring 2020
  Instructor: Dr. Siamak Mohammadi ⬀
- Engineering Mathematics   (4 Semesters[3])
  Instructor: Dr. Mehdi Tale Masouleh ⬀
- Operational Research   Fall 2020
  Instructor: Mohammad Shokri ⬀

Teacher, Kerman's High schools

- Volunteered to teach physics to students attending Olympiad and University entrance exam.

RELEVANT COURSES

- Neural Networks and Deep Learning   (ongoing)
  Instructor: Dr. Konstantinos Derpanis ⬀ Winter 2022
- Data Analytics and Visualization   (ongoing)
  Instructor: Prof. Jarek Gryz ⬀   Winter 2022
- Machine Learning Theory   (A+)
  Instructor: Dr. Ruth Urner ⬀   Fall 2021
- Probabilistic Models and Machine Learning (A+)
  Instructor: Prof. Hui Jiang ⬀   Fall 2021
- Build Basic Generative Adversarial Networks
  (GANs)   [Online Certificate]
- Deep Learning with applications[4]   19/20
  Instructor: Dr. Reshad Hosseini ⬀   Spring 2020
- Pattern Recognition   20/20
  Instructor: Prof. Babak N. Araabi ⬀   Spring 2019
- Machine Vision   16.25/20
  Instructor: Dr. Reshad Hosseini ⬀   Fall 2020
- Linear Algebra   19.25/20
  Instructor: Dr. Farzad Rajaei salmasi ⬀ Spring 2019
- Digital Signal Processing   16.43/20
  Instructor: Dr. Majid Badieirostami ⬀   Fall 2020
- Engineering Probability and Statistics   19.5/20
  Instructor: Dr. Amir Masoud Rabiei ⬀   Fall 2017
- Algorithm Design 1   19.9/20
  Instructor: Dr. Hamid Mahini ⬀   Fall 2019
- Data Structures   17.6/20
  Instructor: Dr. Fathiyeh Faghih ⬀   Spring 2019
- Operational Research   20/20
  Instructor: Mohammad Shokri ⬀   Fall 2019
- Advanced Programming   17.9/20
  Instructor: Dr. Ramtin Khosravi ⬀   Fall 2019

RESEARCH INTERESTS

- Machine Vision
- Machine Leaning
- Data Science

HONORS AND AWARDS

- Received the York Graduate Scholarship (Due to high GPA).   Sep. 2021
- Ranked 3rd out of approximate 110 undergraduate students (Ranked 2nd in Control Engineering), school of Electrical and Computer Engineering(till now), University of Tehran   Aug. 2021
- Ranked 394th among more than 156,000 participants in Nationwide Universities Entrance Exam (B.Sc.). Sep. 2016

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[3]Fall 2019 & 2018, Spring 2019 & 2020

[4]Name in transcript: Deep learning with application in machine vision and audio processing

- Ranked 23rd out of approximate 500 teams in Sharif National Student Competition — Mar. 2015
- Ranked 3rd out of approximate 300 teams in Paya Scientific League in physics — Jun. 2015

SKILLS

- Programming
  - Proficient in Python, Matlab, C/C++, LaTeX
  - Familiar with HTML, CSS, Java, Microsoft Word, Microsoft Excel
- Frameworks, Softwares and Libraries
  - Pytorch, Keras, NumPy, scikit-learn, Deep Speech,

LANGUAGES

- English: Fluent, TOEFL iBT: 94/120 (Reading: 17, Listening: 26, Speaking: 29, Writing: 22)
- Persian: Native

REFERENCES

- Prof. Nikolaus Troje
  - Email: ✉ troje@yorku.ca
  - Website: `https://www.biomotionlab.ca/`
- Dr. Marcus A. Brubaker
  - Email: ✉ mbrubake@yorku.ca
  - Website: `https://mbrubake.github.io/`

Others are available upon request