Alireza GhaffarTehrani | Curriculum Vitae

Tehran Polytechnic (Amirkabir University of Technology)

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RESEARCH INTERESTS

- DNNs Security (Adversarial Attacks and Defences)
- Natural Language Processing (NLP)
- Machine Learning (ML)
- Computer Vision (CV)

EDUCATION

- **Bachelor of Science**   2017–Present
  - *Tehran Polytechnic (Amirkabir University of Technology)*   *Tehran, IRAN*
  - Computer Engineering
    · Major: Artificial Intelligence and Computer Network
    · GPA: 3.74/4

- **Bachelor of Science**   2002 – 2007
  - *Azad University of Tehran Branch*   *Tehran, IRAN*
  - Chemical Engineering
    · Major: Textiles Engineering
    · GPA: 3.83/4

- **High School Diploma**   1998 – 2002
  - *Mobtakeran*   *Tehran, IRAN*
  - Mathematics and Physics
    · GPA: 3.55/4

HONORS

- **Honored as an outstanding Mathematics instructor**, 2020, Ministry of Education and Training, Tehran

- **Entrance exam exempted for a Master degree program in Computer Engineering** as honors student, 2020, Tehran Polytechnic

- **Ranked among top 10** students in Computer Engineering, AI field, 2017, Tehran Polytechnic

WORK EXPERIENCE

- *Ministry of Education and Training Tehran*   2010–Present
  High School Instructor in: *Tehran, IRAN*
  - Mathematics
  - Physics
  - Chemistry

- *Novin Parsian Higher Technical Education Administration*   2008 – 2009
  Educational Expert   *Tehran, IRAN*
  - Curriculum Designer
  - Student Advisor

LANGUAGE SKILLS

o Persian   Native
o English   Fluent
  - IELTS Test appointment Nov 15th, 2021

PROJECTS

o Adversarial Robust Online Image Stream   [In Progress]
  - Defence against adversarial attacks on DNNs
  - Optimization
  - Supervisor: Dr. Maryam Amirmazlaghani
o Chat-bot Implementation for Airline's Online Booking using NLP Methods in Persian   [In Progress]
  - Step 1: Data gathering → Questions
  - Step 2: Data labeling
  - Step 3: Applying machine learning techniques to the task and bot implementation
  - Supervisor: Dr. Saeedeh Momtazi
o Hand Written Digit Recognition Neural Network Implementation without using NN Python Libraries
  - Step 1: Get the dataset
  - Step 2: Calculate the output → Feed-forward technique
  - Step 3: Minimizing the cost function → Back-propagation technique
  - Step 4: Testing the model
  - Supervisor: Dr. Mohammad Mehdi Ebadzadeh
o Fuzzy Clustering with FCM Method
  - Clustering of an n-dimensional dataset into a different number of clusters
  - Supervisor: Dr. Mohammad Mehdi Ebadzadeh
o Using AI Methods to Auto Play a Game by applying Evolutionary Algorithms on DNNs
  - Step 1: DNN implementation
  - Step 2: System architecture in use of DNNs
  - Step 3: Initializing population and evolution
  - Step 4: Fitness calculation, mutation and parent selection
  - Supervisor: Dr. Mohammad Mehdi Ebadzadeh
o Implementation of an Online Store
  - Frontend and backend development using HTML, CSS, and JS
  - Supervisor: Dr. Parham Alvani
o Image Processing
  - Create various kinds of shadows for different input images with the shear transformation matrix concept
  - Removing noises from an input Image or signal with the SVD method
  - Supervisor: Dr. Ehsan Nazerfard
o Non-linear Regression
  - Regression of a given dataset with the LS method
  - Supervisor: Dr. Ehsan Nazerfard

Courses

o Computational Intelligence   Grade:4/4   o Logic Circuits and Lab   Grade:4/4
  - Instructor: Dr. Mehdi Ebadzadeh   [Winter 2021]   - Instructor: Dr. Mehdi Sedighi   [Winter 2019]
o Web Programming   Grade:4/4   o Engineering Statistics   Grade:4/4
  - Instructor: Dr. Parham Alvani   [Winter 2021]   - Instructor:Dr. Sahar Asili   [Winter 2019]
o Theory of Machines and Languages   Grade:4/4   o Technical English   Grade:4/4
  - Instructor: Dr. Reyhaneh Ameri   [Winter 2021]   - Instructor: Dr. Mohsen Karrabi   [Fall 2018]
o Signals and Systems   Grade:4/4   o Discrete Mathematics   Grade:4/4
  - Instructor: Dr. Mehdi Rasti   [Fall 2020]   - Instructor:Dr. Morteza Damanafshan [Fall 2018]
o Applied Linear Algebra   Grade:4/4   o Physics 1,2   Grade:4/4
  - Instructor: Dr. Ehsan Nazerfard   [Fall 2020]   - Instructor: Dr. Ali Bavali   [Winter and Fall 2018]
o Electrical and Electronic Circuits Grade:4/4   o Mathematics 1,2   Grade:4/4
  - Instructor: Dr. Mahmoud Momtazpour [Fall 2020]   - Instructor: Dr. B.Najafi   [Fall2017–Winter2018]

🖥 Online Courses

- 🐍 Complete Python Bootcamp: Go from zero to hero in Python 3
- 🐍 Python Beyond the Basics : Object - Oriented Programming
- 🐍 Python for Everybody Specialization
- 🐍 Python Regular Expressions With Examples
- 🔝 TensorFlow 2.x Essentials - 2021
- 🔝 Tensorflow 2.0 | Recurrent Neural Networks, LSTMs, GRUs
- 🤖 Machine Learning   [In Progress]
- 🌐 Deep Learning
- edX CS50's Introduction to Artificial Intelligence with Python
- SQL SQL - The Complete Introduction to SQL programming
- SQL MySQL Database Development Mastery
- 🐘 Google BigQuery & PostgreSQL : Big Query for Data Analysis
- Ⓦ Web Design for Web Developers
- Introduction to HTML5
- Introduction to CSS3
- Interactivity with JavaScript
- Git Complete

COMPUTER SKILLS

Programming/Scripting

- Python
  - TensorFlow
  - NumPy
  - Mathplotlib
  - Pandas
  - Scikit-Learn
- MySQL
- PostgreSQL
- C
- JavaScript
- HTML5/CSS3
- LaTeX

IDEs/Tools

- VSCode
- PyCharm
- IntelliJ
- MATLAB

TEACHING ASSISTANT

- Algorithm Design   Fall 2021
  - Supervisor: Dr.Alireza Bagheri

- Microprocessor and Assembly Language   Fall 2021
  - Supervisor: Dr.Hamed Farbeh

- Logic Circuits   Winter 2020
  - Supervisor: Dr.Morteza Saheb Zamani

- Logic Circuits   Fall 2019
  - Supervisor: Dr. Mehdi Sedighi

Oct. 15th, 2021

Alireza Ghaffartehrani