

# AHMAD POURIHOSSEINI

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Computer engineering graduate from the University of Tehran, ranking 1<sup>st</sup> in GPA among CE students and recipient of the FOE award for top GPA for three consecutive years. Seeking to utilize the knowledge I have obtained in the field of Machine learning through university courses, self-study, internships, as well as my Bachelor's thesis to undertake research in this field on an M.S. level.

## EDUCATION

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Sep. 2015 - Feb. 2020	<b>B.S. in Computer Engineering - Software</b> School of Electrical and Computer Engineering The Department of Software Engineering University of Tehran, Tehran, Iran Expected graduation: January 2020 GPA: 19.41 / 20 - Ranking 1 <sup>st</sup> among CE Students
Sep. 2011 - Jun. 2014	<b>Diploma in Mathematics and Physics Discipline</b> Allameh Helli 3 High School Affiliated with the National Organization for Development of Exceptional Talents (NODET) GPA: 19.89 / 20

## RESEARCH EXPERIENCE

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Jun. 2020 - Now	<b>Researcher, University of Tehran Science &amp; Technology Park</b> I am currently working on the application of deep learning on a combinatorial optimization problem on graphs.
Feb. 2019 - Feb. 2020	<b>Research Assistant, Machine Learning and Computational Modeling Lab at the University of Tehran</b> I worked with a graduate student on a method to increase the diversity of the adversarial perturbations generated by a specific adversarial generator, in order to increase the robustness of adversarial defense modules that are trained using those perturbations. This research was also the subject of my bachelor's thesis, under the supervision of <a href="#">Dr.Araabi</a> .
Mar. 2018 - Aug. 2018	<b>Research Assistant, Intelligent Information Systems Lab at the University of Tehran</b> I helped the main researcher solve an optimization problem by writing code for and experimenting with different optimization algorithms. The result of this optimization would determine how much improvement his text retrieval method, which was a variation of the positional language model (PLM), offered over the existing ones.
Sep. 2011 - May. 2012	<b>EUROMATH 2012, Cyprus Mathematical Society</b> The abstract of my paper, titled "Prefix Codes and Data Compression" was accepted for presentation at EUROMATH 2012, but unfortunately due to Visa issues, I was unable to attend this conference.

## TEACHING EXPERIENCE

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I have been a TA for the following courses in University of Tehran:

Artificial Intelligence - Fall 2019 - [Dr. Fadaei](#) and [Dr. Moradi](#)

Formal Methods in Software Engineering - Fall 2019 - [Dr. Faghieh](#)

Advanced Programming - Spring 2019, Fall 2018, Spring 2018 - [Dr. Khosravi](#) and [Dr. Sadeghi](#)

Discrete Mathematics - Spring 2018, Fall 2017 - [Dr. Mohammadi](#)

Engineering Probability and Statistics - Fall 2018, Fall 2017 - [Dr. Bahrak](#)

Database Systems - Spring 2019, Fall 2018 - [Dr. Shakery](#)

## SELECTED PROJECTS

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**Fall 2019**      **[Auto-Shakespeare](#)**

Course project - Neural Networks and Deep Learning

An RNN that generates text which closely resembles the writing style of Shakespeare. Implemented using PyTorch.

**Apr. 2019**      **[Pet-Colorizer](#)**

Personal project

A neural network that can turn your grayscale images of pets into colored ones. Built using the Fast.ai library.

**Spring 2019**      **[Super Mario](#)**

Course project - Advanced Programming (as a TA)

A minimal C++ implementation of the famous SuperMario game, using SDL2. I was the TA of the course and the project would be shown to students as an example of good design.

**Spring 2018**      **Digit recognizer**

Course project - Artificial Intelligence

A neural network for the classification of MNIST-like digits, built from scratch using Python and without the use of any external libraries.

**Spring 2018**      **KhaneBeDoosh**

Course project - Internet Engineering

A fully-fledged web-application for house rental and sale, using Java, react, and MySQL.

**Fall 2017**      **Atalk**

Course project - Compiler Design and Implementation

Full implementation of a compiler for Atalk - an actor-based programming language - with MIPS as its target instruction set, using Antlr4 and Java.

**Spring 2017**      **MIPS processor**

Course project - Computer Architecture

Full Verilog implementation of a MIPS processor with a limited instruction set that utilized pipelining.

## PROFESSIONAL EXPERIENCE

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**Jun. 2019 -**      **Intern at [Sensifai](#)**

**Aug. 2019**

I was tasked with the preparation of an instance of [Coral Dev Board](#) for running a set of object classification and detection models in an offline setting. The board would receive its inputs via camera and display the results on a monitor. This internship helped me better understand the practical sides of machine learning.

**Jun. 2017 -**      **Back-end developer at [Boghche](#)**

**Aug. 2017**

I was responsible for the development of a Telegram bot that would receive orders from customers and register them in the central system. This job helped me gain a great degree of knowledge in back-end web development.

## AWARDS AND HONORS

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### Supporter Foundation of University of Tehran (SFUT) Honorable Student Award, 2019

I won this award because, for four consecutive years, I had the highest GPA among students of my major at the University of Tehran.

### Faculty of Engineering (FOE) Award for three consecutive years: 2016, 2017, and 2018

This award is given to the three students with the highest GPAs per major. In all three cases, I received the award because I had the highest GPA among the students in my major.

### Ranked Top 0.3% in The Nationwide University Entrance Exam

Among more than 167,000 participants

### Accepted in the first stage of the national mathematical Olympiad of Iran, 2014

## ADDITIONAL ACTIVITIES / VOLUNTARY WORK

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### Dec. 2019 - Machine Learning Instructor in the IEEE Data Science Winter School in the University of Tehran

Jan. 2020 I contributed to this winter school by providing the students with a fairly detailed introduction on the topic of SVMs, and also co-designing small SVM projects in the form of Jupyter Notebooks and guiding the students through them in order to give them a hands-on experience of working with SVMs (see [notebooks](#) and [certificate](#)).

### Jun. 2018 - Deep Learning Specialization by Andrew Ng on Coursera

Aug. 2018 Auditing this course greatly broadened my knowledge of deep learning. It taught me about many topics ranging from the very basic like different optimization algorithms and hyperparameter tuning, all the way to the more advanced like object detection, face recognition, and neural style transfer.

### Summer 2017, Deep Learning Summer School attendee

Summer 2018 This was my first introduction to deep learning. It provided both a theoretical foundation, via lectures and invited speakers, and a practical experience through computer assignments and hands-on sessions.

### Sept. 2016 - Layout Designer for the *FI* publication of the ACM student chapter of the University of Tehran

Aug. 2017 My job was designing the graphical layout of the content, and creating the final ready-to-print file, using Adobe InDesign.

### Sept 2013 - 16th Khwarizmi Youth Festival, 2015

Mar. 2014 My project in this annual festival was a computer program that would receive an image as input and then search the database for images closest to the input in terms of color and texture features. I was accepted in the first stage of the selection process.

## RELEVANT SKILLS

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- Advanced knowledge of PyTorch and intermediate knowledge of Tensorflow, two of the most popular deep learning libraries.
- Advanced knowledge of Fast.ai which provides a high-level API on PyTorch, dramatically increasing the speed of ML projects.
- Fluent in the programming languages C, C++, python, Java, and javascript.
- Working knowledge of SQL databases, and a NoSQL database.

## LANGUAGES

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**Persian** – Bilingual

**Azeri Turkish** – Bilingual

**English** – Fully proficient

Scores of the TOEFL test taken in October 2020: Overall: 119, Reading: 30, Listening: 30, Speaking: 29, Writing: 30

Scores of the GRE test taken in October 2019 : Q: 168, V: 159, W: 4

**Turkish** – Advanced

## REFERENCES

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Available upon request