MohammadAmin Haghpanah

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Born on 5 May 1996

Try to pay rather than getting paid

Education

2019 – Present	**M.Sc. in Artificial Intelligence**, *University of Tehran*, Tehran, Iran.
2014 – 2019	**B.Sc. in Computer Software Engineering with a concentration on AI**, *Iran University of Science and Technology*, Tehran, Iran, GPA: $17.31/20 = 3.65/4$.
2010 – 2014	**Diploma in Mathematics and Physics Discipline**, *Allameh Helli 3 High School*, Tehran, Iran, GPA: $19.77/20 = 4/4$. Affiliated with the National Organization for Development of Exceptional Talents
2007 – 2010	**Middle School Degree**, *Allameh Helli 2 Middle School*, Tehran, Iran. Affiliated with the National Organization for Development of Exceptional Talents

Industrial Experience

2015 – Present	**Owner**, *Koala Team*, Tehran, Iran.
2017/10 – 2018/10	**Senior Backend Developer (C#)**, *Green and Silver Leaves*, Tehran, Iran, I was working on the Mobayyen project. It's a big project and I've developed its web service from scratch. Also, I've improved most parts of the project's framework.
2016/07 – 2016/09	**Backend Developer (Python)**, *Gandom*, Tehran, Iran, I was working on the ChiChiKoo project (a service similar to foursquare) and I developed a RESTful API with Flask.
2015/08 – 2015/09	**Backend Developer (Python)**, *Bajiru*, Tehran, Iran, Bajiru was a startup in the restaurant management area. I was working on a RESTful Flask API as a trainee.

Teaching Experience

Teaching Assistant

Fall 2018	**Software Engineering (Dr. Mehrdad Ashtiani)**, *Iran University of Science and Technology*, Tehran, Iran.
Spring 2018	**Computational Intelligence (Dr. Naser Mozayani)**, *Iran University of Science and Technology*, Tehran, Iran.
Spring 2018	**Advanced Programming of C# (Dr. Sauleh Etemadi)**, *Iran University of Science and Technology*, Tehran, Iran.
Spring 2016	**Advanced Programming of C++ (Dr. Zeinab Movahedi)**, *Iran University of Science and Technology*, Tehran, Iran.

Volunteer Experience

2018/08 – 2019/03	**Supervisor of ChillinWars 2019**, *Iran University of Science and Technology*, Tehran, Iran.
2017/09 – 2018/01	**Chief and Technical Manager of ChillinWars 2017**, *Iran University of Science and Technology*, Tehran, Iran.
2016/06 – 2017/05	**Member of the Scientific Association of the Computer Engineering Department**, *Iran University of Science and Technology*, Tehran, Iran.
2015/10 – 2016/01	**Chief Manager and Organizer of a local ACM contest in the University**, *Iran University of Science and Technology*, Tehran, Iran.

Skills

Self Learning	I think this is the most important skill of mine and I've learned my other skills by it.
Programming	*Proficient at:* Python, C#, C++, C, Erlang, Java, UML *Familiar with:* JavaScript, HTML, MATLAB, VHDL, Assembly, CSS, Pascal, PHP
Framework/Library	Django REST, ASP.NET, Flask, Keras, Keras-RL, OpenCV, PyGame, SDL
Tool	Qt, PyQt, Visual Paradigm, Telegram Client, Telegram Bot, Android Studio, CUDA, ANTLR, Xilinx ISE
Database	SQL, MongoDB, Riak, Redis
Project and Code Management Tool	Git, TFS, Trello
Other	Linux, Docker, NGINX

Selected Projects

2019 – Present	**AnyTrading:** A collection of OpenAI Gym environments for reinforcement learning-based trading algorithms with a great focus on simplicity, flexibility, and comprehensiveness. Github link.
2018 – Present	**Musical Chord Detection:** An application that detects musical notes in a musical signal (created by Piano, Guitar, etc). It's a very difficult problem and still isn't solved completely. Typically there exist 108 different notes and detecting a single note is kind of simple but the problem shows up when some notes are played simultaneously (chords). Imagine if someone plays 10 Piano notes with his 10 fingers, then there could be almost 100^{10} possible different chords. Solving this problem using basic ANN algorithms is not actually possible.
2017 – Present	**Chillin:** A tool for creating game AI competitions. It consists of multiple components, including a server framework written in Python, four components written in Python, C#, C++, and Java. Also, Chillin came up with a 3D monitor to spectate the games and watch what happens in the field. ChillinWars 2017 and ChillinWars 2019 utilized this tool to create games for their competitions. Some examples can be found here.
2017 – Present	**Koala Serializer:** A tool similar to Google Protobuf that enables the Chillin framework to be much more automated and simpler. Github link.
2019	**InstaRobot:** An Android application that provides some tools for Instagram users.

2018	**Facial Expression Recognition (Bachelor Final Project):** A new solution for solving the famous Facial Expression Recognition problem using MLP and feature extraction. It detects 8 emotions (anger, contempt, disgust, fear, happiness, neutral, sadness, surprise) with an average accuracy of 97% on the CK+ dataset. Article link.
Spring 2017	**Inverted Pendulum:** A system that simulates the famous Inverted Pendulum problem written in Python. Also, a fuzzy controller is implemented that tries to keep the pendulum inverted in the environment. It was a project for the Computational Intelligence course. Github link.
Fall 2016	**Pourse:** A web service and application that provides some information about Stocks for Software Engineering course project. The project's backend was implemented using Erlang and Python programming languages and the Riak database. Gitlab link.
2015 – 2017	**IJust:** An open-source online ACM judge. Github link, ijust.ir.
Spring 2015	**OCR Site:** A simple website that provides single character OCR written in Python for Advanced Programming course project. The recognizer was an MLP and all parts of it were implemented from scratch (including ANN trainer). Github link.
Fall 2014	**PyTanks:** A multiplayer network game implemented by Python for the Basic Programming course project. Also, an AI (using Q-Learning) was implemented for tanks to help them run away from bombs. Github link.
2011 – 2013	**Robot Path Planning:** RoboCup 3D Soccer Simulation is a seniors' tournament that is a part of robotics tournaments such as IranOpen. Its goal is to write a code that manages 11 NAO robots to play soccer in a simulated environment. My job in the team was creating and implementing a new path planning algorithm for these robots. Our TDP which was sent for World Championship 2013 competitions and qualified, can be found here. Gitlab link.
2011 – 2012	**Car Tracking:** A dynamic system that detects cars and their speeds by image processing and checks whether the cars move between highway lines. Github link.
2011 – 2012	**Inverted Pendulum:** A system that simulates the famous Inverted Pendulum problem written in C++. Also, an AI is implemented that uses Q-Learning to keep the pendulum inverted in the environment. Github link.
2010 – 2011	**Othello:** An object-oriented client/server platform that provides an interface for Othello AI programs are written in C++. Also, an AI was implemented using the Minimax algorithm.

Github Contributions

OpenAI-Gym	Added gym-anytrading. Commit link.
flasgger	Added "importing other spec files" support. Commit link.
cudamat	Added correlate function. Commit link.

Awards & Honors

Iran University of Science and Technology

2014 – 2019 **Software Engineering field**,
Ranked Second Place for my total average among all entrants of the year 2014.

2014 – 2019 **Artificial Intelligence field**,
Ranked Second Place for my total average among all entrants of the year 2014.

2016 – 2017 **Software Engineering field**,
Ranked Third Place among top students of the year.

May 2017 **Harekat Ceremony**,
Ranked First Place in a competition among all scientific associations of the university.

2014 – 2015 **Software Engineering field**,
Ranked Second Place among top students of the year.

Allameh Helli 3 High School

Apr 2013 **RoboCup IranOpen 2013**,
3D Soccer Simulation League, Certificate of Participation.

Mar 2013 **RoboCup World Championship 2013**,
3D Soccer Simulation League, Qualified.

Feb 2013 **Farzanegan RoboCup 2013**,
3D Soccer Simulation League, Ranked First Place.

Apr 2012 **RoboCup DutchOpen 2012**,
3D Soccer Simulation League, Certificate of Participation.

Apr 2012 **RoboCup IranOpen 2012**,
3D Soccer Simulation League, Certificate of Participation.

2012 **Seminar on Science and Technology**, Ranked First Place.

Allameh Helli 2 Middle School

2010 **Seminar on Science and Technology**, Ranked First Place.

Interests

- Machine Learning
- Reinforcement Learning
- Bioinformatics
- Artificial Neural Networks
- Project and Team Management
- Object Oriented Programming
- Dota2
- Machine Vision
- Signal Processing
- Game Development
- Robotics
- Software Engineering
- Functional Programming
- Foosball

Personality

- https://mycreativetype.com/type/maker
- https://www.16personalities.com/istj-personality