Mostafa Najafi

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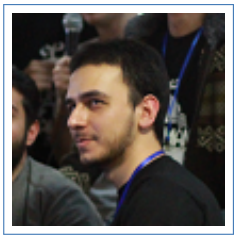
Born on 8 December 1996



Enthusiastic to learn new things, specially in computer

Education

2019 – 2022 **M.Sc. in Computer Engineering - Bioinformatics**, *Sharif University of Technology*, Tehran, Iran.

2014 – 2019 **B.Sc. in Computer Software Engineering**, *Islamic Azad University Central Tehran Branch*, Tehran, Iran, GPA: 3.44.

2010 – 2014 **Diploma in Mathematics and Physics Discipline**, *Allame Helli 3 High School*, Tehran, Iran.
Affiliated with the National Organization for Development of Exceptional Talents

Industrial Experience

2015 – now **Owner**, *Koala Team*, Tehran, Iran.

2017/01 – 2018/10 **Artificial Intelligence Researcher**, *Green and Silver Leaves*, Tehran, Iran.
The second project of this company was an automation service for pathobiology labs. From creating a microscope that automatically scans slides to create a web application for managing slides and patients. My task was diagnosing cancer potential cells from scaned images. We've reached the accurracy of about 60% in finding the cells in images with Mask-RCNN and about 94% in classification of the cells.
The main resources we used: The article used for classification - Kaggle 2018 Data Science Bowl

2016/07 – 2016/09 **Backend Developer**, *Gandom*, Tehran, Iran.
This company creates web and mobile applications. I was one of the backend develpoers of the ChiChiKoo (a service like foursquare). We developed a RESTful API with flask.

2014/12 – 2015/08 **Web Developer**, *Kian Pardaz Hooshmand*, Tehran, Iran.
This company provides services in various fields. I joined their web team and developed an english institute web portal from 0-100 with codeigniter used for backend and also bootstrap and jQuery used for its frontend.

Teaching Experience

Spring 2021 **Teacher's Assistant: Machine learning for bioinformatics (Dr. Sharifi Zarchi & Dr. Soleymani)**, *Sharif University of Technology*, Tehran, Iran.

Spring 2021 **Teacher's Assistant: Bioinformatics Algorithms (Dr. Sharifi Zarchi & Dr. Koohi)**, *Sharif University of Technology*, Tehran, Iran.

Fall 2018 **Teacher's Assistant: Software Engineering (Dr. Mehrdad Ashtiani)**, *Iran University of Science and Technology*, Tehran, Iran.

Summer 2016 **Game Development**, *Iran University of Science and Technology*, Tehran, Iran.

Volunteer Experience

2019/10 – 2020/09 **Game Designer and Game Developer of ChillinWars 2020**, *Iran University of Science and Technology*, Tehran, Iran.

2018/08 – 2019/03 **Technical Supervisor, Game Designer and Game Developer of ChillinWars 2019**, *Iran University of Science and Technology*, Tehran, Iran.

2017/09 – 2018/01 **Game Designer and Game Developer of ChillinWars 2017**, *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, JavaScript, TypeScript, C#, C++, HTML, CSS, SQL, PHP
Familiar with: MATLAB, VHDL, Assembly, Pascal, Bash Script, Erlang, Lua

Framework/Library — Tensorflow, Keras, PyTorch, VueJS, Flask, Bootstrap, Quasar, ElectronJS, OpenCV, OpenGL, Gulp, SDL, SFML, CodeIgniter, PhalconPHP

Others — Linux, Git, Unity, Telegram Bot

Selected Projects

2017 – now **Chillin:** A tool for creating game AI competitions. It consists of multiple components, including a server framework written in Python, three client components written in Python, C++, and Java. Also, Chillin came up with a 3D monitor created with Unity 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.

2018 – 2019 **Musical Chord Detection:** An application that detects musical notes in a musical signal (created by Piano, Guitar, and etc). It's a very difficult problem and still isn't solved completely. Typically there exists 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.

Spring 2020 **CHROMEISTER:** Implementation of CHROMEISTER in python, with some improvements too! Github link

Fall 2018 **MathExam:** An Electron+Vuejs pc application that provides some tools for managing school exams and questions. Also complex questions (containing equations, etc) were supported by help of Mathjax.

Fall 2017 **Algorithm Visualization:** Visualize some sorting algorithms using Vuejs and D3js.

2015/10 **Ragdoll:** An arcade game created by Unity. Download link

2011 – 2013 **Robocup 3D Soccer Simulation** Robocup 3D Soccer Simulation is a seniors' tournament that is a part of robotics tournaments like IranOpen. Its goal is to write a code that manages 11 simulated NAO robots to play soccer. What I've done in team was writing Forward and Inverse Kinematics and Walking. I've tested several methods for implementation of the walking like ANN and sinusoidal foot trajectories and some methods for optimizing them like PSO and GeneticAlgorithm. Our TDP which was sent for and got quilified in World Championship 2013 competitions can be found here. Gitlab link.

Winter 2012 **Othello:** An object-oriented client/server platform providing an interface for othello AI programs written in C++. Uses Boost Asio and SDL.

2011 – 2012 **Car Tracking:** A dynamic system that detects cars and their movements. Github link

2011 – 2012 **Inverted Pendulum:** A system which 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 system.

2010 – 2011 **NabRai Signal Processing Lab Project:** Classify voice to realize some words. Project written in matlab.

2009 – 2010 **Othello:** My very first complete project that written in C++. You can play othello with an AI that implemented with min-max tree.

Awards & Honors

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 IranOpen 2012**, *3D Soccer Simulation league*, Certificate of Participation.

Apr 2012 **Robocup DutchOpen 2012**, *3D Soccer Simulation league*, Certificate of Participation.

2012 **Seminar on Science and Technology**, *Allame Helli 3 High School*, Ranked First Place.

Interests

- Machine Learning
- Reinforcement Learning
- Game Development
- Robotics
- Football
- Machine Vision
- Deep Learning
- Solving Algorithmic Problems
- FPS Games
- Foosball

Personality

- https://mycreativetype.com/type/visionary/
- https://www.16personalities.com/intp-personality