



Mohammad Hossein Samadi (Willie)

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Born March 3rd 1998

EDUCATION

2016-09 - 2021-06

Bachelor of Science: Computer Engineering

Ferdowsi University of Mashhad - Mashhad/Iran

- GPA: 15.10/20 (3.22/4 (based on <http://gpa.eng.uci.edu/node/241>)), Last Two Year: 15.40/20 (3.28/4 (based on <http://gpa.eng.uci.edu/node/241>))(6.93/9)
- Thesis: 2D Physics-Based Platformer Pathfinding for Multiple Agents on Devices with Multi-Core CPUs and Low Memory Size (20/20)
- Relevant courses (GPA:17.6/20 (3.68/4)): Basics of Computer Programming (19.75/20), Advanced Computer Programming (19.5/20), Data Structures (15.85/20), Statistics of Engineers (18.5/20), Algorithm Design (17.4/20), Logic Circuits (18.24/20), Electrical Circuits(18.21/20), Basics of Artificial Intelligence (15.5/20), Databases (16.75/20), Data Mining (17.6/20), Information Retrieval (17.3/20), Internet Eng. (17/20)

2012-09 - 2016-06

High School Diploma

Imam Reza HighSchool - Mashhad/Iran

Diploma in Physics and Mathematics Discipline

GPA: 19.29/20 (3.91/4)

Research Interests

Game Dev, Computer Graphics, Deep RL, GANs

SCIENTIFIC PROJECTS

Unreal Engine Pole Balancer

I started learning Unreal Engine 4 and soon I found out that there is not packages and/or helper tools to facilitate the use of openai baselines and tensorflow and train an agent on UE4. So I coded a TCP socket and trained a pole to get balanced using openai baselines. It was a successful attempt and has the potential to be pursued further more to help people use RL algorithms in UE4.

I also made a video for presentation purposes:

<https://www.youtube.com/watch?v=9IGupuc90oM>

<https://github.com/theboywhomakesgames/unreal-reinforcement>

Portal Cracker

a neural network made with tensorflow to break my university portal captcha : pooya.um.ac.ir

I managed to generate thousands of inputs from the captcha generation api of the portal and then detected and separated the digits using openCV and trained my network with it. Works like a charm!

<https://github.com/theboywhomakesgames/portal-cracker>

PPO Keras

An implementation of ppo algorithm using keras and tensorflow 2.0+

I did this so I could train the neural net to hover a quad rotor in midair. Mainly did it to get a hold of tensorflow and RL in python and integrating with gazebo and ROS.

https://github.com/theboywhomakesgames/ppo_keras

FM32 Arm Microcontroller Shooter game

a game on an *arm microcontroller*

Using different external modules and working with gpio. Managing super low-level stuff was the biggest challenge in this project.

<https://github.com/theboywhomakesgames/FM32ShooterGame>

Cool Compiler A compiler wrote for a programming language called cool
Although this language was everything but cool, it gave me a chance to work with ANTLR and code a compiler which was a valuable experience.

<https://github.com/theboywhomakesgames/CoolCompiler-fumproj>

Needleman Wunsch Py An implementation of needleman Wunsch in python
A small project I did for my computer algorithms class.

<https://github.com/theboywhomakesgames/needlemanwunschpy>

AI for Corridor AI that plays Corridor; It uses alpha-beta minimax to search possible states of the game and pick a decision.

GAME PROJECTS

The Egg Story A 2d platformer game. Worked on it as a gameplay programmer, level designer and music producer.
Mobile Game

<https://play.google.com/store/apps/details?id=com.unboundgamestudio.theeggstory>

The Egg History (Red ball egg) A 2d platformer game. A new version of The Egg History. Worked on it as a gameplay programmer, level designer, game feel specialist and music producer.
Mobile Game (Will be released in December 2021)

Ball Smasher Hyper Casual Mobile Game
Hyper Casual Mobile Game A game in which you control ball and have to smash some guys! Worked on it as a gameplay programmer and technical artist.

<https://play.google.com/store/apps/details?id=com.unboundgamestudio.ballsmasher>

Dirt Bike Rider This was my first hyper casual solo game which consists of 3 different situations and I had only 2 weeks to do everything in the game by myself! Although it didn't get the required KPIs to get published but still, it was a successful first attempt. (I'm not sure if I can share the source because of my NDA. If you need to see the source and/or the game itself, contact me on my email.)
Hyper Casual Mobile Game

Building Simulator A game about tearing down buildings and making new ones. Worked on it as a gameplay programmer.
Hyper Casual Mobile Game

<https://play.google.com/store/apps/details?id=com.unboundgamestudio.buildingsimulator>

Burger Gliding A hyper casual game with the stack mechanic as the main mechanic. Worked on it as a gameplay programmer. This was my first time doing a hyper casual game. Before this experience I thought doing hyper casual games was the equivalent of being cheap, but after the growth and heavy work it made me experience, it changed my mind for ever.
Hyper Casual Mobile Game

<https://play.google.com/store/apps/details?id=com.unboundgamestudio.turtlegliding>

Infinity War A casual 2D platformer/shooter game that is in the test stage and is gonna be a multiplayer shooter game. Worked on it as an AI programmer, designing a 2d platformer pathfinding system that was also my Bachelor's Thesis.
Action Mobile Game

<https://play.google.com/store/apps/details?id=com.jashgames.infiWar>

Ragdoll Runner A hyper casual game with the stack mechanic as the main mechanic. Worked on this as a gameplay programmer and ragdolls specialist! This was my first time coding a walking ragdoll. You don't know how fun game dev is until you code a ragdoll.
Hyper Casual Mobile Game

MonoGame Component System <i>Helper Tools</i>	A simple component system like the one on unity for mono games to make creating and managing game objects easier. https://github.com/theboywhomakesgames/monogame-ecs-base
Heaps Helpers <i>Helper Tools</i>	a component system and physics engine for heaps.io engine With 36 stars atm. https://github.com/theboywhomakesgames/heaps-helpers
Tears of Fear <i>Hobby Indie Game</i>	an online horror game in which the monster is too controlled by the player. Did this just to get familiar with socket programming in online real-time multiplayer games. https://github.com/theboywhomakesgames/tearsoffear

WEB PROJECTS

AI company website <i>Website</i>	A react js + node js backend project I did for a university project. A website with SAAS services. https://github.com/theboywhomakesgames/ai-website
TemSite <i>Website</i>	a vue js website + node js backend. A website for selling customized t-shirts as merch services. This entrepreneurship made me some money when I needed the most it as a student living on my own. https://github.com/theboywhomakesgames/temsite

WORK EXPERIENCE

2021-03 – present

Senior Game Developer | Game Feel Specialist

Unbound Game Studio (UGS), Mashhad, khorasan razavi

- Worked closely with international game publishers to prototype hyper-casual games asap when a new trend rises up. The key is speed of developing a game that looks super attractive in the first glance and also feels juicy and satisfying to the user. We use unity as our game engine.
- I also do a lot of level-design, gameplay programming, shader programming, music production and sometimes 3d-modeling.

2020-09 – 2021-02

Student Internship | Tensorflow Developer

FUM Cognitive Computation Lab, msahhad, khorasan razavi

- Learned the basics of RL and got familiar with academic researching process under Dr. Ahad Harati's supervision while trying to help a master's student fly a quad rotor using RL. It was super exciting and the most fun I've ever had doing something. I sometimes got lost in the work and forgot to have lunch! :)
- Worked with bebopS, tensorflow, gazebo and ROS.

2018-09 – 2019-03

Frontend React Developer

Baladshow(Fanap), msahhad, khorasan razavi

- Worked in Agile-driven environment to effectively maintain project timelines and code new frontend features for an online dubbing platform. I had to code custom media players using html/css/js. And the website was mostly coded using react.js.
- I wasn't super excited about this job, it was something to help pay the bills. But it showed me I can learn new skills I've never tried like web dev, super fast.

- 2017-09 – 2018-01

Unity Instructor

FUM Scientific Society of Video Games, msahhad, khorasan razavi

 - Taught game dev using unity to more than 60 undergraduate computer engineering students at FUM during 2 semesters. I learned a lot about teaching complicated subjects and communicating complex ideas doing this.
- 2017-02 – 2018-05

Unity Developer

Unbound Game Studio (UGS), msahhad, khorasan razavi

 - Worked as a gameplay programmer, level designer and music producer on a national hit called "The Egg Story" with more than 50k installs at the time.
 - Doing this I learned the basics of working on an actual game product with actual users.
- 2019-11 – Current

Solo Game Developer

Pixtell

 - Pixtell is my own game studio. I've been making games that I think should exist but don't. They haven't been successful but that doesn't mean I'm gonna stop trying!
 - 2 games I've come back to remake more than 3 times are "Mustache Man" and "Tears of Fear". The first one is a stealth/platformer/shooter game which is a weird combination. The latter is an online horror game in which the monster too is a player with special abilities. I still don't have the sufficient time and resources to fully develop these games but I have a few prototypes that I'd like to get back to as soon as I can.

SKILLS

Languages	English – Advanced <ul style="list-style-type: none"> • IELTS 8.0 Persian – Native
Programming Skills	C/Java C++/C JS/React JS/Vue JS/Node JS Python MongoDB/SQL Linux Tensor Flow Open GL Unity3D Shader Programming Level Design Game Feel Design Working with Tight Deadlines :) Music Production/Sound Design