Amir Masood Baghi

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Education

Uppsala University   *Uppsala, Sweden*
Master of Science In Computer Science   *Fall 2022 - Current*

- Passed with *distinction* in all completed courses.
- Recipient of the Uppsala University International Scholarship Fund for the second year.

Shiraz University   *Shiraz, Iran*
Bachelor's Program In Computer Engineering   *Fall 2018 - Fall 2022*

- Ranked *662nd* in the National Entrance Exam (among 144,000 applicants).
- Finished in four years with an *18.56/20 CGPA*. Ranked *2nd* among the 81 students of my class.

National Organization for Development of Exceptional Talents Asadpour High School   *Bandar Abbas, Iran*
Mathematics-Physics Diploma   *2014 - 2018*

Graduated with 19.28/20 CGPA.

Work Experience

Medrick Games   *Tehran, Iran (Remote)*
Unity Game Developer (Internship)   *Sept 2021 - Aug 2022*

- My team and I made *four casual/hyper-casual mobile games* among other activities.
- Additionally participated in game design tasks, e.g. idea development and refinement, and marketing activities, e.g. creating one minute videos for our games.

Academic Experience

Research Assistant   *Uppsala, Sweden*
Uppsala University   *Summer 2023 - Current*

- Currently researching the application of Implicit Neural Representations in MicroCT scan compression/reconstruction. Supervised by Jens Sjölund.

Teaching Assistant, Various Courses   *Uppsala, Sweden*
Uppsala University   *Spring 2023 - Current*

- Previously Human-Computer Interaction, currently Combinatorial Optimization and Statistical Machine Learning.

Teaching Assistant, Various Courses   *Shiraz, Iran*
Shiraz University   *Fall 2019 - Spring 2022*

- Assisted in various courses including Database Design Principles, Operating Systems Lab, Advanced Programming, and more.

University Projects

Learning To Play Pong Using DQN   *Uppsala, Sweden*
Uppsala University - Reinforcement Learning Course   *Spring 2023*

A Deep Q-Network (DQN) was implemented, based on the Nature paper by Mnih et al. (2015), to learn and play the game of Pong (and most Atari games). The network was tested on Breakout successfully as well. Written in PyTorch.

Various Classifiers and a DL Model For Lead Role Prediction In Films   *Uppsala, Sweden*
Uppsala University - Statistical Machine Learning Course   *Spring 2023*

Five types of classifiers and a neural network were developed with advanced hyper-tuning for prediction of the lead actor's gender based on a script's attributes. Got a *golden star* in the course. Done in Python using PyTorch, RayTune, and scikit-learn.

Raytracing, Environment, and Shadow Mapping For a Model Viewer   *Uppsala, Sweden*
Uppsala University - Computer Graphics Course   *Spring 2023*

Enhanced an existing GLTF model viewer as the final course project by adding raytracing, environment, and shadow mapping. Developed in C++ with OpenGL and GLSL, building upon earlier assignments that established the renderer's foundations.

Advanced Reversi AI   *Uppsala, Sweden*
Uppsala University - Functional Programming I Course   *Fall 2022*

The game of Reversi (Othello) and an advanced opponent AI were implemented in Haskell. Ranked *3rd* in a tournament against other AIs.

Aphrodite, A Covid-19 Detection Application *Shiraz, Iran*

Shiraz University - Systems Analysis and Design Course *Fall 2021*

Developed a Dockerized COVID-19 detection application for Shiraz hospitals using a pre-trained model (COVIDNet-CT). Utilized Python, Qt C++, Prometheus, Grafana, Node Exporter, and MySQL.

Various Game Development Mini-Projects *Shiraz, Iran*

Shiraz University - Computer Games Design and Computer Graphics I Courses *Fall 2020 - Spring 2021*

Implemented core game development and graphics concepts, including skeletal animation (inverse kinematics), game engine development, design patterns, game physics, rendering engines, and game metric analysis. Developed using C++ with OpenGL/GLFW/GLUT.

3d Eight Queens *Shiraz, Iran*

Shiraz University - Computer Graphics I Course *Fall 2020*

As the course project, a program simulating the eight queens problem in 3D graphics was written in C++ using only OpenGL. Advanced lighting and surface materials were implemented and used to improve the graphics.

Modo, Bus Transportation App *Shiraz, Iran*

I.D.E.A. Footsteps Contest *Summer 2020*

For the I.D.E.A. Footsteps Contest, we were tasked with implementing a tracking system for the university's bus lines, including a mobile app to provide users with info on the scheduling. Developed with Flutter. *Ranked 1st in the contest*.

Teatro, Game Console In C *Shiraz, Iran*

Shiraz University - Principles of Programming Course *Spring 2019*

As the course project, our team implemented a game console to be able to render certain 2D games on PC, written in C. *Ranked 2nd in the course*.

Awards, Honors, And Certificates

2023	**Completion of SFI (Svenska För Invandrare),** Uppsala Kommun	*Uppsala, Sweden*
2023	**International Scholarship Fund,** Uppsala University	*Uppsala, Sweden*
2022	**Dean's List,** Shiraz University	*Shiraz, Iran*
2021	**TOEFL iBT (120/120),** ETS	*Tehran, Iran*
2020	**Ranked First In The Technical Footsteps Competition,** I.D.E.A Association	*Shiraz, Iran*
2019	**Completion Of A Full Program In English Language,** Iran Language Institute	*Shiraz, Iran*

Skills

Programming Languages	Python, Java, C/C++, C#, JavaScript, Golang, HTML/CSS, MiniZinc, Haskell, GLSL
Game Development	Unity, Game Design Patterns
Graphics and GPU Libraries	OpenGL, GLUT, GLFW, SDL, CUDA
Web/Application Frameworks	Spring, Django REST, Gin, Flutter, Vue, Vuetify, Qt, Bootstrap, Flask
Mathematical and ML Tools	PyTorch, NumPy, pandas, scikit-learn, MATLAB
Project Management	Agile Software Development (SCRUM), Git, Trello, JIRA
Miscellaneous	LaTeX , UML Diagrams, Docker, SQL
Soft Skills	Communication, Teamwork, Team Management, Resilience, Diligence

Interests

- Programming
- Artificial Intelligence
- Games and their development
- Philosophy
- Art, music, film
- Storytelling

Languages

English	Full Proficiency
Farsi	Native Proficiency
Swedish	Intermediate Proficiency

References available upon request.