Ali Asgari

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○ *Ali-Asgari*

Education

2019–2024	**University of Tehran**, *Bachelor of Science in Computer Science* GPA: 17.05/20 - (3.59/4)
2011–2019	**High School Diploma in Mathematics and Physics**, *National Organization for Development of Exceptional Talents* GPA: 19/20 - (4/4)

Research Interests

○ **Computer Graphics**
○ **Software Design**
○ **Artificial Intelligence**

Research Experience

August 2023 — Present

CNRL

I am a member of the Computational Neuroscience Research Laboratory (CNRL) team developing a framework for efficient simulation of spiking neural networks on GPUs under the supervision of **Dr. Mohammad Ganjtabesh**. In spiking neural networks, practical visualization tools are limited. I developed a comprehensive 3D visualizer that includes real-time plotting, using OpenGL to access the graphics API directly and ImGui for the graphical user interface. This setup allows for real-time management of the neural network and facilitates configuration adjustments. My contributions have been incorporated into PymoNNtorch and CoNeX.

Teaching Experiences

February 2022 — June 2022	**University of Tehran**, *Teaching Assistant* Advanced Programming (instructor: Dr. Abbas Nouzari Dalini)
February 2023 — June 2023	**University of Tehran**, *Teaching Assistant* Machine Language and Assembly (instructor: Dr Fazel(Abolfazl) Nadi)

Projects

Visualizer for PymoNNtorch, *OpenGL, ImGui, PymoNNtorch*
○ This project visualize 3d and real-time neural network. **(Code)**
○ supervisor: Dr. Mohammad Ganjtabesh

Real-time Visualizer of 2D Tenseor, *OpenGL, ImGui, PyTorch*
○ This project is visualization of a PyTorch 2D tensor on Cuda device using OpenGL, without the need to transfer data to the CPU. **(Code)**
○ supervisor: Dr. Mohammad Ganjtabesh

Bracelet in OpenGL, *OpenGL*
○ This project demonstrates the rendering of a 3D bracelet using OpenGL. **(Code)**
○ supervisor: Dr. Reza Aghaizadeh Zoroofi

Connect 4 Game, *Pygame, Numpy*
○ This project is implementation of the classic game Connect 4 using Pygame from Pyhon. **(Code)**
○ supervisor: Dr. Hedieh Sajedi

Assembler Disassembler, *Python, Assembly*
○ This project is Assembler and Disassembler for a wide range of x64 assembly instructionss. **(Code)**
○ instructor: Dr. Abbas Nouzari Dalini

Selected Courses

Computer Graphics
○ instructor: Dr. Reza Aghaizadeh Zoroofi
○ GPA: 18.5/20

Data Structure And Algorithm
○ instructor: Dr. Bagher Babaali
○ GPA: 18.66/20

Design and Analysis of Algorithms
○ instructor: Dr. Mohammad Ganjtabesh
○ GPA: 17/20

Machine Language and Assembly
○ instructor: Dr. Abbas Nouzari Dalini
○ GPA: 17/20

Advanced Programming
○ instructor: Dr. Abbas Nouzari Dalini
○ GPA: 17.5/20

Database Management Systems
○ instructor: Dr. Alireza Khalilian
○ GPA: 16/20

Introduction to Theory of Computation
○ instructor: Dr. Mojtaba Mojtahedi
○ GPA: 18.9/20

Theory of Computation
○ instructor: Dr. Mojtaba Mojtahedi
○ GPA: 20/20

Artificial Intelligence
○ instructor: Dr. Hedieh Sajedi
○ GPA: 19/20

Differential Equations
○ instructor: Dr. Mahdi Khajeh Salehani
○ GPA: 18.01/20

Algebra 1
○ instructor: Hossein Sabzrou
○ GPA: 16/20

Graph Theory and Applications
○ instructor: Morteza Mohammad Nouri
○ GPA: 19.81/20

Skills

Languages	C++, C, Python, Assembly, MySQL
Frameworks	ImGui, Qt, Numpy, Pandas, Jupyter Notebook
APIs	OpenGL
OS	Windows, Linux

Honors and Awards

2019	**Top 1% at National University Entrance Examination Among more than 160,000 Participants**

Languages

English	Fluent
	TOEFL iBT (Dec. 1, 2024) : 94/120 (Reading: 25, Listening: 26, Speaking: 22, Writing: 21)
Persian	Native