Ali Asgari

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⬡ Ali-Asgari

Education

2019–2024 **University of Tehran**,
Bachelor of Science in Computer Science
GPA – 3.59/4

2011–2019 **High School Diploma in Mathematics and Physics**,
National Organization for Development of Exceptional Talents
GPA – 19/20

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 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: 4/4

Data Structure And Algorithm
- instructor: Dr. Bagher Babaali
- GPA: 4/4

Design and Analysis of Algorithms
- instructor: Dr. Mohammad Ganjtabesh
- GPA: 4/4

Machine Language and Assembly
- instructor: Dr. Abbas Nouzari Dalini
- GPA: 4/4

Advanced Programing
- ○ instructor: Dr. Abbas Nouzari Dalini
- ○ GPA: 4/4

Database Management Systems
- ○ instructor: Dr. Alireza Khalilian
- ○ GPA: 4/4

Introduction to Theory of Computation
- ○ instructor: Dr. Mojtaba Mojtahedi
- ○ GPA: 4/4

Theory of Computation
- ○ instructor: Dr. Mojtaba Mojtahedi
- ○ GPA: 4/4

Artificial Intelligence
- ○ instructor: Dr. Hedieh Sajedi
- ○ GPA: 4/4

Differential Equations
- ○ instructor: Dr. Mahdi Khajeh Salehani
- ○ GPA: 4/4

Algebra 1
- ○ instructor: Hossein Sabzrou
- ○ GPA: 4/4

Graph Theory and Applications
- ○ instructor: Morteza Mohammad Nouri
- ○ GPA: 4/4

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
Persian	Mother Tongue