Adel Elmala

6th of october, Egypt | P: +20 01090332213 | adel.elmala2025@gmail.com
linkedin.com/in/adel-elmala | github.com/adel-elmala

SUMMARY

A Fresh Graduate Looking for an entry level job as software Engineer , With a particular interest in 3D computer graphics (E.g. render engines, ray tracers , rasterizers) , and Image Processing. Using C/C++, OpenGL , I'm open to learn new languages , techs, and tools.

EDUCATION

Cairo University Giza, EG
Bachelor of Engineering June 2021
Systems & Biomedical Engineering
Cumulative GPA: 3.25/4.0 ; Grade: Very Good
Relevant Coursework: Computer Graphics; Data Structures & Algorithms; Image processing; Database management system

GRADUATION PROJECT

Neural Model Optimization Tool 2021

- An automated optimization tool to help save time and resources in calibrating neural computational models to experimental measurements.
- Designed and implemented the back-end layer using Python and NEURON API, reading in the neuron model, extracting information about the model, simulating experimentation and computing characteristic features to pass to the next module in the tool pipeline.
- Grade : Distinctive
- GitHub Repo: https://github.com/ForthePareto/SpikOpt

PERSONAL PROJECTS

Ray Tracer 2022

- Built a ray tracer from first principles using no external libraries other than the one that will take the final pixel data and save it on disk in a PNG format.
- Used C++ and stbImage library for png encoding.
- GitHub Repo: https://github.com/adel-elmala/rayTracer

Rasterizer 2022

- Built a simple rasterizer from the ground up.
- Used C++ and SDL2 library to handle windowing and events.
- GitHub Repo: https://github.com/adel-elmala/rasterizer

Small image processing Library 2021

- Optimized mini image processing libary , that handle gaussian bluring , alpha blending, thresholding.
- implemented from scratch using C, Pthreads, And Intel-intrinsics (SIMD) ,and stbImage lib.
- GitHub Repo : https://github.com/adel-elmala/optimization-playGround

16-Bit von neumann architecture Assembler 2021

- Trasnlates from Hack's assembly instuctions to hack's 16-bit Machine language
- the project was part of a coursera course, used Python.
- GitHub Repo: https://github.com/adel-elmala/CV-and-others/tree/main/Projects/Assembler

JPEG decoding Stepper 2021

- Shows the different stages of Decoding JPEG Files
- Used Python , and QT for the GUI
- GitHub Repo: https://github.com/adel-elmala/CV-and-others/tree/main/Projects/JPEG-Decoding-stepper

More Projects : https://github.com/adel-elmala/CV-and-others/tree/main/Projects

CERTIFICATES And MOOCS

Build a Modern Computer from First Principles - Part 1 2020

- Build a modern computer system, from the ground up from constructing elementary logic gates all the way through creating a fully functioning general purpose computer).

Certificate Link: https://www.coursera.org/account/accomplishments/certificate/8EC6VMRXXBYA

Machine Learning 2020

- Machine Learning Basics (Supervised/Unsupervised learning - Neural Networks ...)

Certificate Link: https://www.coursera.org/account/accomplishments/certificate/C8832L5N3XY3

Programming Languages part B 2020

- Introduction to the basic concepts of programming languages, with a strong emphasis on functional programming using Racket (Dynamic type system language).

Certificate Link: https://www.coursera.org/account/accomplishments/certificate/TPZJ35EZUT6Z

Programming Languages part C 2020

- Introduction to the basic concepts of programming languages, with a strong emphasis on OOP programming using Ruby (Dynamic type system language).
- Certificate Link: https://www.coursera.org/account/accomplishments/certificate/23PRT3ZG782H

More Certificates: https://github.com/adel-elmala/CV-and-others/blob/main/Finished-Courses.md

SKILLS

Technical Skills:

- Computer Graphics
- C , C++ , Python.
- OpenGL (3.3+)
- Multi-Threading (pThreads)
- Linux programming environment
- GNU ToolChain (GCC / Make)
- Bash
- Git (GitHub)

Languages:

- Arabic: Fluent.
- English: intermediate.