Omar Belih
Software Engineer

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Github
LinkedIn
Profile

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About me ————

Software Engineer that is passionate about science and technology.
I'm a huge Computer Graphics enthusiast as I find them challenging in terms of system design and at the same time fun and interesting so you might find me building visualization/editing tools on my free time.

Skills ————

Languages:
C/C++, Java, JavaScript

Others:
Git, Unix Bash, JavaFX, SQL, MongoDB, Arduino, Matlab, Modern OpenGL[3.3+], SDL2.0, CEGUI, ImGUI, GLSL, NodeJS, ThreeJS

Education

2016-2021	Faculty of Engineering	Alexandria University
	Computer & Communications Department.	

Awards

2018 — 5th Place in UGVC2018 with MindCloud. — Technical Team
Worked with three engineers on the autonomous system which include the rover movement according to GPS coordinates with obstacle avoidance by communicating with sensors and adapting to the situations.

Experience

2021 — Software Engineer at Incorta — Aug 2021 - Present
Worked as R&D Engineer to find the performance bottlenecks in Incorta engine and optimize them to provide the fastest data analysis possible.

2020 — Software Engineer Intern at IVA Systems — Jul 2020 - Oct 2020
Worked on the Backend of POS application using PHP, Laravel & MySQL.

Projects

Aug-2020 — Game-X Engine — C++ SDL OpenGL ImGUI
GameX Engine is a simple 3D Game Engine.
-LOD Techniques for Terrain.
-Logging using spdlog & GUI System using ImGui.
-Event System. -Model importing using Assimp.
-Multi-threading Environment -More features shown in Github.

Jun-2020 — XINU OS — C
Operating System Implementation of XINU 2020.
Worked with an engineer on the implementation of processes queue table, process scheduling ,reader/writer locks, priority inheritance,updates to the TTY device driver, message passing, hierarchal file system driver and pipe devices.

May-2020 — Compiler Generator — Java JavaFX
Collaboration with two engineers to make the first three phases of the front-end compiler.

May-2019 — SIC/XE Assembler — Java JavaFX
Collaboration with four engineers to make two pass assembler that translate SIC/XE to obj code.

Mar-2019 — Software Renderer — C++ SDL
Optimized Software Renderer that written in an way to get high FPS.
-Fixed Point arithmetic.
-Perspective correct texture mapping. -Lighting and Shadows.
-SIMD Maths which almost doubled the FPS.

Oct-2018 — GameX Level Editor — C++ OpenGL SDL CEGUI
User-Friendly Level Editor that helps to create 3D Environments.
-Stable For OBJ models [Supports other formats]
-General GLSL inputs that can be used for any user made GLSL files.
-Navigation mesh That helps to find walk-able areas of the map.

May-2018 — Maze Runner — Java JavaFX
Collaboration with an engineer to make a game that challenges the player to finish a maze.
-Flipbook animations on JavaFX Canvas.
-Creational, Structural & Behavioral Design Patterns were used.