Rami Wail Shoula

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Place of birth	Egypt

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PROFILE

I am a ***passionate voyager*** in the midst of an endless ocean of knowledge. ***Bachelor*** in Nanotechnology and Nanoelectronics Engineering. ***Game Develope***r at ITI Game Development Academy (GDA). Interests include computer programming, VLSI design, EDA tools, embedded systems, Internet of things (IoT), artificial intelligence (AI), mixed signals, IC design and video game development. Recently completed ***Deep Learning*** and ***Accelerated Computer Science Fundamentals*** specializations on **Coursera.** Currently pursuing ***Game Design and Development*** specialization on Coursera and have successfully ***completed the first course***.

I am *always* keen on learning the latest cutting edge technologies and am *constantly* on a path of self-improvement.

EDUCATION

Nov 2021 — Present

9 months Professional Training Program, Game Development , Information Technology Institute (ITI)

Giza, Egypt

Courses/Programs covered include: -

- C++ Object-Oriented Programming & Data Structures
- Visual C# .NET
- Game Design
- UI & UX Design
- Computer Graphics & Shaders
- Unity3D
- Unreal Engine
- Game Network
- Artificial Intelligence
- Virtual Reality

2016 — 2021

B.S.C in Nanotechnology And Nano-Electronics Engineering, University of Science and Technology at Zewail City (ZC: UST)

Giza, Egypt

GPA around 3.0

Double Focus concentration:

- Nano-VLSI
- Nano-Fabrication and MEMS

2015 — 2016

I.G.C.S.E. High School Degree, M.S.G British International School of Egypt

Cairo

International General Certificate of Secondary Education.

GPA 4.0. Magna cum laude.

EMPLOYMENT HISTORY

Jan 2020 — May 2020

Summer Internship, Zewail City of Science and Technology · Part-time

Giza, Egypt

Embedded Software and Hardware Internship:
Implementing real satellite Terminal Software. GSE, MPLS, SISAP communication protocols implementation. Hardware implementation of RTEMS on Xilinx zynq-7000 FPGA board.

Jan 2019 — Dec 2020

Junior Researcher, Zewail City of Science and Technology · Part-time

Alexandria, Egypt

Design and implementation of T-shape microfluidic chip for use in micro-droplet and Janus particle formation. Simulation carried out on Cadence software. CAD tools utilized in modeling include SOLIDWORKS & CORELDRAW software. Physical design laser-printed at Egypt Japan University (E-Just) for practical testing.

Nov 2021 — Present	**Game Developer, Information Technology Institute (ITI) · Full-time**	Giza, Egypt

9 months professional Training Program Student. Game Programming Specialization ITI - Game Development Academy (GDA) - Intake I42. A product based program that will empower you to learn the required skills and knowledge in all aspects of Game Development from the basics to the advanced topics, from a real-world industry perspective to develop 2D, 3D and XR game applications to build a top-notch portfolio.

TECHNICAL SKILLS

Git	Expert	VHDL	Skillful
Matlab/Simulink	Experienced	HTML & CSS	Skillful
C/C++	Expert	Javascript	Experienced
C#	Expert	PHP	Beginner
Unity	Expert	Verilog A	Expert
Unreal Engine	Expert	Cadence	Expert
System Verilog	Experienced	Microsoft Office	Expert
Python	Expert		

SOFT SKILLS

Judgement and Decision Making

Strategic Project Management

Leadership

Entrepreneurship

Communication

Teamwork

ACHIEVEMENTS

British Council: CIPP Outstanding Achiever
2010 - 2011

Habitudes Leadership Training
2014

2nd place in Alabakera TV Show competition
2016

PROJECTS

ASIC Flow: Optimization of Power, Area & Frequency of a designed RTL Code using DC Compiler Tool.

Two-stage Operational Amplifier using CADENCE (Pre-Layout Simulation)

Audio Amplifier Circuit – Design and Implementation using Cadence (Pre-Layout Simulation)

Analog to Digital Converter (ADC) using CADENCE (Pre-Layout Simulation)

Modeling a 90-nm NMOS and PMOS With COMSOL

Diamagnetically levitated electrostatic micromotor (DLEM) model and fabrication

Temperature Sensor based on Light Transmittance inside an optical fiber using COMSOL

NMOS Transistor Fabrication using SENTAURUS

Write and develop C++ EDA tool to calculate connectivity matrix, partition, perform floor-planning and

measure merits of each path.

Design RF / Mixed signals LNA in Cadence and ASITIC. Merits calculated for pre- and post- (DRC, LVS and PEX) layout simulation.

Adv. MEMS simulation of electrostatic microvalve.

EXTRA-CURRICULAR ACTIVITIES

2016 — 2017   **IT, Media & Marketing committee head, EUROAVIA, Zewail City**   Giza, Egypt

2016 — 2018   **Committee member, IEEE, Zewail City**   Giza, Egypt

2017 — 2018   **Volunteer, Resala Charity Organization**   Giza, Egypt

Volunteer for fundraising and aiding the charity organization in Cairo branch

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LANGUAGES

English	Native speaker	**German**	Working knowledge
Arabic	Native speaker	**Japanese**	Very good command
French	Good working knowledge		

COURSES

Dec 2021   **Accelerated Computer Science Fundamentals Specialization, Coursera**

Jan 2022   **Deep Learning Specialization, Coursera**

Jan 2022   **Game Design and Development 1: 2D Shooter, Coursera**

EXPERIENCE

2020 — 2021   **Undergraduate Mems and Microfluidics Graduation Project With Excellent Grade, ZC:UST under supervision of Dr. Noha Gaber**   Giza, Egypt

Design of novel electrostatically powered peristaltic micropump with a single chamber and NED cantilever structure. A thorough fabrication recipe was developed. NED cantilever structure provided a permanent solution for pull-in effect in electrostatic based systems. Wide range of applications as it can be used in precise drug delivery/dosing systems, developing cooling systems for electronic systems, such as System-on-a-Chip and embedded systems, as well as Lab-on-a-Chip and testing kits. ITAC-CFP - ITIDA Funding.

2019 — 2020   **ASIC Design And Implementation Of 32 Bit Mac Unit, ZC:UST under supervision of Dr. Hassan Mostafa**   Giza, Egypt

Cadence Virtuoso Simulation design and implementation of 32 bit MAC unit with pre- and post- layout merits (delay, power &area)

2021 — 2021   **Analog Mixed Signals 10-bit SAR ADC, ZC:UST under supervision of Dr. R. El-Damak**   Giza, Egypt

Design of a 10 bit ADC for wearable brain computer interface system using the 90 nm generic PDK on Cadence Virtuoso with 1 V supply with a 32 kHz sampling rate. Implementation of rate Successive Approximation Register (SAR) ADC, Sample and hold circuit (SHA) and Digital to Analog Converter (DAC). The ENOB and SNR are measured to be 6.7, 42.22 dB respectively, giving a FOM = 2.85pJ /Conv ⧠ step.

2021 — 2021   **Testing And Verification Of IP In UVM Environment, ZC:UST under supervision of Dr. Hassan Mostafa**   Giza, Egypt

Implementation of Universal Verification Methodology (UVM) using UVM 1.2 package on EDA playground / System Verilog. Testing and verification of encrypted intellectual property (IP).

Oct 2019	**C++ Connectivity Matrix and Partitioning EDA Algorithm, ZC:UST under supervision of Amr Nabil Helmy**	Giza, Egypt

Written a C++ program which partitions an even number of cells using Kernighan-Lin partitioning algorithm after obtaining the connectivity matrix of the cells. The input was a pin-oriented netlist, and the output clearly specified which cells belong to which block.

Nov 2019	**C++ EDA Functional Algorithmic Project, ZC:UST under supervision of Amr Nabil Helmy**	Giza, Egypt

Written a C++ code to read netlist data from a text file, extract the different paths, calculate the maximum propagation delay for each node, do proper partioning, perform floor-planning and then find the longest path and determine the suitable clock period.

GAME DEVELOPMENT EXPERIENCE

Nov 2021	**OOP & Data Structures for Game Development, ITI GDA I42**	Giza, Egypt

Combination of C/C++ OOP projects :

- Implement Magic box algorithm, and switch menu Console program
- Employee Structure application using dynamic allocation , Line editor using pointers
- Double linked list Stack, Queue binary search; bubble sort; selection sort
- Traverse Binary Tree nodes using recursive functions
- Design and Implement Class Complex, copy constructor to Class Stack
- Operator overloading in Class Complex, Abstract Class pure virtual methods

Dec 2021	**C++ Resizeable 2D maze generation using vectors, ITI GDA I42**	Giza, Egypt

C++ Build of Console program that randomly generates a resizeable 2D maze based on vectors. SFML implementation to allow the user to translate in the generated maze paths to reach a generated goal then choose to replay or close the program.

Dec 2021	**Computer Graphics using OpenGL, ITI GDA I42**	Giza, Egypt

C++ / OpenGL Implementation of Obj loader. Using glsl shader files to manipulate fragment and vertex shaders. Fractal (Mandelbrot) implementation. 3D simple maze GUI game using openGL utilizing created Mesh, Camera, Gameindow and Shader classes.

Dec 2021	**JavaScript and HTML5, ITI GDA I42**	Giza, Egypt

Created Space invaders web game. Phaser3 PC Web browser mini-jam game over the course of 3 days: Game concept -> Pen & Paper Prototype -> Game Pitch Document -> Game Assets & Art Creation -> Game programming and development -> Game Script -> Game Demo -> Final Game (itch.io build).

Jan 2022	**Visual C# .NET, ITI GDA I42**	Giza, Egypt

1. Language-Integrated Query (LINQ) Operators: Restriction, Element, Set, Aggregate, Ordering, Partitioning, Projection, Quantifiers, and Grouping
2. Company Layoff system
3. Object Pooling Patterns to to create a simple Bullets Pool
4. C# Full Examination UI system on C++ Data Structures concepts

Jan 2022 — Feb 2022	**Basic and Advanced Unity, ITI GDA I42**	Giza, Egypt

1. 3D Urban City Game Scene, Prefabs, Prefab variants, Various Lighting
2. 2D Platformer with idle, jump sprite animations and player movement
3. 2D tilemap platformer with various patrolling enemies and traps
4. 3D reflection and light probes baking and post-processing VR Space room
5. Android touch screen UI functions, canvas 2D memory game
6. UI leaderboard, registration form, puzzle Game with random generation builds
7. Tic Tac Toe game with singleplayer, multiplayer, AI, Scoreboard network framework
8. Cannon ball game with line renderer, physics and Procedural mesh generation
9. IK constraint, blend tree, animation rigging, scriptable objects and events
10. Node Based Shaders Fundamentals with amplify