

Muhammad Gamal

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Citizenship: Egyptian

Research Interests

Micro-architecture design, AI-driven hardware, quantum computing, operating systems, and compiler design.

Education

2018-2023

Nile University

Bachelor of Electronics and Computer Engineering

Thesis: "Intelligent GNC System Design for VTVL Rockets Using Deep Reinforcement Learning"

Advisor: Dr. Mohamed Saeed Darwish

GPA: 3.76

Honors and Awards

Nov., 2021

Dean's Honor

June, 2020

Ranked 2nd in the 10th Undergraduate Research Forum for Probability and Statistics course research project.

Feb., 2020

Ranked 2nd in the 9th Undergraduate Research Forum for Linear Algebra course research project.

Feb., 2020

Ranked 2nd in the 9th Undergraduate Research Forum for Physics 2 course research project.

Research Experience

2023-present

Nile University, Giza, Egypt

Research Assistant, Dr. Ahmed Soltan, Nano Electronics Integrated Systems Research Center

- Verilog, SystemVerilog, Design Scalability, Teamwork, Communication Skills, Presentation Skills/ Baugh-Wooley Multiplier, Harris Adder, Kogge-Stone Adder, Ladner-Fischer Adder, Pipelined MIPS Microarchitecture/ Ultra-Low Power Microarchitecture Design for Wearable Devices

Publications

2021

Using Machine Learning Algorithms for Breast Cancer Diagnosis

El-Lamey, Mazen. Mobtasem., Eid, Mohab. Mohammed., Mady, Muhammad. Gamal., Bishady, Nour-Elhoda. Mohamed., Mohamed, Ali. Wagdy., "Using machine learning algorithms for breast cancer Diagnosis," International Journal of Applied Metaheuristic Computing (IJAMC), vol. 12, no. 4, 2021, pp. 117-137

Teaching Experience

2024-present

Nile University, Giza, Egypt

Teaching Assistant, Engineering Core Department

- Taught Basic Mathematics course, an undergraduate course averaging 160 students per semester, covering the topics spanning from inverse trigonometric functions to higher order differential equations

	2019-2020	Nile University, Giza, Egypt Junior Teaching Assistant, Mathematics Department <ul style="list-style-type: none"> • Taught Calculus II course, an undergraduate course averaging 100 students per semester, covering the topics spanning from integration by substitution to line integrals • Delivered sessions to students regarding conducting research and writing research papers for the course project. • Discussed the course projects delivered by students and coordinated grading with teaching assistants.
	2019-2021	Math Team, Giza, Egypt Teaching Assistant, Mathematics Department <ul style="list-style-type: none"> • Taught national high school mathematics averaging 200 students per year • Authored comprehensive study materials • Developed regular assessments • Coordinated grading • Engaged with parents of students
Professional Training	2022	_VOIS, Intern, VCI Infrastructure <ul style="list-style-type: none"> • Teamwork, Critical Thinking, Problem Solving, Communications Skills, Presentation Skills, Linux Administration, Bash Scripting, Redhat Server Setup, Agile Process, Organizational Structure
Community Service	2014-2017	Resala Charitable Organization [Helping in maintenance of infrastructure of underprivileged areas, as well as facilitating the delivery of essential supplies to the local communities], [Giza, Egypt], [Holly Month of Ramadan of each year]
Languages	Arabic	Native language
	English	Upper intermediate Listener, Intermediate Speaker, Advanced Reading and Writing
Computer Skills	Programming	Python, C++, Data structures and Algorithms, Verilog, SystemVerilog, Linux Administration, Relational Database Design, SQL, Bash Scripting, Data Analysis, Image processing, Software Engineering Fundamentals, TensorFlow, Supervised Learning, LLVM Compiler Design, Regex, Embedded System Design
	Applications	Xilinx Vivado, MATLAB& Simulink, Cadence& LTSpice, MySQL, Microchip Studio, Wireshark, Jira, Microsoft Office
References	Professor Yasser El-Batawy	[Full Professor], [School of Engineering and Applied Sciences], [Nile University], Email: YElbatawy@nu.edu.eg
	Dr. Ahmed Soltan	[Associate Professor], [School of Engineering and Applied Sciences], [Nile University], Email: ASoltan@nu.edu.eg
	Dr. Mohamed Saeed Darwish	[Associate Professor], [School of Engineering and Applied Sciences], [Nile University], Email: MDarweesh@nu.edu.eg