ABDELSALAM ELTAMAWY

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ABOUT ME   Self Introduction Video ▶

As a highly motivated computer engineer, I am confident in my skills in software engineering and academic research proving valuable to any team. Seeking to Create tailored solutions to novel problems.

EDUCATION

The American University in Cairo (AUC) 📅 *2017-2022*
📍 Cairo
> BSc in Computer Engineering
> Graduated with High Honors. GPA: 3.6/4.0

International School for Elite Education 📅 *2011-2017*
📍 Cairo
> Graduated with High Honors

SELECTED PROJECTS

Machine learning based decompiler 🔗 📅 *2021-2022*

[Python] [Pytorch] [Graph ML] [Anaconda]
> Transformer based decompiler targeting android.
> Novel tree graph generator for AST representation.
> Designed to be a forensic malware tool.

Persistance of vision display 🔗 📅 *2021*

[Embedded] [C] [STM32] [ESP32] [HAL] [ESP-IDF]
> Created high speed fan display and embedded system to fulfill millisecond timing constraints.
> Featured embedded web server for user accessibility.

Machine learning library from scratch 🔗 📅 *2021*

[Python] [CUDA] [Deep NN] [CNN]
> CUDA accelerated ML library.
> Implemented training and inference framework for deep neural networks and convolutional neural networks.

Distance sensor from scratch 🔗 📅 *2021*

[Embedded] [C] [STM32]
> Ultrasonic distance sensor.
> Reverse engineered market boards to create a more accurate sensor.

RISC-V microarchitecture 🔗 📅 *2021*

[Verilog] [RISC-V ASM] [Xillinix]
> Implemented 6 pipeline RISC-V microarchitecture on an FPGA in Verilog fulfilling specification requirements.

Pacman clone 🔗 📅 *2018*

[C++] [OOP] [SFML]
> Recreated first 3 levels of Pacman.
> Complete with level editor and online user scoreboard.

EXPERIENCE

Graduate teaching assistant 📅 *2022-present*
📍 AUC
> Taught CUDA and parallel programming concepts to students in GPU computing course.
> Orchestrated deployment of standardized docker environment for students.

Undergraduate teaching assistant
📍 AUC
> Assembly&Comp Organization 📅 *2021-2022*
> Computer Architecture 📅 *2020-2021*
> Department Tutor 📅 *2019-2020*
> Programming Fundamentals 📅 *2018-2020*

Lead research assistant 📅 *2020-2021*
📍 AUC
> Led team of 4 to create a process that builds application specific RISC-V based CPUs.

AI development intern 📅 *2020-2021*
📍 Tod-Z (remote)
> Led AI and machine learning development.
> Built entire machine learning stack from concept to training to deployment on AWS.

Intern 📅 *2020*
📍 Agile technologies (remote)
> Built web store using OutSystems.
> Regularly communicated for quality assurance.

EXTRACURRICULAR

ROV media head 📅 *2017-2019*
📍 AUC
> Led team of 5 to market and document Robotics club's remotely operated vehicle events.
> Photographed and documented dozens of events and directed 4 marketing videos.

Assistant media head 📅 *2017*
📍 AUC insider
> Lead photographer for AUC news paper.
> Published over a dozen photographs covering local events.

PUBLICATIONS

A Neural Generation Framework for Android Decompilation (Abdelsalam, et al.) 📅 *2022*
📍 AAAI (under review)
> Completed Bachelor thesis
> Created a novel method for tree graph generation.
> Applied the novel method and transformer translation to Android decompilation.

Dive, Eat, Sleep & Repeat 📅 *2022*
📍 Busniess Monthly Magazine
> Wrote an article on diving in the red sea during shark season.
> Released in the 2022 august issue of Business monthly.

Application specific chisel unused hardware optimizer 📅 *2020-2022*
📍 (in progress)
> Working on framework to optimize out unused hardware according to application use case in chisel.

LANGUAGES (Lines of Code)

Python(38k)	C++(35k)	LATEX(25k)
Verilog(5k)	Kotlin(2k)	Rust(2k)
Dart(2k)	Javascript(2k)	Bash(1k)
SQL(1k)		

HOBBIES

Recreational scuba diver
> Licensed 2-star CMAS scuba diver.
> Over 200 dives in the red sea since 2009.

PC enthusiast
> Built own liquid cooled computer.
> Administering homelab with file, surveillance, DNS servers.

3D printing enthusiast
> Designed own 3D printed robot components.

Travel
> Traveled to most of Europe, the U.S.A, the Middle East and Africa

COMPETITIONS

HackTrick Hackathon 📅 *2022*
📍 DELL EMC
> Built a reinforcement learning model to compete in material pipeline optimization challenges.

ICPC ACM 📅 *2019*
📍 AUC
> Entered local ICPC ACM.
> Was the youngest participant.

Code Geist Hackathon 📅 *2019*
📍 Seft Wahed
> Created an app and its pitch in 72 hours.
> Collaborated in a team of 4.
> Developed a platform to address littering.

MATE ROV 📅 *2017-2019*
📍 MATE
> Joined university's Remotely Operated Vehicle team.
> Contributed to circuit and mechanical design.

Science Fair 📅 *2014*
📍 Student Expo
> Won first place at high school level with a 4 wheeled remote controlled robot featuring a 3-axis arm.

SKILLS ❯ Git VCS | Linux | Docker

LANGUAGES ❯ English (native) | Arabic (native)