ABDELSALAM ELTAMAWY

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ABOUT ME

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 (7)

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 (7)

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.

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 (7)

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

OOP **SFML** C++

> Recreated first 3 levels of Pacman.

Complete with level editor and online user scoreboard.

EXPERIENCE

Undergraduate teaching assistant

AUC

Assembly&Comp Organization 2021-2022

▶ Guided students through ISA, ASM, caching concepts.

> Computer Architecture

2020-2021

Explained micro-architecture for pipelined CPUs.

> Department Tutor

2019-2020

▶ Student driven "clinic" supporting students in studies.

▶ Aided first 4 levels of CS courses through sessions.

> Programming Fundamentals

2018-2020

Maintained university ACM scoreboard.

▶ Helped students understand OOP and programming concepts.

Lead research intern

2020-2021

AUC

Led team of 4 to create a process that builds application specific RISC-V based CPUs.

Al development intern

2020-2021

Tod-Z (remote)

> Lead AI and machine learning development.

> Built entire machine learning stack from concept to training to deployment.

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.

NASA camp

2015

NASA, atlanta

> Won "Best Camper" award.

PUBLICATIONS

A Neural Generation Framework for Android Decompilation ## 2022

- AAAI (pending)
- > 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

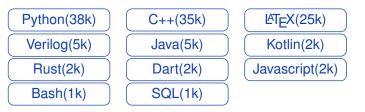
2022

- 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)



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



- 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)