

ABDELSALAM ELTAMAWY

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EDUCATION

The American University in Cairo (AUC)

2017-2022

BSc in Computer Engineering. Graduated with High Honors. GPA: 3.6/4.0

International School for Elite Education (ISEE)

2011-2017

IGCSE. Graduated with high honors.

TECHNICAL SKILLS

- Versed in C++(35k), Latex(25k), Python(25k), Verilog(5k), Java(3k), kotlin(2k), rust(1k), dart(1k), Javascript(1k), shell(500) and SQL(300). Numbers indicate lines of code written in language.
- Experienced in machine learning; built multiple models that are used in production.
- Experienced with embedded development; built applications including POV display using STM32 and ESP MCUs.
- Experienced with Git version control; used it to collaborate and manage dozens of project repositories.
- Experienced in CUDA GPU acceleration; built own CUDA accelerated machine learning library. Developed C++ CUDA accelerated image processing and CUDA accelerated math library.
- Robot enthusiast. Built several robots, including a cleaning vacuuming robot with a gripper arm.
- Experienced 3D printing enthusiast; designed and printed dozens of my own robotics components and personal projects.
- Programmed various games and applications, including a fully featured version of pac man, a text compression tool and a circuit netlist generator for boolean expressions; mostly in the language C++.
- PC enthusiast, built my own liquid cooled computer. Built and setup file, surveillance, DNS and game servers.

PROJECTS

Machine learning based decompiler

2021-2022

Completed bachelor thesis on creating a transformer based decompiler targeting android applications. Uses a novel tree graph generator to produce abstract syntax tree code representation. Designed be an effective forensic tool for countering android based malware.

Persistence of vision display

2021

Created a persistence of vision display composed of a high speed rotating blade and the associated embedded system fulfilling the millisecond timing constraints. Featured an embedded web server to easily change message.

Distance sensor from scratch

2021

Built an ultrasonic distance sensor from scratch using an STM32 microprocessor. Reverse engineered market boards to create more accurate sensor.

RISC-V microarchitecture

2019

Implemented 6 pipeline deep RISC-V microarchitecture on an FPGA in verilog. Fulfilled specification requirements.

EXPERIENCE

Undergraduate teaching assistant, Assembly & Computer Organization, AUC

2021-2022

Guided students through assembly and computer organization course. Explained instruction set architecture, ASM and caching concepts to students.

Lead research intern, Computer Science and Engineering Department, AUC

2020-2021

Lead a team of 4 to create an automated process that builds application specific RISC-V based CPU implementations; Written mostly in Python and Verilog

Undergraduate teaching assistant, Computer Architecture, AUC

2020-2021

Worked as an undergraduate teaching assistant for computer architecture course. Explained micro-architect implementations for pipelined and single cycle RISC-V based CPU as well as cache implementations.

AI development intern, Tod-Z, Estonia

2020-2021

Lead AI and machine learning development. Built their entire machine learning stack; from concept to training and deployment. Remotely carried out development.

Intern, Agile technologies, Egypt*2020*

Built fully featured web store using OutSystems. Remotely communicated regularly with team to ensure quality. Gained a great deal of experience with remote work and organization.

Tutor, Computer Science and Engineering Clinic, AUC*2019-2020*

Tutor of the student driven computer science and engineering "clinic"; an organization that is meant to provide support to students of the first 4 levels of computer science and engineering through sessions and one on one tutoring sessions.

Undergraduate teaching assistant, Programming fundamentals, AUC*2018-2020*

Worked as an undergraduate teaching assistant for the second level of computer engineering; helping students understand programming concepts; Also maintained ACM scoreboard used by university.

EXTRACURRICULAR ACTIVITIES

Recreational Scuba Diver, Scuba Diving, Independent*2009-present*

Licensed 2-star CMAS scuba diver; performed over 100 scuba dives in the Red Sea.

ROV Multimedia Head, Robotics Club, AUC*2017-2019*

Led team of 5 to market and document ROV events. Photographed and filmed dozens of events. Filmed and edited 4 videos for marketing purposes. Designed brochures to advertise robotics classes. Gained more experience on how to lead

Multimedia Member Literature Club, AUC*2018-2019*

Photographed 3 events and created posters for marketing purposes.

Multimedia Member, Peer Leader Advising (PAL), AUC*2018*

Photographed half a dozen events. Created 3 animated and heavily edited videos officially published by University.

Assistant Multimedia Head, AUC Insider, AUC*2017*

Photographed dozens of events. Published over a dozen photographs in the University newspaper.

Camper, NASA Camp, Independent*2015*

Attended NASA camp in Atlanta, USA. Won "Best Camper" award.

COMPETITIONS

Participant, Hacktrick hackathon, DELL EMC*2022*

Build a reinforcement learning based model to compete in a series of agent material pipeline optimization challenges.

Participant, International Collegiate Programming Contest, AUC*2019*

Entered the local ICPC ACM after gaining experience and practice in competitive programming. Was the youngest participant.

Participant, Code Geist hackathon, Sefr Wahed*2019*

Created an app and it's pitch in 48 hours with a team of 4; developed an environment centric mobile application meant to encourage and reward individuals for collecting litter.

ROV electronics member, Robotics Club, AUC*2017-2019*

Entered with the university's Remotely Operated Vehicle (ROV) team that participated in the international MATE competition; Greatly contributed to circuit design and mechanical design.

Contestant, Science fair, Student Expo 2014*2014*

Won first place at the high school level with a 4 wheeled remote controlled robot featuring a 3-axis arm.

SKILLS

- Very fluent in written and spoken English and Arabic.
- Professional Photographer.
- Proficient in Adobe After Effects, Premier Pro, Photoshop, Illustrator, InDesign, Autodesk 3Ds MAX and Blender.

TRAVEL

Travelled to most of Europe, the U.S.A, the Middle east and Africa