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. Meant to be an effective forensic tool for countering android based malware.
Persistance of vision display *2021*
Created a persistance of vision display composed of a high speed rotating blade and the associated embedded system fullfilling 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 specfiication requiements.

EXPERIENCE

Undergraduate teaching assistant, Assembly & Computer Organization, AUC *2021-2022*
Worked as an undergraduate teaching assistant for 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; preformed 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 reiforcment 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 programing. 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