

Abd El-Twab M. Fakhry

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EDUCATION

- **🏛 Faculty of Engineering, Al-Azhar University** Cairo, Egypt
Bachelor in Computers and Systems Engineering Sep. 2017 – Jun. 2022

PROGRAMMING CONTESTS ACTIVITY

- Solved +1000 algorithmic challenges on different online judges.
- Finalist at *Africa & Arab Collegiate Programming Championship* (2020).
- Finalist thrice at *Egyptian Collegiate Programming Contest* (2019, 2020, 2021).
- 3rd, 2nd, and 3rd place at *Al-Azhar Collegiate Programming Contest* (2019, 2020, 2021).

EXPERIENCE & VOLUNTEERING

- **🔗 Al-Azhar ICPC Community** Cairo, Egypt
Mentor and Problem-setter Feb. 2020 – Present
 - **Teaching** Participants Algorithms topics, Data structures and Problem-solving paradigms.
 - **Providing Multi-Level Training** during the year.
 - **Writing Problems** for weekly sheets and contests.
 - **Supporting** Participants technically during sessions and online.

SELECTED PROJECTS

- **☁ Decentralized Vault** — *Next.js - Hardhat - Ethers.js - Docker* Jun. 2022 – Present
 - Implementing an upgrade-able smart contracts for storing users' files metadata.
 - Developing a SPA using Next.js for static site rendering (SSR).
 - Using the IPFS p2p network for storing users' files after being encrypted in a decentralized way.
 - Using client-side encryption/decryption method for more confidentiality and privacy.
- **👤 Queueing ModelSim** — *Python - Tkinter (GUI)* Dec. 2020
 - Implemented a software for the calculation of characteristics of different queues having the BMAP (batch Markovian Arrival Process) as an input.
 - Implemented a deterministic queue model using prefix sum technique, helped to know the characteristics of the queue at any point of time.
- **📖 Anthology of Algorithms and Data structures** — *C++ - Bash/Shell* Aug. 2020 – Present
 - Implementing an open source library for Common Code for Competitive Programming in C++.
 - Including Graph Theory, Problem-Solving Paradigms, Mathematics, Computational Geometry, Game Theory, String Processing, Data Structures, more advanced topics and some helpful tools.
- **🕌 Next Prayer** — *C++ - Python - Bash/Shell - Roff - Docker* Sep. 2021 – Present
 - Implementing an Islamic prayers reminder and Hijri date for *nix status bars.
 - Maintaining a Docker image for non unix users.
 - Maintaining an AUR package for Arch users.

TECHNICAL SKILLS

- **Programming Languages:** C/C++, Python, Java, SQL, \LaTeX , Bash/Shell, Solidity, JavaScript, HTML/CSS.
- **Tools & Technologies:** GNU/Linux, Git, Make, Emacs, Vim, Next.js, PostgreSQL, Prisma, Hardhat, Ethers.js, Docker, CI/CD.