

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

EXTRA-CURRICULAR ACTIVITIES

- Finalist at Africa & Arab Collegiate Programming Championship (2020). [🔗](#) [🔗](#)
- 2x Finalist at Egyptian Collegiate Programming Contest (2019, 2020). [🔗](#) [🔗](#)
- 3rd & 2nd place at Al-Azhar Collegiate Programming Contest (2019, 2020). [🔗](#) [🔗](#)
- Teaching algorithmic topics, data structures, and problem-solving paradigms to +50 participants. [🔗](#)
- Providing multi-level training during the year and writing problems for weekly sheets and contests. [🔗](#)
- Solved +1000 algorithmic challenges on different online judges. [🔗](#)

SELECTED PROJECTS

- **Decentralized Vault** | *Next.js - Hardhat - Ethers.js - Docker* | 2 Jun. 2022 – Present
Blockchain-based, self-hosted, decentralized, and encrypted cloud storage system.
 - Developing a single-page application (SPA) using Next.js for static-site rendering (SSR).
 - Implementing upgrade-able smart contracts for storing users' files metadata using the proxy pattern.
 - Storing users' files after being encrypted using the IPFS p2p network.
 - Using client-side encryption/decryption method for more confidentiality and privacy.
- **Next Prayer** | *C++ - Python - Docker* | *Individual* Sep. 2021 – Present
Islamic prayer reminder for Unix status bars.
 - Implementing an Islamic prayer reminder for Unix status bars using web API.
 - Maintaining an AUR (Arch-user repository) package and a Docker image for non-Unix users.
- **Anthology of Algorithms and Data structures** | *C++* | *Individual* Aug. 2020 – Present
Common code for competitive programming in C++.
 - Implementing an open-source library for common code for competitive programming in C++.
 - Including graph theory, problem-solving paradigms, mathematics, and data structures.
- **Queueing ModelSim** | *Python - Tkinter* | *Individual* Dec. 2020
Queueing models simulator.
 - Implemented software that calculates the characteristics of queues with the markovian arrival process (MAP).
 - Implemented a deterministic queue model using the prefix sum to easily identify the characteristics at any time.

TECHNICAL SKILLS

- **Programming Languages** : C/C++ • Java • Python • Solidity • JavaScript • Bash/Shell • SQL • \LaTeX • HTML/CSS
- **Technologies** : Next.js • Node.js • PostgreSQL • Hardhat • Ethers.js
- **Tools** : GNU/Linux • Git • Make • Emacs • Vim • Docker • Jenkins • Agile/Scrum • Element