

Mahdy M. Karam

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Experience

PlusOne Health Expert, Cairo, Egypt (Jun 2022-Aug 2022) - *Software Engineering Intern*

- Implemented a cloud storage system using Google Healthcare for management of patient info and medical imaging files.
- Integrated the Google Healthcare API into the OHIF medical imaging viewer and added Arabic language support.
- Created a front-end system using React.js, catering to the needs of both users and medical experts.

SigmaFit Egypt, Cairo, Egypt (Jul 2023-Aug 2023) - *Research and Development Intern*

- Conducted research on existing tech-wear startups, discerning market viability and user acquisition.
- Acquired a comprehensive understanding of the mechanical principles used in the development of sports analytics products.

EPS EV, Kirkland, WA, USA (Apr 2021-Jun 2024) - *Project Manager*

- Ordered parts and contacted EV conversion companies to begin converting a 2007 Mazda Miata into an electric vehicle.
- Led the Electronic Control Unit recalibration process and spearheaded the development of the infotainment system.
- Onboarded and delegated tasks for a team of 15 while leveraging their unique skills to achieve key milestones such as getting the car to drive on its own power in less than two years.

Projects

Squash AI (Dec 2022-Present)

- Implemented advanced computer vision techniques for ball tracking in squash gameplay videos, achieving 90% tracking accuracy on a ball with a diameter of 39.5 mm (1.56") with a top speed of 267.151 km/h (166 mph) from 12 feet away.
- Contacted experts to optimize computer vision algorithms for ball and player tracking, enhancing performance.
- Writing Squash AI's mobile app with Java and Swift, providing real-time feedback and performance tracking to improve players' strategies in matches and track improvement in training with a standard smartphone camera.

Railsy (March 2024-Present)

- CLI tool that leverages the mail.tm API generate temporary emails and check their incoming messages.
- Published on the official Rust package manager index, crates.io, with 110 downloads (as of 2024/03/13).

0K-Engine (December 2024-Present)

- Developing a chess engine concurrently in C++ and Rust, leveraging prebuilt chess libraries for move generation while implementing custom algorithms for optimal move selection.
- Utilizing optimization methods to address the intricate challenges embedded in chess engine development, showcasing the ability to efficiently tackle compute and memory-intensive problems.