# **Abdulrahman Mohammed**

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# **Education & Training**

## Cairo University, Faculty of Engineering

October 2020 - July 2025

Bachelor of Computer Engineering, Current valuation is excellent.

## **IEEE Embedded Systems Course**

June 2023 - August 2023

Learned about various use cases for AVR microcontrollers and how to develop embedded systems.

### Software Developer Intern

July 2023

Worked as a software developer intern at Cargas Egypt, where I developed a shop application demo for the company.

#### Software R&D Intern

Sep 2024 – Dec 2025

Worked as a software developer intern at Siemens in HAV team, where I developed debugging and profiling tools for various fields (threading / ethernet / ...).

# **Projects**

EPIC | Chip-Design | Modelism, Verilog, Java, Assembly (Link)

- Designed a 5-Staged pipelined CPU that can execute 32 different instructions (Idd, Idm, add, sub, etc..).
- Created an assembly language and its compiler to work with the CPU supporting more than 35 instructions and memory variables.

3B-Calc | Logic-Design | Logisim (Link)

 Designed & implemented a 3Bit Signed integer calculator that can do operations such as, addition, subtraction, module and multiplication.

Paimon: No Way Home | GameDev | C++, OpenGL (Link)

- Created a custom game engine from scratch using C++ and OpenGL, supporting features such as: Bloom, Custom PP effects, Forward Rendering, etc.
- Developed an illusion-based 3D platformer game where players use the camera to solve various puzzles and progress through levels.

**Truck-Chan** | Embedded | Embedded C, Java, Koltin (<u>Link</u>)

- Worked in a team of 11 people to develop a swift robot capable of solving mazes accurately and quickly, as well as a line follower while also developing an application to control and work as the robot's vision.
- Won 1st place in the maze competition and 3rd place in the line follower competition in our department.

### Arabic-Font-Type-Detector | AI | Python, OpenCV, Jupyter (Link)

An AI pipeline to detect the font type of Arabic text in images, accommodating various scales and rotations.

- Achieved accuracy of 99.8% on the university test set, securing 1st place in our department.
- The project A demo is available for testing [here]. The dataset used can be accessed [here].

Discordo | Fullstack | TypeScript, NextJS, React, Tailwind, Prisma, MongoDB (Link)

Created a fullstack discord clone alone. Including features such as:

- · Real-time text chatting
- Video and audio chatting
- Server moderation
- One-To-One Conversations

A demo for testing can be found <u>here.</u>

GigaChat | Cross-platform | Flutter, RestfulAPIs (Link)

- Worked with a team of 5 people to develop a cross-platform X clone, using flutter, copying almost all of X's (formerly twitter) functionalities like Realtime chatting, posts feed, trends, etc.
- Employed an Agile workflow as a team leader to ensure iterative progress and collaboration to deliver the project in less than 3 months.

Irminsul | cross-platform | Flutter, Java, SpringBoot, MongoDB

- Developed a cross-platform search engine from scratch, implementing various crawling, indexing, and ranking algorithms, while having a response time of less than 50ms.
- Used Flutter for the <u>front-end</u> and Java with Spring Boot for the <u>back end</u>.

Promptopia | Fullstack | JavaScript, NextJS, React, Tailwind, MongoDB (Link)

Created a platform (in less than 4 days) where people can publicly share useful text-posts such as useful prompts to feed into Al's, cool stories, etc. featuring the following:

- Searching for other users & posts.
- Managing prompts created by a certain user.

A deployed demo can be found here.

## Skills

#### Front-end

- Android (Java / Kotlin).
- Flutter.
- React Tailwind HTML CSS.
- NextJS.

#### **Hardware**

- VHDL.
- Arduino.
- AVR.
- System Verilog / Verilog.
- Logic Design

#### Back-end

- SpringBot.
- Node.JS.
- Prisma (MySQL / MongoDB).
- Express.

#### Miscellaneous

- Git.
- Machine Learning.
- Image Processing (Open CV).
- C/C++
- OpenGL.

## **Certificates**

#### Cybersecurity Summer Course at Cairo University

July 2023 - Sep 2023

(certificate)

I studied various aspects of cybersecurity, including cryptography, penetration testing, malware analysis and reverse engineering.

Software Developer Internship at Cargas Egypt, Naser City

July 2023 (<u>certificate</u>)

Ranked 1st place in Micro-Mouse line follower and maze competition.

May 2024 (<u>certificate</u>)

Siemens Experience Certificate.

Dec 2024 (certificate)