

# Mina Albert Saeed Hermina

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Egypt

## SUMMARY

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I am senior Computer Science student specializing in IT, with a strong passion for GNU/Linux, Unix systems, and Systems Programming. I am enthusiastic about their evolution from inception to the present. I am seeking an internship in **Linux/Unix Systems Engineering or Programming** to contribute my skills while gaining hands-on experience in real-world projects.

## EXTRACURRICULARS

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### IEEE Cairo University Student Branch

March 2024 – June 2024

Networks Instructor

- Contributing to the development of technical content for the committee sessions and instructing real sessions for network committee members

## SKILLS & LANGUAGES

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### Technical skills & Tools:

- C, C++, Python, Java, OOP, and Data structures
- GNU/Linux, Bash, and docker
- Basic understanding of TCP/IP Protocols Suite
- Git, GitHub, vim, and tmux

### Languages:

- Arabic: Native proficiency
- English: Intermediate proficiency (B1)

## PROJECTS

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### BigNum

April 2025 – June 2025

- Developed a C99 arbitrary-precision arithmetic library for cryptographic applications, with architecture-dependent 32/64-bit word representation using arena allocation for memory management.
- Designed a robust API interface by studying **OpenSSL** and **libtommath** libraries, and implemented core big number algorithms such as Euclidean division and modular inverse.

### Arena Allocator

February 2025 – March 2025

- Implemented a custom single-header **thread safe** region-based memory allocator in C using **mmap**, following the **stb-style headers**.
- Designed an efficient memory management system with features including **page-aligned** allocations, and memory usage tracking.

### imglib

November 2024 - January 2025

- Developed a lightweight, portable C library for image manipulation on Unix-like systems.
- Followed the Suckless C coding style and wrote a portable Makefile, avoiding GNU-specific extensions.
- Implemented robust error handling system inspired by **ffmpeg** and stride-based indexing for efficient pixel access.

### Linux Kernel With lockdep

April 2024

- Configured and built the Linux kernel to enable lockdep module which helps in debugging deadlocks in kernel space, replacing the new custom kernel into my system and using it.

## EDUCATION

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Faculty of Computers and Artificial Intelligence at Cairo university.

October 2021 - Present

- Bachelor's Degree in Information Technology

## CERTIFICATES

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- CCNA: Introduction to Networks
- CCNA: Switching, Routing, and Wireless Essentials

July 2024 – August 2024

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