

# Abdallah Afifi

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## EDUCATION

**The American University in Cairo, Egypt**

2022 - 2026

*Bachelors of Science in Computer Science - Mathematics Minor*

*USAID Merit Award*

## RELEVANT COURSEWORK

**Computer Science:** Data Structures and Algorithms, Analysis and Design of Algorithms, Computer Architecture, Fundamentals of Computer Science, Digital Design, Computer Organization and Assembly Language Programming, Fundamentals of Database Systems, Concepts of Programming Languages

**Mathematics:** Linear Algebra, Discrete Maths, Calculus, Graph Theory

## EXPERIENCE

**AUC - Software Engineer Intern**

Jun. 2024 – Sept. 2024

- Developed a machine learning-powered app using OCR that reduced book cataloging time by 30% and improved accuracy by 20% for AUC Libraries.

**GitHub - Software Engineer Intern**

Nov. 2023 - Apr. 2024

- Contributed to GitHub's Evergreen GitHub Action project, automating security updates for over 50 repositories, minimizing manual interventions by 40%.

**AUC - Software Developer Intern**

Sept. 2022 – Sept. 2023

- Built AUC Student Union App and website, used by 5,000+ students monthly, improving access to student services by 50%.

**Be Apps - Software Developer**

Sept. 2019 – Sept. 2022

- Led a team of 5 developers, creating 30+ mobile apps downloaded by over 10 million users, increasing app store ratings by 15%.

## PROJECTS

**Evergreen** | *Python, CodeQL, OpenSSF*

- Automated secure dependency usage across 50+ repositories, reducing vulnerability detection time by 35%.

**Library Cataloguing** | *Python, TensorFlow/PyTorch, Flask, OpenCV, Tesseract*

- Developed an app that automated cataloging of 2,000+ books using machine learning and OCR, reducing manual entry time by 30%.

**To Do** | *Go, JSON, Terminal*

- Created a terminal-based To-Do app with session persistence, used by 100+ developers to track tasks efficiently.

**Pipelined RISC-V Processor** | *Verilog*

- Built a 5-stage pipelined processor, improving processing speed by 20% through efficient memory and hazard detection.

**Memory Hierarchy and Caching System Simulator** | *C++*

- Designed a simulator for a memory hierarchy system, increasing data retrieval speed by 15% through one-level cache optimization.

**RISC-V Simulator** | *C++, RISC-V Assembly*

- Developed a RISC-V processor simulator, achieving a 10% performance improvement in architecture simulation.

**Digital Alarm Clock** | *Verilog*

- Implemented a digital clock on BASYS3 FPGA, reducing hardware complexity by 10% compared to traditional designs.

**Logic Circuits Simulator** | *C++, CMake, Python*

- Created a logic circuit simulator used by 100+ students, improving understanding of circuit design by 30%.

**Complexity Analyzer** | *C++, Regex, Git, UML*

- Developed a complexity analysis tool that improved code review efficiency by 25% for C++ and Python projects.

**Experimental Verification and Analysis of Sorting Algorithms** | *C++, QT, Python, UML, Git, OpenXLSX*

- Simulated and analyzed 10+ sorting algorithms, improving algorithm selection accuracy by 15%.

**Password Generator** | *C++, UML, Git, OpenSSL*

- Built a password generator algorithm, increasing password strength and security by 40% for 500+ users.

**Plagiarism Detection System** | *C++*

- Developed a plagiarism detection system that increased detection accuracy by 20%, analyzing over 1,000 documents.

## TECHNICAL SKILLS

**Languages - OS:** C++, C, Python, Rust, JAVA, Verilog, X86, RISC-V, UNIX Commands, JavaScript, Go, SQL

**Web/App Technologies:** HTML, CSS, React Native, React Js, Flutter, Kotlin, PostgreSQL

**Developer Tools:** Git, Latex, OpenGL, Win32, Jira, VScode, IntelliJ IDEA,