Dana B. Alkhouri
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EDUCATION

The American University of Cairo (AUC), Cairo, Egypt, **Class of 2025**

B.S. Computer Science with a minor in Mathematics (Overall GPA: 3.62/4.00)

Relevant coursework: Data Structures and Algorithms, Database Systems, Software Engineering, OOP, Web Security, Operating Systems, Network Security, and CyberSecurity.

Awards: Allehedan *Full* Scholarship at the American University 2021-2025

JOB EXPERIENCE

Intern, Frontend Engineering, BoundryLabs, Summer 2024
- Developing features and delivering functionality on the front-end, backend, and database
- Delivering functionality built on **Postgres**, **GraphQL**, **React Native,** and **Deno.**
- Engineering methodology to collaborate and deliver effectively with a team of software engineers
- Maintained, tested, and bug-fixed code in response to user bug reports

Peer Career Advisor, AUC, Fall 2023-Spring 2024
- Advised undergraduate students throughout the process of building a resume and other services

TECHNICAL PROJECTS   https://github.com/Danakh30
- Built a multi-source corpus across 15 cognitive-distortion classes and a reproducible annotation pipeline, including an expert-labelling tool. Designed an LLM-guided decision tree classifier achieving 76% accuracy.
- Simulated WPA2 KRACK using Wireshark to analyze 4-way handshake vulnerabilities and packet decryption.
- Developed fileless malware simulation with in-memory execution, registry persistence, and C2 communication using **Python**
- Assessed cybersecurity risks in a university IT system and proposed mitigations across eight security domains.
- Performed injection-based exploitation on CyberRange web apps and implemented secure coding practices (input validation, parameterized queries) to remediate vulnerabilities.
- Developed a Linux system monitoring and resource control application featuring a **TUI** using **Rust**
- Implemented custom system calls and user programs for the **XV6** operating system using **C**
- Designed a minimal single-cycle **RISC-V 32I** on an **FPGA** using **Verilog**
- Simulated Tomasulo Algorithm for instruction dynamic scheduling using **C++**
- Implemented Quine-McCluskey logic minimization algorithm using **C++**
- Designed a sequential 8-bit signed multiplier through **Verilog** and Logisim
- Developed a **RISC-V simulator** using **C++**
- Implemented Memory Hierarchy simulator using **C++**
- Constructed a software system for an online learning platform using **TypeScript** and **React**
- Created a mobile app focused on sports with social/athletic aspects using **XML**, **SQL**, **JAVA**, and **REST**
- Built a car-sale platform using **SQL**, **Python,** and web scraping for collecting real data from olx.com
- Designed and implemented a graphics-based (GUI) hospital management system using **C++** and **QT**

EXTRACURRICULARS & LEADERSHIP

Event Coordinator Program, AUC, Spring 2023
- Coordinated commencements for graduate and undergraduate students and Organized events.

First-Year Program, AUC, Fall 2022- Spring 2023
- Assisted and delivered sessions for first-year students through the orientation of two semesters
- Contributed as a year-long peer leader by doing activities, 2022-2023

SKILLS

Spoken Languages: English (fluent), Arabic (native)

Programming Languages: Proficient in C++/C, SQL, Java, Python, Verilog, React, JavaScript, Swift