

Jad Hallal

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EDUCATION

American University of Beirut — B.S. in Computer Science

Expected: June 2027

Full merit-based scholarship — USAID Higher Education Scholarship Program

Relevant Coursework: Data Structures & Algorithms · Software Engineering · Operating Systems · Computer Networks · System Programming · Statistics

TECHNICAL SKILLS

Programming	C · C++ · Java · Python · TypeScript
Web Development	React · Next.js · Vercel
Cybersecurity	eBPF · Tracee · Linux Process Monitoring · Behavioral Malware Detection
Tools	Git · Linux · VS Code · Make
Concepts	Algorithms · Multithreading · Networking · Operating Systems · OOP · Modular System Design
Office	Excel · Word · PowerPoint
Languages	English · Arabic

PROJECTS

Connect Four — AI Bot with Multithreaded Win Detection *C · Pthreads · Minimax* **2024**

- Built a complete Connect Four game in C with multiplayer and three AI difficulty levels using random, heuristic, and minimax search with alpha-beta pruning.
- Implemented multithreaded win detection using pthreads to evaluate rows, columns, and diagonals concurrently.
- Designed a medium-difficulty AI capable of blocking opponents, detecting winning opportunities, and evaluating future board states.
- Structured the project using modular source files, reusable headers, and a Makefile-based build system.

GG Wiki — Gaming Strategy Platform *Next.js · React · TypeScript · Supabase* **2025**

- Developed user profile pages, commenting functionality, voting features, and strategy viewing pages across both frontend and backend.
- Contributed to testing, documentation, and final project presentation as part of a Software Engineering team.

WORK EXPERIENCE

Cybersecurity Research Intern — Hash **2026**

- Researched Linux behavioral malware detection using eBPF and the Tracee runtime security framework.
- Developed Python tools to process Tracee JSON event streams and extract process metadata including PID, PPID, UID, executable paths, command-line arguments, and working directories.
- Developed the foundation of a behavior-based detection engine by monitoring process execution and reconstructing parent-child process relationships.
- Investigated behavioral detection rules for suspicious execution patterns, reverse shells, and abnormal process activity while improving event parsing and command reconstruction reliability.

Sales Associate — LC Waikiki **Summer 2025**

- Assisted customers in a fast-paced retail environment while providing product recommendations and resolving inquiries.

- Supported stock management, inventory organization, and merchandising.
- Worked flexible shifts including weekends and peak sales periods.

VOLUNTEER EXPERIENCE

Volunteer — Offre Joie

2024–Present

- Assisted humanitarian relief efforts during the 2024 Lebanon conflict by preparing and distributing food parcels, supporting meal preparation, and maintaining volunteer and community centers.
- Supported displaced families during the 2026 conflict by assisting with operations at an Offre Joie shelter, organizing supplies, and helping provide essential services.
- Participated in post-conflict rehabilitation efforts by helping restore damaged residential buildings in Basta and Ain Saade through cleanup, reconstruction, and rehabilitation activities.