UNIVERSITY OF LOUISVILLE
J.B. SPEED SCHOOL OF ENGINEERING

Karim Abdelfattah

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OBJECTIVE

First Computer Science & Engineering Co-op Position — August – December 2026

EDUCATION

Bachelor of Science in Computer Science & Engineering (Dual Degree) — Expected May 2027
J.B. Speed School of Engineering, University of Louisville, Louisville, Kentucky — **GPA 4.0/4.0**
Responsible for 100% of tuition. — Hours Completed: 170
Bachelor of Engineering in Computer & Communication Engineering — Expected May 2026
Faculty of Engineering, Alexandria University

SKILLS/COURSEWORK

Technical Skills/Relevant Coursework

- HTML, CSS
- C, C++, GoLang Programming
- Java programming
- SQL
- Distributed Systems
- Computer Organization
- Embedded Systems
- Information Security*

APPLIED EXPERIENCE

IoT Beverage Monitoring System – Capstone (CSE 596)

- Designed and built the dispenser and booster LoRa32 nodes, handling sensor integration, wiring, and SparkFun component assembly
- Developed firmware for ESP32-based LoRa32 nodes using Arduino IDE to handle data sampling and wireless transmission
- Tools used: Arduino IDE, LoRa32, SparkFun Hardware, InfluxDB, Grafana, Raspberry Pi 5

Database-Driven Car Rental System

- Designed and implemented a relational database-backed web application for vehicle rental management
- Developed an admin dashboard for inventory, users, and transactions using SQL and PHP

Custom Linux Shell Implementation

- Built a UNIX-like shell using C, Lex, and Yacc with full command parsing, piping, and signal handling
- Implemented process creation, piping, and SIGINT signal handling (ignored in shell, restored for child processes)

WORK EXPERIENCE

ICT Intern — July 2023 – August 2023
Abu-Qir Petroleum — *Alexandria, Egypt*

- Assisted in maintaining enterprise communication and networking infrastructure in an industrial environment
- Supported troubleshooting of on-site IT and communication systems under operational constraints

Robotics Instructor — Oct 2022 - March 2023
Innova STEM Education — *Alexandria, Egypt*

- Delivered hands-on instruction in robotics and programming fundamentals
- Guided student teams through engineering design and structured problem-solving

ACTIVITIES/HONORS

World Robot Olympiad (WRO) – Head Judge

- Led technical evaluation and scoring for national robotics competitions

IEEE Alexandria Student Branch – Public Relations Volunteer

- Supported organization of technical events and student engagement initiatives

YOUTH DEVELOPMENT AND LEADERSHIP

- AFS Youth Assembly – United Nations Headquarters, New York
- Center for Social Impact Strategy – University of Pennsylvania
- BP Global STEM Academies – University of Houston

COMPETITIONS

- Mate ROV
- RoboCup Jr.
- 3Rs (Reduce, Reuse & Recycle)
- WRO (World Robot Olympiad)