

Yousef Kamel

1A Electrical Engineering Student @ University of Waterloo

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SUMMARY

Electrical Engineering student with hands-on experience in embedded systems, PCB design, and software development, with projects spanning ESP32 motion detection, solar tracking, and Java GUI applications.

SKILLS

Software: Arduino IDE, Python, Java, C++, HTML, Microsoft Word, Microsoft Excel, Web programming, App programming

Hardware: PCB Design, KiCad, Microcontrollers (Arduino, ESP-32), Raspberry Pi, Digital Circuits, Embedded Systems Development, Soldering, Vex Robotics, Engineering design process

Soft Skills: Effective communication, People skills, Dedication, Self-Motivation

EXPERIENCE

Junior Software Developer

07/2024 — 09/2024

Innowave

Asyut, Egypt

- Developed internal automation scripts and debugging utilities, decreasing manual processing time for routine engineering tasks by 20%.
- Debugged and validated production code using systematic test cases, identifying numerous failure points and improving reliability.
- Contributed to documentation and feature updates to build familiarity with software development.

File Management and Digitization

10/2023 – 02/2024

London Life

London, Ontario

- Converted documents and photographs into high-res digital formats utilizing scanning hardware.
- Verified and quality-checked 2,500+ digitized files with less than 1% error tolerance.
- Digitized and categorized 2,500+ archival documents into an indexed database, improving retrieval speed for staff.

Midnight Sun Team Member

09/2025 – Present

University of Waterloo

Waterloo, Ontario

- Currently contributing to the design of a competitive solar powered car for competitions.
- Collaborated with people from many engineering backgrounds to gain hands-on experience with CAD and circuit prototyping.

Software Club Executive

10/2023 – 06/2025

YCDSB

Markham, Ontario

- Led technical workshops and coding sessions for students from grades 9-12 who were interested in programming.
- Instructed students in the fundamentals of Python, JavaScript, C++, HTML, CSS, Java, and additional digital tools such as Photoshop and MS Word.

Technical Lead

01/2021 – Present

SMSJ

Richmond Hill, Ontario

- Maintained and upgraded all AV and networking infrastructure, reducing technical failures during services.
- Configured and operated AV systems (cameras, mixers, encoders) for weekly livestreams reaching 300+ viewers

PROJECTS

Motor Sensor for Delirium Patients | *Microcontrollers, Signal Processing*

09/2025 – Present

- Designed an ESP32-based motion detection system using IMU data processing to alert staff of unsafe patient movement.
- Implemented Bluetooth alerts, IMU-based motion classification, and buzzer warnings to reduce fall risk.

Automated Solar Panel | *PCB Design, Arduino, Circuitry*

06/2024 – 09/2024

- Built an Arduino-controlled solar tracker using LDR feedback and servo actuation, increasing output by 36%.
- Worked with circuits, wiring, photoresistors, and developed my programming skills in relation to hardware

Flappy Bird Clone | *Java, Swing, OOP, GUI*

04/2025 – 07/2025

- Developed a Java-based Flappy Bird clone using Swing with real-time collision detection and event-driven input handling.
- Code included game logic (scores and rules), collision detection, and precise real-time input handling to ensure smoothness.

Mock Pizza Store Purchase Interface | *Java, GUI*

06/2024 – 07/2024

- Developed an interactive pizza ordering screen using Java, utilizing Swing and JavaFX.
- Implemented GUI components, input handling, and order calculation logic in a user-friendly manner.
- Supported 5 different pizza types, multiple sizes, 20 unique toppings, and various quantity selections.