Zaid Saifan

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EDUCATION

Western University | *Bachelor of Engineering Science, Electrical Engineering – London, ON* *Expected April 2029*

- **Cumulative Average: 76.3% | Year 2 Average: 81.3% | Dean's Honor List** (2025–26)
- **Coursework:** Control Systems, Power Systems, Electric Machines, Electronic Circuits, Signal Processing, Microprocessors
- **Availability:** Available for **12–16 month terms starting May 2027**; returning to full-time studies upon completion.

EXPERIENCE

Epsilon Engineers & Architects | *Electrical Engineering Intern – Amman, Jordan* *June 2026 – July 2026*

- Performed **load calculations** and **cable sizing** across **3–5 active projects** over **140 hours**, checking results against design criteria with senior engineers before **single-line diagrams** were issued.
- Drafted and revised **10+ electrical drawing sheets** (power and lighting layouts, panel schedules) in **AutoCAD** and **Revit**, closing out engineer redlines to firm standards and local code.
- Coordinated in design reviews with **mechanical engineers and architects**, routing conduit and cable tray around HVAC and structural elements to resolve clashes **before construction**.

Dr. Zaki Research Lab, Western University | *Undergraduate Research Assistant* *September 2026 – Present*

Roboracer Autonomous Race Car *– 1/10-scale autonomous vehicle platform*

- Routed a custom **power distribution board** in **Altium Designer**, isolating protected rails for the **VESC motor controller** and high-torque steering servos from noise-sensitive logic circuits.
- Interfaced the onboard computer with a **2D LiDAR** and **IMU** for real-time **SLAM**, and **3D-printed** Onshape-modelled sensor mounts and enclosures to lower the car's center of gravity.

Clearpath Husky UGV *– outdoor mapping research robot*

- Helped a **PhD researcher** wire and modify the electrical hardware of a **Clearpath Husky** ground robot, making **power and sensor connections** and checking them against the platform's wiring before field testing.

Western Engineering Auto Pilot | *Build Team Member, Throttle & Motor Control* *October 2025 – Present*

- Built and bench-tested a **PWM-based throttle control** system that automates acceleration on a **full-scale autonomous golf cart**, interfacing a microcontroller with a **high-current ESC** for repeatable speed regulation.
- Contributed to a **2-layer power distribution board** in **Altium Designer**, applying trace-width calculations, **2 oz copper**, and via stitching to carry **15–20 A** to the drive and sensing systems within voltage and thermal margins.

TECHNICAL PROJECTS

Hospital Autonomous Secure Delivery Robot | *Electrical Architecture & Control Integration*

- Designed the electrical architecture on a custom **Altium PCB shield**, integrating **5 sensors** (ultrasonic, RFID, Bluetooth, temperature/humidity) and **4 actuator systems** into one microcontroller control loop.
- Specified components and authored the schematics and full **BOM**; hand-soldered the board and traced integration faults to **root cause**, reaching a **100% integration-test pass rate** and a **45-minute runtime** on an 11.1 V LiPo.

Wireless RC Car | *Steering, Chassis & Electronic Differential*

- Developed an **electronic differential** driving **2 independent rear-wheel motors** plus a **servo steering system**, designing the circuit and wiring and writing the **C++** control code for wireless PS5 input; modelled the chassis in **SolidWorks**.

SKILLS

Power & Electrical Design: Load calculations, cable sizing, single-line diagrams, panel schedules, lighting & power layouts
Controls & Embedded: PWM motor control, ESCs & servos, microcontrollers, LiDAR, IMU & RFID sensors, ROS, FPGA
Programming & Office: C/C++, Python, MATLAB, Java, Arduino, Excel, Word, PowerPoint
CAD & Test: AutoCAD, Revit, Altium Designer, SolidWorks, Onshape, 3D printing, oscilloscopes, multimeters, soldering