

# Malek Hammoud

📍 London, ON, Canada

✉ malek@malekhammoud.com

linkedin.com/in/malekhammoud

malekhammoud.com

github.com/mhammoud-os

Grade 12 student with software and hardware development experience and a proven track record in competitive innovation. Led technical teams consulting for Fortune 500 companies (Microsoft, IKEA), won national hackathons, and earned a Canada Wide Science Fair Bronze Medal. Passionate about applying AI and robotics to solve real-world problems.

## EDUCATION

- |  |                     |
|--|---------------------|
| <b>London Central Secondary School</b>   | London, ON, Canada  |
| • <i>Ontario Secondary School Diploma – Grade 12</i>                               | Sep 2022 – Jun 2026 |
| <b>Western University</b>  | London, ON, Canada  |
| • <i>Scholarly Excellence Program (WISE) – Data Science &amp; Computer Science</i> | Sep 2025 – Apr 2026 |

## PROFESSIONAL EXPERIENCE & CONSULTING

- |  |                           |
|--|---------------------------|
| <b>Playtoon It, Inc.</b>   | Remote                    |
| • <i>Full-Stack Developer Intern</i>   | Mar 2025 – Aug 2025       |
| ◦ Collaborated with 15-member team building web platform; engineered loading screen with cross-fade transitions, integrated upload flows with backend APIs, and implemented profanity filtering            |                           |
| <b>Microsoft Sustainability Challenge</b>  | Via The Knowledge Society |
| • <i>Technical Lead – Finalist, Top 5 out of 172 teams</i>   | Mar 2025                  |
| ◦ Led technical research and implementation for biomimicry-inspired passive cooling system for data centers, potentially saving 100M+ liters of water annually; presented solution to Microsoft executives |                           |
| <b>SIMAD Foundation</b>  | Remote                    |
| • <i>Senior Full-Stack Developer &amp; Executive</i>   | Oct 2024 – May 2025       |
| ◦ Built and optimized web platforms supporting foundation's community development mission  |                           |
| <b>NatureTote, Junior Achievement Company</b>  | London, ON, Canada        |
| • <i>Vice President of Finance</i>   | Nov 2024 – Apr 2025       |
| ◦ Oversaw financial strategy for student-run enterprise; negotiated with suppliers to secure quality standards   |                           |
| <b>Bryck Technologies</b>  | Remote                    |
| • <i>Software Developer Intern</i>   | Sep 2024 – Jan 2025       |
| ◦ Delivered a scalable full-stack application that integrated into company's internal operations   |                           |
| <b>Ikea Customer Experience Challenge</b>  | Via The Knowledge Society |
| • <i>Technical Lead – Semi-Finalist, Top 19 out of 172 teams</i>   | Dec 2024                  |
| ◦ Led technical analysis of IKEA's recommendation algorithms, identifying improvements using CNN and reinforcement learning; presented comprehensive findings to IKEA executives                           |                           |
| <b>The Knowledge Society (TKS)</b>   | Remote                    |
| • <i>TKS Innovator</i>   | Sep 2024 – Jun 2025       |
| ◦ Selected for highly competitive 10-month accelerator, solving global challenges with emerging technologies   |                           |

## RESEARCH & TECHNICAL PROJECTS

- |   |                      |
|---|----------------------|
| <b>Autonomous Litter Detection &amp; Mapping</b>  | Independent Research |
| • <i>Sole Developer</i>   | Sep 2024 – Mar 2025  |
| ◦ Built drone-based system using YOLOv5 computer vision and GPS mapping; trained model on 772 images            |                      |
| ◦ Mapped precise litter location on a 5000m <sup>2</sup> area in under 10 minutes during test flights.          |                      |
| ◦ <b>TVSEF 2025 (Science Fair):</b> Gold Medal, OES Inc. Excellence Award                                       |                      |
| <b>GreenGuardian: Automated Weed Detection &amp; Elimination</b>  | Independent Research |
| • <i>Sole Developer</i>   | Nov 2023 – May 2024  |
| ◦ Designed autonomous robot using computer vision for precise weed detection and targeted herbicide application |                      |
| ◦ Integrated camera-based CV with microcomputer processing; 3D-printed chassis and programmed control systems   |                      |
| ◦ <b>Canada Wide Science Fair 2024:</b> Bronze Medal  |                      |
| ◦ <b>TVSEF 2024:</b> Gold Medal, Western Research Imagination Prize   |                      |
| <b>Maze-Solving Robot Car</b>   | Independent Research |
| • <i>Sole Developer</i>   | Oct 2022 – Mar 2023  |
| ◦ Built my first autonomous robot using infrared sensors  |                      |
| ◦ <b>TVSEF 2023:</b> Silver Medal, Engineers Choice Award, Western Engineering Summer Academy Award             |                      |

## HACKATHONS

---

- **Hack the North 2025** Waterloo, ON  
Top 32 Finalist out of 250+ projects Sep 2025
  - Built "Monkey See Monkey Do": AI-powered 6DOF robot learning physical skills from text descriptions; designed custom robot and programmed ESP32 microcontroller
- **Hack the 6ix 2025** Toronto, ON  
Winner – Deloitte's "Best Use of AI for Green" July 2025
  - Developed FridgeMind: AI retrofit for refrigerators tracking groceries and reducing food waste; configured QNX on Raspberry Pi, trained custom YOLOv5 model, integrated Google Gemini and AssemblyAI
  - Now evolving into a startup — Basil Home AI ([basilhome.ca](http://basilhome.ca)) — leading all technical development
- **Solution Hacks 2025** Toronto, ON  
Participant July 2025
  - Built EcoSphere: environmental monitoring SaaS supporting UN SDGs with Forest Cover Monitor, Biodiversity Tracker, and Climate Alerts
- **TKS Global Hackathon 2024** Remote  
Top 4 Winner out of 200+ projects Dec 2024
  - Developed PosturePal: hardware device providing real-time posture feedback using sensors and automated spray mechanism

## LEADERSHIP & COMMUNITY INVOLVEMENT

---

- **Programming Club** London Central SS  
Co-President Sep 2023 – Present
  - Teach coding fundamentals; prepare students for the CCC; host competitions; facilitate projects.
  - Creating a place where every student could see themselves as capable.
- **STEM Club** London Central SS  
President Sep 2024 – Present
  - Lead weekly meetings preparing students for science fairs; organize STEM presentations
- **Math Enrichment Club** London Central SS  
Co-President Sep 2023 – Present
  - Prepare students for CEMC competitions; lead presentations on advanced topics like Game Theory and 4th Dimensions; host Fun math related game days and competitions
- **Uni'd NGO** Remote  
Technology Manager Nov 2024 – Jun 2025
  - Built and managed the organization's official website — [unid-admissions.org](http://unid-admissions.org)
- **London Public Library** London, ON  
Volunteer Technology Tutor Mar 2023 – Aug 2023
  - Helped adults and seniors navigate computers, smartphones, and the internet

## HONORS & AWARDS

---

- **Academic & Computing:**
  - AP Computer Science A (2025) – Highest Score (5/5)
  - Canadian Computing Competition (2024) – Senior Distinction
  - Canadian Computing Competition (2023) – Junior Honors
  - London Central Secondary School Award of Excellence (2023, 2024, 2025) – 90%+ Average
  - Masonville Public School Science Award (2022) – Top in the Graduating Class
- **Science Fairs:**
  - Canada Wide Science Fair (2024) – Bronze Medal
  - Thames Valley Science Fair (2025) – Gold Medal, OES Inc. Excellence Award
  - Thames Valley Science Fair (2024) – Gold Medal, Western Research Imagination Prize
  - Thames Valley Science Fair (2023) – Silver Medal, Engineers Choice Award, Western Engineering Summer Academy Award
- **Hackathons:**
  - Hack the North (2025) – Top 32 Finalist out of 250+ projects
  - Hack the 6ix (2025) – Winner, Deloitte's "Best Use of AI for Green"
  - TKS Global Hackathon (2024) – Top 4 Winner out of 200+ projects
- **Consulting Competitions:**
  - Microsoft Sustainability Challenge (2025) – Finalist, Top 5 out of 172 teams
  - IKEA Customer Experience Challenge (2024) – Semi-Finalist, Top 19 out of 172 teams