

Jumana Hussein Al-Qaisi

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PROFESSIONAL EXPERIENCE

Eureka Tech Academy	Amman, Jordan
STEM Educator and Coach	2023-Present
Teach students (ages 10–16) robotics, electronics, and Arduino through interactive, project-based learning. Develop leadership and teamwork skills while fostering youth innovation in STEM	
AL-Nabil food industry	Amman, Jordan
Electromechanical Maintenance Engineer (8-month Internship)	2024- 2025
Supported troubleshooting, inspections, and preventive maintenance to improve machinery reliability. Contributed to energy-saving initiatives by identifying inefficiencies and proposing technical solutions.	
Al Hussein Technical University (HTU)	Amman, Jordan
Undergraduate Student Researcher	2022-2024
Contributed to renewable energy research within MERG, focusing on green hydrogen production and smart grid innovation. Supported academic publications and explored performance optimization using advanced engineering methods.	
ETA-max Energy and Environmental Solutions	Amman, Jordan
Internship Trainee	2022
Gained hands-on training in PV system design, installation, and maintenance under the supervision of renewable energy experts. Built practical skills in sustainable energy systems and solar engineering applications.	
Jordan River Foundation	Amman, Jordan
STEM Educator and Coach	2022
Delivered robotics workshops on Sumo Robots across Jordan to underprivileged youth. Focused on building technical and problem-solving skills through hands-on STEM education.	

EDUCATION

Al Hussein Technical University (HTU)	Amman, Jordan
Bachelor's degree, Electrical Engineering, GPA 3.51	2020-2025

SKILLS

Technical Skills: Electrical Design, Scientific Research, Control System Engineering, Project Management

Software Tools: MATLAB, Simulink, AutoCAD, Multisim

Programming Languages: C, Python, Arduino

PROJECTS

Capstone Project: Hydrogen vs. Lithium-Powered UAVs: A Comparative Study

Analyzed hydrogen fuel cells vs. lithium-ion batteries as a power source for UAVs, focusing on energy efficiency, endurance, and sustainability. Developed recommendations to optimize UAV power systems.

Advanced UAV Development Projects – Thermal Inspection & Multi-Function Drone

Designed a thermal drone to detect hotspots and physical faults in large-scale photovoltaic panels, improving inspection accuracy. Also, developed a drone with capabilities for medical transport, thermal infrastructure inspection, and real-time surveillance support.

Publications

Enhancing Unmanned Aerial Vehicle (UAV) Endurance with Hybrid Hydrogen Fuel Cells and Lithium Batteries for Extended Flight Time. Al-Qaisi, J., Awjat, T., Quttah, H., & Khasawneh, H. J., Oukor, Y. (2025). In Proceedings of the IEEE.

ACTIVITIES

Competitions & Awards

- HTU Expo Competition, First Place – Capstone Project Category 2024/2025
- MACH 1 Racing Competition, HTU – Participant 2023
- Academic Projects Competition, HTU – Participant 2022
- Sumo Robotics Competition, HTU – Participant 2021/2022
- FLL Arabi Robotics Competition, Jordan – Participant 2019
- FLL – 13th National Robotics Competition, Jordan – Participant 2018
- FLL International Robotics Competition, **Tallinn Estonia** – Participant 2018
- Tech Girls Competition – Second Place 2017

Community & International Engagement

- 16th International Conference on Mechanical and Aerospace Engineering (ICMA) – Presenter, **Rome, Italy** 2025
- C8 2025 SOFEX **Dead Sea** – Attendee 2025
- SOFEX 2024 – Special Operations Forces Exhibition, **Aqaba** – Participant 2024
- Artificial Intelligence & Defense Conference AIDTSEC **Dead Sea** – Presented engineering project to HRH Prince Al Hussein bin Abdullah II 2023
- Tawasol Forum by the Crown Prince Foundation – HTU Representative 2023–2024
- Levitate Conference – Attendee 2023
- Solarity Energy Awareness Conference – Attendee 2023
- Regional Center for Space Science and Technology Education for Western Asia – Webinar Participant 2021
- Jordanian Young Entrepreneurs Community Program (YESJO) – Zain Company 2018–2019
- International **Antalya** Youth Festival – Participant 2017, 2019

VOLUNTEERING

Zaha Cultural Center

Mind Lab

Plan International

Al-Hussein Technical University

Rubik's Cube Activities

Robotna Company

LANGUAGES

English (Fluent)

Arabic (Native)