

EDUCATION

Brown University, 2024-28

Providence, United States

Concentrating in Engineering Physics.

Courses Taken

Deep Learning for Scientists & Engineers, Engineering Statics and Dynamics, Applied Linear Algebra, Applied Ordinary Differential Equations, Computer Science: An Integrated Introduction, Multivariable Calculus (Physics/Engineering)

LEADERSHIP EXPERIENCE

WorkFrame Consulting Firm, 2022-24

Founded a consulting firm helping small businesses with financial, construction, and international affairs. Supported a farm startup in Kafer Ed Deek, Ramallah. The farm is currently working with 100 sheep output per month.

Linguistic, 2022-24

Developed gamified websites and apps to help students learn languages. Pitched in startup competition and partnered with two schools in Jordan.

Mushrooming Foundation, 2022-24

Founded this group to promote programming in Jordan. Hosted national hackathons with schools in Jordan and developed programming curricula.

PERSONAL PROJECTS

AI & Robotics Development

2017–2024

Developed a self-driving car using Python and Arduino; released an open-source AI modeling library in C, adopted by 50+ developers worldwide.

Designed and manufactured a drone for solar panel field maintenance, currently deployed by King's Academy in Jordan to service their solar infrastructure.

Predictive Modeling of Charged Particle Dynamics using AI

Independent Research, May 2025

Applied SympNets, PNNs, and PINNs to predict the trajectory of a charged particle in an electromagnetic field using data generated by a Stormer-Verlet integrator. Demonstrated the effectiveness of physics-informed neural networks (PINNs) in achieving high-accuracy predictions by integrating physical laws into the learning process.

WORK EXPERIENCE

CERN, 2025

Geneva, Switzerland

Collaborated on the design and AI-driven simulation of next-generation silicon detectors for future particle colliders at CERN, optimizing detector configurations through machine learning to enhance performance and efficiency.

Ramallah Municipality, 2024

Ramallah, Palestine

Worked as a systems engineer, fixing servers, automating check-in systems, and working on helpdesk support.

Global Tech, 2023

Ramallah, Palestine

Assisted in designing and constructing server projects. Shadowed engineers on debugging.

Batunia/Beit Fajjar Municipality, 2021

Ramallah, Palestine

Wrote proposals for funding and managed exchanges with French municipalities.

CLUBS

Entrepreneurship Club, 2022-23

Pitched the Linguistic app in a SharkTank competition to CEOs and ministers in Jordan.

Welding Club, 2023-24

Started the largest club in King's Academy history, teaching welding techniques.

SKILLS

Programming: Python, C, C++, Arduino

AI/ML: PyTorch, SympNet, PINN, Reinforcement Learning

Languages: Arabic (Native), English (Native), Korean (Intermediate), Italian (Intermediate)

AWARDS

Robotics Engineering Excellence (2022)

Highest Honors Award (2021-2023)

AP Scholar with Distinction

First Place at Samsung Innovation Coding and Icode Edu (2022)