

Elissa Hilal /Alissa Helal

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EDUCATION

Aug. '18 – June '22 **American University of Beirut (AUB), Beirut, Lebanon**
Bachelor's Degree in Mechanical Engineering | **CGPA: 87.43/100** (3.81 / 4.0)

PROFESSIONAL EXPERIENCE

Research Engineer at the Aerosol Laboratory | June '22 – Jan. '23 | AUB, Beirut, Lebanon

- Programmed using MATLAB a Data Analysis code for filtering and comparing Tobacco E-cig data.
- Created reverse engineering tests for E-cigs and experimented on aerosol-related machines.
- Designed and printed prototypes to govern nicotine emissions from E-cigs and to capture air pollutants.

Middle East Airlines Aviation Intern | Dec. '21 – Jan. '22 | Beirut International Airport, Lebanon

Actively partook in an intensive aviation training course specializing in aircraft piloting, mechanics, structure, and maintenance.

IAESTE Research Intern at University of Glasgow in Rocket Plume Interactions | Sep. '21 – Jan. '22

Conducted advanced research on regolith and jet plume interactions to simulate them in a vacuum chamber.

IAESTE Research Intern to Prof. Vishwanath Managuli at MIT India | May '21 – Aug. '21

Discovered and tested a recent indentation tool to detect bone fragility using thorough research methods.

Spexal Robotics Company Engineering Design Intern | Dec. '20 – Jan. '21 | Zalqa, Lebanon

- Researched and developed a robot through designing it on Fusion 360.
- Created CNC machining and Injection Moulding guidelines based on empirical research.

AWARDS

- Fulbright Foreign Student Program 2023-2024 Nominee for Aerospace Engineering graduate programs.
- Leadership, Empowerment & Awareness Program (LEAP) by Friedrich-Ebert-Stiftung | **Lebanon**
Chosen for the young leaders' program that fosters socio-political change, democracy, and gender equality.
- MSD Levant Project Intern | **Aug. '21 – Sep. '21 | Sin El Fil, Mount-Lebanon, Lebanon**
Winner out of 40 teams in MSD's Case at the Lebanese American University Case Competition.
- LIFE Lebanon scholarship, which provides funding, networking, and mentorship | **Spring 2021 – 2022**
- MEPI-TLS Gender Leader Scholar | **Academic Year 2021 – 2022 | AUB**
Undergone workshops, participated in two gender courses, created a gender-related activity, and submitted three white papers for gender studies publication venues.
- Maroun Semaan Faculty of Engineering and Architecture Dean's Honour list: 5 awards | **2018 – 2020**
- Best Delegate Award at the National Model Arab League | **April 2017 | Georgetown University**
- Best Delegate Award Model Arab League | **Feb. '17 – May '17 | Lebanese American University**
Best public speaking, leadership, and conflict resolution skills among 1200 delegates

EXTRA-CURRICULARS

President of the American Society for Mechanical Engineers at AUB | May '21 – May '22

- Promoted from being a subcommittee member since 2018 to presidency.
- Published a white paper in MechaLeaks: ASME's annual Newsletter.
- Managed webinars, advising sessions, workshops, and panel discussions for over 200 students.

All Girls Code Executive Team Lead (regular member since Sep. '20) | **Jan. '21 – Jan. '22**

Organized up to 6 hustle hours, directed an online coding camp (Techsplore) and to encourage women's participation in the STEM field, through leading and mentoring a team of 20 volunteers and interns.

Lebanese Red Cross Mission Chief Falouha Sector | Jul. '17 – Feb. '21:

- Managed multiple priorities and distributed tasks on EMTs in emergency situations.
- Assessed and treated patients under a lot of pressure in over 150 emergencies.
- Achieved leadership, teamwork, communication, management, peer support, and motivational skills.

PROJECTS

Linkage Mechanism to lift a cup off a table based on the ground.

Digital projects: Control, Instrumentation, Mechanical Design I & II, Aerodynamics, and Smart Materials.

Final Year Interdisciplinary Project: *Pill Dispensing Machine for Long Duration Space Flights*

- Ideated the project and submitted the proposals
- Researched, Designed, and Developed the dispensing machine with chemical and mechanical engineers that can protect and shield pharmaceutical pills from toxic radiations.

PUBLICATIONS UNDER REVISION

- Soha Talih, Nareg Karaoghlanian, Rola Salman, Sacha Fallah, Elissa Helal, Rachel El-Hage, Najat Saliba, Alison Breland, Thomas Eissenberg, Alan Shihadeh, *DESIGN CHARACTERISTICS AND TOXICANT EMISSIONS FROM VUSE SOLO AND ALTO ELECTRONIC NICOTINE DELIVERY SYSTEMS*. Tobacco Control Journal. 2022
- Soha Talih, Nareg Karaoghlanian, Rola Salman, Elissa Hilal, Alison J. Patev, Ashlynn Bell, Sacha Fallah, Rachel El-Hage, Najat Saliba, Caroline O. Cobb, Andrew J. Barnes, Alan Shihadeh *Overclocking JUUL: design, operation, and toxicant emissions of off-brand JUUL compatible pods*. Tobacco Control Journal. 2022

ADDITIONAL

Computer skills: Excel, Word, Power-point, C++, MATLAB, Fusion360, CAD programs, and R

Technical skills: Research, Data Analysis, Aerodynamics, technical writing, Project and Team Management

Language Skills: Arabic, English, Portuguese, and French (Intermediate)

Soft skills: Motivation, teamwork, leadership, emotional intelligence, and conflict resolution