

Ahmad Ali El Haj

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PROFESSIONAL SUMMARY

I am a Mechanical Engineering student with a huge interest in manufacturing and design of thermal and electro-mechanical systems. I am experienced in Computer Aided Drawing (CAD) softwares, mechanical design, and HVAC.

EDUCATION

American University of Beirut (AUB), Beirut, Lebanon **September 2019- Present**

- Bachelor of Engineering (BE) in Mechanical Engineering
- Scholar at Mastercard Foundation Scholars Program (MCF) at AUB
- Cumulative GPA: 3.65
- Expected date of graduation: May 2023

Deir Yassin Secondary School, Tyre, Lebanon **September 2016-June 2019**

- Lebanese Baccalaureate Life Science Track

EXPERIENCE AND PROJECTS

- Developed a feedback system that controls the position of the Quanser QUBE-Servo using proportional-Integral-Derivative (PID) controller family to meet a set of specification.
- Assessed the usability of a Gilbarco single stage reciprocating piston air compressor to fill a tractor tire by simulating the variation of the volumetric efficiency of the compressor with changing discharge pressure.
- Assessed the performance of the experimental vapor compression heat pump unit by doing a thermodynamic and electrical consumption analysis.
- Assessed the performance of the steam turbine power system by analyzing the efficiencies of electric generator, condenser, and the system as a whole.
- Investigated the performance characteristics of a Pelton wheel hydraulic turbine by simulating the torque, output power and efficiency as a function of turbine speed.
- **Formula 1 prototype-** Manufactured a formula 1 prototype using steel and plastic materials designed on lathe, milling, Computer Numerical Control (CNC), drilling, and boring machines.
- **Airplane Construction-** Designed airplane using Creo parametric.
- **Temperature Monitoring Sensor** – Designed a temperature monitoring sensor using myDAQ (data acquisition device), LABVIEW, and many electronic components. It lighted up the different colored LEDs and changed the motor speed according to the monitored temperature.

EXTRACURRICULAR ACTIVITIES AND LEADERSHIP

Mentor-Peer Mentorship Program (PMP) with MCF at AUB, Beirut, Lebanon **August 2020-Present**

- Helped with the arrival process of new scholars
- Guided the scholar in terms of courses and civics engagement

Al Naqab Center for Youth Activities, Beirut, Lebanon **January 2020-March 2020**

- Tutored Math for grade 9 to help them pass the official exam
- Tutored Physics for grade 11

Next Step Organization at AUB, Beirut, Lebanon **January 2020- March 2020**

- Tutored students who have intellectual disabilities

WORKSHOPS, CERTIFICATES AND AWARDS

- BAOBAB summit (resilience, connection, innovation) organized by Mastercard Foundation **August 2020**
- Dean's honor list awarded by Maroun Semaan Faculty of Engineering and Architecture at AUB **December 2019**

SUMMARY SKILLS

Languages: Arabic (Native)/ English (Fluent)

Computer skills: MS Word, Excel, PowerPoint, SOLIDWORKS, AUTODESK Inventor, Creo Parametric, AutoCAD, Multisim, C++, MATLAB, Simulink, LabVIEW, Computer Numerical Control (CNC) machine.

Soft skills: Leadership, Teamwork, Organization, Communication, problem solving skills