

## MALAK AHMAD

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### OBJECTIVE

I am a Civil and Environmental Engineering graduate from the American University of Beirut. I did also Master at Lebanese plus Saint Joseph's University program and got rank one. It was a fruitful add to my research experience as I did four publications within four months. Concerning my internship at my donor's company "Dar Al-Handasah", it was a pleasant experience as I acquired intensive knowledge of mostly used software in Structural Engineering and managed to complete all given tasks well before due under a well-organized and professional environment. I practiced teamwork throughout my voluntary activities. In my latest work as a site engineer, I monitored the maintenance work for rehabilitation of damaged houses in Beirut's explosion. Finally, my skills are diverse. I am coupled with excellent skills in Sap2000, SAFE, AutoCAD, ETABS, primavera p6, Design Builder and most if not all Microsoft office software. I would like to be site civil engineer.

### EDUCATION

From 09/2020 to 7/2021	 <b>Lebanese University plus Saint Joseph's University</b> <b>Beirut, Lebanon</b> <b>Master Degree in Renewable energy</b> , graduated in 2021 <b>Thesis Title:</b> "Hierarchized Hybrid Model Predictive Control for Energy Management in Building". <b>Relevant Courses Taken:</b> Wind, Solar, Photovoltaics, Hydrolytic, Biomass energy, Energy storage, Evaluation of a Project, Energy efficiency, Green buildings, Modeling of Optimum Thermal System.
From 09/2015 to 1/2020	 <b>American University of Beirut</b> <b>Beirut, Lebanon</b> <b>Bachelor Degree in <u>CIVIL Engineering</u></b> , graduated in 2020 <b>Final year project:</b> "A new beginning for Australia Street" <b>Award:</b> Unite Lebanon Youth project Scholarship student (Donor: Dar el Handash) <b>Relevant Courses Taken:</b> Construction Scheduling, Construction management, Highway Engineering, Pavement Engineering, Environment Sustainable Renewable Energy Sources, Surface Water Quality Modeling & Management, Engineering Hydrology.

### EXPERIENCE

From 04/2021 to 08/2021 (4 months)	<b>LU_USJ program</b> <b>Beirut, Lebanon</b> <b>Position held:</b> Research Assistant <ul style="list-style-type: none"><li>❖ Performed literature reviews.</li><li>❖ Conducted research, analyzed data, did modeling and summarize findings.</li><li>❖ Attended international conference meetings.</li></ul>
From 08/2020 to 11/2020 (3 months)	<b>Al-Reayya NGO Assembly</b> <b>Beirut, Lebanon</b> <b>Position held:</b> Site Civil Engineer <ul style="list-style-type: none"><li>❖ Supervised the maintenance programme in the Area and reports on progress.</li><li>❖ Conducted comprehensive technical surveys of buildings, installations and infrastructure to infer maintenance requirements, priorities and quantities for maintenance contracts.</li><li>❖ Conducted periodic routine inspections of buildings, installations and infrastructure to take necessary action in the case of essential maintenance.</li><li>❖ Followed up volunteers' data entry on daily basis.</li></ul>
From 01/2020 to 06/2020 (6 months)	<b>Pitch worthy Organization with Safari Challenge</b> <b>Beirut, Lebanon</b> <b>Position held:</b> Mentor <ul style="list-style-type: none"><li>❖ Advised the mentees on how to accomplish their goals.</li><li>❖ Provided guidance and help to increase mentee's exposure to new experiences.</li><li>❖ Provided a safe environment in which mentee could make mistakes without losing credibility.</li></ul>

**From 05/2018 to 07/2018  
(3 months)**

- ❖ Enhanced the mentee's self-esteem through supportive, non-judgmental discussions.

**Dar el Handsah**

**Beirut, Lebanon**

**Position held: Internship (Structural Department)**

- ❖ Designed a water tank in Dubai area by determining loads, reinforcements, and checking shear.
- ❖ Designed the surface of a culvert after studying all the critical cases and checked load combinations of the culvert according to ASHTO.
- ❖ Designed the culvert on SAFE program after an intensive revision for SAFE then checked reinforcements and results with excel sheets.
- ❖ Designed the walls of the culvert on SAPP program.
- ❖ Designed the raft of the culvert on Safe.
- ❖ Designed the columns of the culvert using SP columns program.
- ❖ Checked the overturning, sliding and bearing capacity of a retaining wall.
- ❖ Identified the forces, overturning moments, factor of safety and finally the reinforcements of the retaining wall.
- ❖ Worked with pre-stressed concrete aiming to identify the diameter of the jacking, transfer and service PT bars after checking the forces and the properties of the section already given.
- ❖ Calculated the total stresses at top and bottom after placing PT to check them with the limits in ACI code.
- ❖ Introduced to CSI bridges program.
- ❖ Corrected a whole building by checking slabs thicknesses and columns dimensions to add newly designed beams where needed in all the floors and then use ETABS program to check the corrected building after its final design.

**From 10/2017 to 12/2017  
(3 months)**

**Eng. Abed el Ghani's office**

**Beirut, Lebanon**

**Position Held: Trainee**

- ❖ Adjusted current drawings and recommend changes based on their understanding and knowledge of the project.

## **List of Publications**

**From 03/2021 to 07/2021**

- ❖ M. Ahmad, N. Moubayed, "A Comparative Review of Energy Management Controllers in Building," 3ICT, International Conference on Innovation and Intelligence for informatics, computing, and Technologies, 29-30 September 2021 – Bahrain, accepted.
- ❖ M. Ahmad, N. Moubayed, "A Review of Model Predictive Control Strategy for Managing Building's Energy," 3ICT, International Conference on Innovation and Intelligence for informatics, computing, and Technologies, 29-30 September 2021 – Bahrain, accepted.
- ❖ M. Ahmad, N. Moubayed, "From Model Predictive to Hierarchized Hybrid Controller for Energy Management in Buildings," IEEE IMCET, 3rd IEEE International Multidisciplinary Conference on Engineering Technology, 8 to 10 December 2021, Beirut, Lebanon, Submitted.
- ❖ M. Ahmad, N. Moubayed, "Enhancement of Hierarchized Hybrid Model Predictive Control", energies, Energy and Buildings section, to be submitted.

## **SKILLS**

**Languages:** Fluent in English and Arabic (writing, reading and speaking).

**Computer Skills:** MS Word, Excel, PowerPoint, Access, Internet use, AutoCAD (2D & 3D), MATLAB, C++, Visual Basic, ArcGIS, Digital theodolite, Leveling system, Global Positioning System (GPS), SAPP, SAFE, ETABS, Revit, CSI bridge, SP columns, Design builder and Primavera p6.

**Research Skills:** Data collection, Data Analysis using excel, publications for papers and journals.

**Technical Skills:** Surveying, Procurement and Scheduling.

**Soft Skills:** Leadership, Communication, Team Building, Organizational, Management and Public Speaking.

**Thank you ☺**