Exponent®
Engineering & Scientific Consulting

Rawad Makhlouf

Associate | Construction Consulting
Oakland
+1-650-268-5036 | rmakhlouf@exponent.com

Professional Profile

Mr. Makhlouf is a member of Exponent's Construction Consulting Practice, specializing in managing cost, schedule, and risk variables across various construction projects. His previous experience spans the preconstruction and postconstruction phases for heavy infrastructure, commercial, and utilities projects.

Prior to joining Exponent, Mr. Makhlouf served as a project engineer for an engineering consulting firm on projects across the Gulf region in the Middle East. He was part of the project management team for the Shura Island Red Sea Development projects, managing contract values ranging from $75 million to $600 million. His duties included developing construction execution plans, creating constructability reports, updating schedules using P6, and conducting earned value analysis to ensure the projects stayed on time and within budget. Additionally, Mr. Makhlouf was involved in dispute resolution projects, where he handled change orders and time impact analysis.

He earned an M.S. in Engineering and Project Management from the University of California, Berkeley, CA, focusing on lean construction and supply chain management, the development of scheduling tools, environmental life cycle assessments, and construction law. He also received a Bachelor of Engineering in Civil Engineering from the American University of Beirut, emphasizing transportation economics and infrastructure.

Academic Credentials & Professional Honors

M.S., Civil and Environmental Engineering, University of California, Berkeley, 2024

B.Eng., Civil Engineering, American University of Beirut, Lebanon, 2022

Academic Appointments

Graduate Student Instructor, Mechanical Engineering, UC Berkeley, 2024

Graduate Student Instructor, Civil and Environmental Engineering, UC Berkeley, 2023

Prior Experience

Project Engineer, Dar Al-Handasah, 2022-2023

Consultant, Mindsets Strategy & Decisions Consulting, 2021

Research Assistant, American University of Beirut, 2020-2022

Publications

Pedestrian-oriented development in Beirut: A framework for estimating urban design impacts on pedestrian flows through modeling, participatory design, and scenario analysis Cities, Volume 149, June 2024

Improving Walkability in Beirut: An Approach Using Pedestrian Modeling, Participatory Design, and Scenario Analysis SSRN, 31 October 2023

Project Experience

Preconstruction Services

- Prepared tender documents for various projects while working with FIDIC contracts, including the Silver and Red Books.
- Collaborated closely with clients to draft contracts and allocate risk between involved parties.
- Conducted comprehensive technical and commercial tender evaluations.
- Developed a well-defined scoring system accounting for all technical and commercial criteria used to assess contractor competency.
- Reviewed contractor submissions and compared their qualifications to the criteria.

Project Controls

- Developed baseline schedule plans using Primavera P6 and contributed to weekly updates.
- Tracked schedule plans and performed risk analysis to proactively resolve critical path and network logic conflicts. Implementing data analysis tools on construction projects for general contractors to track costs and inventory.
- Provided detailed cost breakdowns for a solar power plant project, covering materials and associated facilities, based on project specifications.
- Successfully delivered this project on time.

Dispute and Claim Support

- Assisted in preparing claims by thoroughly analyzing contract documents and field reports.
- Actively participated in a claim resolution workshop for a Design-Build project in Saudi Arabia with a contract value of $60 million.
- Contributed by presenting key unresolved claims and maintaining a comprehensive log to track their status and value.
- Created a change order analysis log for Saudi Arabia's largest contractor, documenting and analyzing over 20 change orders exceeding a total value of $30 million.

Data Analysis

- Conducted data analysis, data consolidation, and spatial analysis using Python and Rhino for pedestrian network modeling in Beirut city.
- Developed detailed spatial maps leveraging GIS as a powerful tool for data visualization.