

# Karim Kayal

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## Experience

Dar Al-Handasah, Structural & Bridge   Engineering Intern	6-7/2025
<ul style="list-style-type: none"><li>Assisted in the Kuwait International Airport Expansion project and other ongoing works, preparing column and beam schedules for ~30 columns and ~120 beams under senior engineer supervision.</li><li>Developed and verified structural models using SAFE, ETABS, and SAP2000, applying load patterns and combinations to meet design standards.</li><li>Gained field exposure through site visits, engaging with construction practices, material testing, and safety procedures.</li></ul>	
Westwood Valley Eco-Village	10/2024
<ul style="list-style-type: none"><li>Designed and built an eco-village in Zahle using sustainable materials such as rammed earth alongside interns and volunteers around the world.</li></ul>	
Beekeeping business Co-Founder (Golden Hive)	10/2023-10/2024
<ul style="list-style-type: none"><li>Co-founded a sustainable beekeeping business, managing hive setup, honey harvesting, and daily operations.</li><li>Collaborated with local farmers, gaining insights into sustainable agriculture and developing project management skills.</li></ul>	

## Projects and Personal Development

Research Assistant – Plastic Waste Integration in Concrete Blocks	01-05/2025
<ul style="list-style-type: none"><li>Conducted ATR analysis to identify plastic types and additives in waste retrieved from Byblos coast, supporting integration into concrete mixtures.</li><li>Assisted in structural and leaching tests to optimize plastic-to-cement ratios and assess durability under acidic conditions.</li></ul>	
VIPP Research, American University of Beirut (AUB)	09/2024-05/2025
<ul style="list-style-type: none"><li>Assisted in laboratory procedures focused on water and sludge testing, processing, and biological water treatment using bacteria.</li><li>Collaborated with PhD and master's students to achieve research goals, gaining hands-on experience in environmental engineering techniques.</li></ul>	
Nahr Beirut Restoration Project – Beirut 2030 Initiative	01-05/2025
<ul style="list-style-type: none"><li>Reviewed studies and survey data on Beirut River pollution, identifying key pollutants and suggesting solutions such as aeration and reed bed bioremediation.</li><li>Collaborated with NGOs, including “Greenpeace MENA” (featuring the project) and “The Other Dada”, to enhance outreach and support implementation prospects while being part of IDEAS 2025.</li></ul>	
Interlocking Concrete Block Design Project	02-04/2024
<ul style="list-style-type: none"><li>Designed 3D-printed prototypes for an interlocking concrete block system and developed molds using concrete mixtures with recycled additives.</li><li>Conducted strength and durability testing on interlocking blocks for structural applications.</li></ul>	

## Extracurricular and Volunteering

Volunteered with Farah Al Ataa in Basta, Beirut through ASCE student outreach, helping reinforce and restore war-affected residential buildings.

Volunteered at a nursing home Dar-al-Aajaza, assisting mentally and physically disabled residents with mobility exercises, communication practice, and daily healthcare routines.

Member of the “ASCE club” and the “ESS club” at the American University of Beirut.

Member of the varsity Handball team at the American University of Beirut.

Member of the Mar Elias 1st division Handball team.

<b>Skills</b>	<b>Education</b>
AutoCAD, Revit, SAP2000, Civil 3D, SAFE, ETABS, Sustainable Design, Surveying, Java, Python.	American University of Beirut2023 – PresentBachelor of Engineering in Civil and Environmental Engineering
<b>Languages</b>	Rawdat al Fayhaa Secondary School2007 – 2022Lebanese Baccalaureate in General Science
Arabic: Native tongue   English: Fluent French: Limited working proficiency	