

Joseph Abi-Karam

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Education

University of Illinois Urbana Champaign
Bachelor of Science in Engineering Physics
Minor in Atmospheric Sciences

August 2021 - May 2025
GPA: 3.67/4.00 (Grainger Engineering James Scholar)

Skills:

Technical: Python, Microsoft Excel
Non-technical: Project leadership, Social media management
Languages: French (native), Arabic, English

Coursework: Synoptic Dynamics Weather Analysis, Introduction to Computer Science, Thermodynamics, Introduction to Quantum Physics, Special Relativity and Math Applications

Work experience and research

CDDS (Climate Dynamics and Data Science) Research Group
Climate/Renewable Energy Researcher

January 2022-Present

- Assessing the complementarity of wind and solar energy using climatological datasets

Meteorology department of Beirut International Airport
Intern

March 2019

- Analyzed meteorological models such as GFS, ECMWF
- Assisted the director in the making of the daily forecast
- Understood the interconnection between the meteorology department and the aviation department

Activities and leadership

Engineers Without Borders, UIUC Chapter

September 2021 - Present

Project Lead, Hopkins Park Wastewater Treatment Plant Rehabilitation Project

December 2021 - Present

- Leading a team of 15 students in developing plans to rehabilitate a wastewater treatment plant in Hopkins Park, IL
- Presided over the research process to evaluate the efficacy of existing designs and consider alternative systems and technologies for pipes and valves and the lift station ahead of a re-assessment trip to the village in October 2022
- Coordinating with multiple stakeholders including the local community leaders, non-governmental organizations and field experts to facilitate progress of the project

Weather forecasting & climate research (Lebanon)

September 2017 - Present

- Analyzing meteorological models (GFS, ECMWF, GEM) to build my own weather forecast
- Sharing my forecast on social media on a daily or weekly basis (WhatsApp Broadcast, @weather.lb Instagram Page)
- Assessing effects of topography on Lebanon's climates and microclimates using existing climatological data
- Assessing effects of climate change on Lebanon's climate using existing climatological data
- Incorporating weather data into Excel spreadsheets and comparing them to seasonal averages
- Participated and presented in Lebanon Weather Forecast's seminars

Math and physics volunteering tutoring (Lebanon)

May 2020 - June 2021

Tutored younger students for their Brevet (9th grade) math and physics exam, the official exam in Lebanon before entering high school

- Covered previous and practice official exams available on the government website
- Referred my students to the best online resources I could find to consolidate their knowledge