

MEHIDINE BACHACHE

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EDUCATION

Lebanese American University

BS Computer Science *GPA: 3.55*

Beirut, Lebanon

Sep 2019 - May 2022

Rafic Hariri High School

Lebanese Baccalaureate Life Sciences *GPA: 3.0*

Saida, Lebanon

WORK EXPERIENCE

LiveRoute

Cloud Consultant Intern

Beirut, Lebanon

Nov 2021 - April 2022

- Implementation and Delivery of Microsoft Azure projects.
- Documentation of solutions (e.g. architecture, configuration and setup).
- Analyzing and advising on cloud services.
- Testing and improving solutions.
- Assessing and explaining technical requirements

Lebanese American University

Algorithms and Data Structures tutor

Beirut, Lebanon

Sep 2021 - Jan 2022

- Assisting students with course material
- Providing more explanation when needed
- Helping students to solve coding problems

SKILLS

Computer Skills:	Knowledge and practice of Microsoft Office Apps, Linux, Bash commands, Google Firebase, MySQL
Development:	Java, C, C#, Javascript, HTML5, CSS, Python, SQL
Interpersonal Skills:	Collaboration, Teamwork, Strong communication skills, Leadership, Highly motivated, Problem-solving
Languages:	Arabic, English, French

PROJECTS

Covid - 19 Detection using X-ray images with assist of federated learning and a trust model

Python, Federated TensorFlow, Kaggle, Several Python Libraries Link will be available when the paper is published

The aim of the research was to develop a federated learning approach to help detect Covid - 19 presence by using X - ray images. To simulate real world scenarios, this approach was updated with a data poisoning algorithm that will poison the data of random clients and then will help detect the faulty Clients using our own FLDTrust algorithm.

Parallel implementation of Conway's game of life C, OpenMpi

As each cell in the grid is updated once per generation depending on the state of its 8 neighbors in the generation beforehand. Thus, the transition (or update) function of each cell is independent of any of the other cells in its current generation and can be computed separately. We used the data parallelism approach, in which you divide the problem into independent but non-unique subproblems and assign each subproblem to a processor where the only difference between one subproblem and the other is the data being inputted. A popular specification of this approach is called the Message Passing Interface (MPI).

Airport Database Management System SQL, Oracle, LucidChart to visualize the ER diagram with relationships and mappings

The database system of the airport that we designed considers the main and viable airport objects of operations, including airlines, shipping companies, passengers, luggage, packages, airplanes, and concepts such as flights and tickets. The database system deals with complex relationships between different entities such as an airline has airplanes, passengers pay tickets and has luggage, flights are on specific airplanes that are maintained by technical service providers. Shipping companies handling different types of packages and departments have hundreds of employees. To maintain the integrity of the database and ensure consistency, we have set constraints to prevent any violation to the integrity of the database. We have found use of all of the standard constraints, including but not limited to Domain constraints. Tuple Uniqueness constraint. Key constraint. Entity Integrity constraint and Referential Integrity constraint. Those constraints were important to preserve the database integrity, records such flights, airplanes, passengers need to remain distinct and make a unique combination when related to each other.

Unix Shell C

<https://github.com/Mehidine1/Unix-Shell>

The G23shell implemented process creation by the use of the fork system call, where we forked a child to have the user input the data, and then this data was compared to what our shell has to offer. If the data matched one of our methods, exec function was called and its result was communicated to the parent using pipes which then parsed the result into a string and printed it on the shell. Pipes were also used for commands with pipes inside them, where the output of one command is the input of the next one. Shared memory was also used to keep track whether the processes should break from the infinite while loop and terminate the program if the exit command was executed. Thus, the concepts of inter process communication and process creation were used heavily to implement phase 1.

Various Projects *Java, Android Studio, C#, Unity*

<https://github.com/Mehidine1>

Various projects were implemented for the mobile development and gaming development courses.

Fundamentals of Deep Learning, NVIDIA deep learning institute workshop *Python, NVIDIA accelerated GPU server*

Credential ID: 595b18930daa4047a6fc417b6c44a439

This workshop helped me learn the fundamental techniques and tools required to train a deep learning model, gain experience with common deep learning data types and model architectures, enhance datasets through data augmentation to improve model accuracy, and leverage transfer learning between models to achieve efficient results with less data and computation.

AWARDS

MEPI Tomorrow's Leaders Gender Scholars Program

MEPI

The program includes a full year scholarship at LAU under the condition of taking a Gender Series of courses that consists of multidisciplinary sets of problems relating to national, regional and global issues around Gender and its manifestations in the social, economic, political and cultural lives.

Fall 2020

Distinction List

Lebanese American University
Spring 2021, Fall 2021, Spring 2022