Mohammad Chahine

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EDUCATION

2020 - 2024   **American University of Beirut - AUB**   BEIRUT LEBANON
BENG CCE - Bachelor of Engineering in Computer and Communications Engineering
Focus Areas: Software Systems, Cyber Security, Algorithms & Data Structures
Minor: Business Administration

2012 - 2020   **American Community School - ACS**   BEIRUT LEBANON
International Baccalaureates (IB) Diploma
Focus Areas: Mathematics, Physics and Economics (all IB courses High Level)

2007 - 2012   **Mountain Elementary School**   VANCOUVER, BC CANADA
Canadian Public School

EXPERIENCES

2023
6 mo   **Intern - Yale School of Medicine**   NEW HAVEN, CONNECTICUT USA
- Contributed to the Bridge2AI Program at Yale School of Medicine's Digital Health Lab, aimed at leveraging artificial intelligence to address complex medical issues and expedite medical breakthroughs.
- Spearheaded the integration of Amazon Web Services and C# ASP.NET web applications to develop cutting-edge bots, enhancing communication channels for individuals seeking medical assistance.
- Played a pivotal role in building advanced AI architectures within the program, demonstrating proficiency in harnessing technology to improve healthcare accessibility and efficiency.

2023
2 mo   **Intern - Dimtech Financial Services Headquarter**   PARIS FRANCE
- Contributed to financial research and stock market analysis as an intern under the guidance of experts in the field.
- Utilized Python and artificial intelligence tools to support decision-making processes within the tea
- Collaborated with the software development department to develop a pair arbitrage trading strategy, applying statistical analysis and integrating neural network principles into deep learning techniques.

2022 - 2023
2 yrs   **Information Technology Support Technician - AUB**   BEIRUT LEBANON
- Key member of the Information Technology Department at the American University of Beirut, offering technical and system support to end users.
- Monitor daily operational activities of computer systems and address technical requests from various departments.
- Identify and advise on system operational and software issues, ensuring smooth functioning of IT infrastructure.

PROJECTS

2023 - 2024
1 yrs   **MediCare: Enhancing Patient Management with Predictive Analytics**   BEIRUT LEBANON
Final Year Project
- Developed machine learning algorithms to tackle hip fracture mortality, focusing on the older adult population, using data from the US NSQIP database.
- Created predictive models to assess 30-day mortality risk post-hip fracture surgery, leveraging patient data and medical variables.
- Designed a user-friendly web application for medical staff to access and utilize the predictive models conveniently.

2023   **Detecting Driver Drowsiness**   BEIRUT LEBANON
Machine Learning Project
- Developed and implemented a machine learning program for drowsiness detection in vehicle drivers, utilizing TensorFlow and Keras libraries in Python.
- Analyzed over 1,000 images of eyes and mouths to identify prominent facial features indicative of drowsiness.
- Implemented two algorithms: a custom model built with convolutional neural networks and another utilizing the VGG19 architecture, enhancing accuracy and robustness of the detection system.

2023   **E-commerce website - Car Dealership**   BEIRUT LEBANON
Full stack Development Project
- Developed a comprehensive E-commerce website from scratch using React JS, Node JS, Express JS, and MongoDB, showcasing strong full-stack development skills.
- Implemented various user-centric features including user authentication, user data storage, and interactive browsing and booking functionalities for cars, complete with email notifications for appointment management.
- Designed an admin interface with functionalities for inventory management, sales statistics visualization through tables and graphs, demonstrating proficiency in backend development and data presentation.

2022   **Peer-to-Peer Message Application Project**   BEIRUT LEBANON
- Developed a messaging application (text and files) using Python, implementing TCP reliability as well as testing for packet loss.

2022	**Cyber Security Project Algorithms**	BEIRUT LEBANON

- Spearheaded the development and implementation of diverse encryption/decryption algorithms including DES, AES, Affine, Vigenère, Playfair, and Hill for the Cyber Security Project at the American University of Beirut.
- Demonstrated proficiency in coding and preparing algorithms in both C++ and Python, showcasing versatile programming skills.
- Contributed valuable expertise to enhance cybersecurity measures within the Engineering Department, underscoring a commitment to advancing digital security.

RESEARCH EXPERIENCE

2021	**Road Traffic Safety Research Study - Save The Children**	BEIRUT LEBANON

Observed road users, collected data and managed the database for the road safety research study in Lebanon funded by Save the Children. This study aims at evaluating the compliance of road users with safety measures in Lebanon.

2021	**Syrian Refugees Health Research Study - Harvard Medical School**	BEIRUT LEBANON

Participated in data entry and data cleaning and management for the Syrian Refugee Health research study at AUB in collaboration with Harvard Medical School, Boston. The study aims to assess the health needs of the refugee community in Lebanon for an ultimate provision of health care services.

2020	**Order of Malta Awareness Campaign**	BEIRUT LEBANON

Organized a project at the American Community High school with the aim to help raise awareness and collect donations for the Order of Malta Awareness Campaign, an association that cares for children and adults with disabilities in Lebanon.

2018	**Children Cancer Center of Lebanon (CCCL) St. Jude Children's Research Center**	BEIRUT LEBANON

Volunteered at the Children Cancer Center of Lebanon (CCCL), an affiliate of St. Jude Children's Research Hospital, Tennessee, that provides treatment and care for children with cancer. I was involved in activities related to organizing the center files and documents, supporting with administrative work as well as engaging children in entertainment activities that alleviate their sufferings and boost their mental health.

AWARDS

2024	**1st Place - ECE FYP Exceptional Award [Artificial Intelligence and Machine Learning]**	BEIRUT LEBANON

Electrical and Computer Engineering Final Year Project

2024	**Nominee - Dean's Award for Creative Achievement**	BEIRUT LEBANON

Maroun Samaan Faculty of Engineering and Architecture - MSFEA AUB

PUBLICATIONS

2024	Trad, F., Chahine, M., Isber, B., Obeid, D., Hatoum, K., Chehab, A., El Hajj Fulleihan, G., (2024) 'MediCare: Enhancing Patient Management with Predictive Analytic' (in Progress)	BEIRUT LEBANON

EXTRA CURRICULAR

2021 - Pres	**Member - IEEE Club**	BEIRUT LEBANON
2022 - Pres	**Member - Game Development Club**	BEIRUT LEBANON
2022 - Pres	**Member - International Association Exchange of Students for Technical Experience**	BEIRUT LEBANON
2016 - 2018	**Member - Lego Robotics Club**	BEIRUT LEBANON

TECHNICAL SKILLS

TOOLS	ASP.NET web application, React JS, GitHub, Amazon Web Services, TensorFlow, Keras, Machine Learning & AI, Algorithms & Data Structures, Cryptography
SKILLS	C++, C#, Python, MySQL, java script, HTML, CSS, MATLAB PSpice, NI Multisim, VHDL, LabVIEW, Excel, Risc-V
INTERESTS	Big Data, Artificial intelligence, Programming

NATIONALITIES	Canadian, American, Lebanese
LANGUAGES	English (native), Arabic (native), French (basic)
HOBBIES	Playing Saxophone, Varsity Soccer, Travel, Reading History