

# MOHAMMAD LOAI AL-SHASH

COMPUTER AND COMMUNICATIONS ENGINEER

Beirut, Lebanon

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## EDUCATION

Rafik Hariri University	Mechref,Lebanon	2020-2024
Bachelor Of Engineering in Computer and communication engineering		CGPA = 91.98
<ul style="list-style-type: none"><li>Coursework in: Computer Science, Computer Engineering, Communications, Electronics, Mathematics.</li></ul>		<ul style="list-style-type: none"><li>President honor list</li></ul>

## WORK EXPERIENCE

<ul style="list-style-type: none"><li>Vanrise- Internship</li></ul>	July 29, 2024 - Sep 12, 2024
<ul style="list-style-type: none"><li>An intensive six-week program providing hands-on experience in full-stack web development and database management. Focused on practical skills in key technologies like JavaScript, HTML, CSS, Bootstrap(UI-bootstrap modal), AngularJS, C#, ASP.NET MVC, and MSSQL.</li><li>Implemented CRUD operations using ADO.NET and connected front-end interfaces to a robust back-end API.</li><li>Created search grids, modal dialogs for data entry, and reusable AngularJS directives along with loader and drill down features for efficient UI development.</li><li>Gained practical understanding of layered architecture, supporting scalability and separation of concerns in application design.</li><li>Built real-world applications translating business requirements into functional software solutions, such as data-driven reports and interactive client reservation systems.</li></ul>	
<ul style="list-style-type: none"><li>DLOC - Web Developer Freelance</li></ul>	Dec 25, 2023 - May 5, 2024
<ul style="list-style-type: none"><li>Development of an ERP system utilizing HTML, CSS, JavaScript, jQuery, and PHP.</li><li>Utilized MySQL as the backend database solution to store and manage data effectively within the ERP system architecture.</li><li>Facilitated direct communication with the client to understand the requirements and oversee the implementation of tailored features within the ERP system.</li><li>Conducted thorough testing and bug detection to ensure the reliability and smooth functionality of the ERP system.</li></ul>	
<ul style="list-style-type: none"><li>Converged Network Solutions- CNS, member of ICC Group Internship</li></ul>	June 1, 2023 - July 31, 2023
<ul style="list-style-type: none"><li>Engaged with instructional materials provided by CNS Company to gain foundational knowledge in networking and cybersecurity concepts.</li><li>Executed packet tracer labs to reinforce theoretical learning and develop practical skills in network configuration and troubleshooting.</li><li>Developed a clearer understanding of the networking domain through practical application and project-based learning during the internship.</li></ul>	
<ul style="list-style-type: none"><li>Jaber Consulting</li></ul>	May 26, 2023 - June 25, 2023
<ul style="list-style-type: none"><li>Internship in Machine Learning</li><li>Completed a project on creating a machine learning model for drug classification that classify drugs into different medical use categories based on their chemical composition names.</li><li>Employed different machine learning algorithms within the project: Linear Discriminant Analysis, Gaussian Naive Bayes, K-Nearest Neighbors, Support Vector Machine, Decision Tree, Random Forest, and Extreme Gradient Boosting.</li></ul>	



- **Lab Assistant at Rafik Hariri University**

May 2021 – May 2023

- Assistant for the RHU Logic Design lab, which involved designing sequential and non-sequential logic circuits and programming an FPGA with Verilog using the Quartus Prime software.
- **TV Repair Shop in Beirut**

June 2021 – May 2023

- Repairing TVs and Implemented a Database Management system to help managing the stock and tracking Customers’ TVs information.

## SKILLS & INTERESTS

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- **Programming**

- PHP, Python, C#, ASP.NET MVC,
  - HTML, CSS, JavaScript, Bootstrap,
  - MySQL,
  - C++, Verilog, MATLAB.
- **Computer-aided Design**

- Quartus Prime,
  - Packet Tracer,
  - Microcap,
  - MATLAB, Simulink,
  - Proteus, CST Studio Suite.
- **Cloud Computing**

- Microsoft Azure (Document Intelligence, Cognitive Search, Open AI services, Blob Storage, Cosmosdb)
- **Computing skills**

- MS Word,
  - MS Powerpoint,
  - MS Excel.
- **Communication skills**

- Strong verbal and written communication skills for conveying ideas effectively.
  - Active listening to understand and respond to others' perspectives and concerns.
  - Clear and concise technical documentation writing.
  - Ability to explain complex technical concepts to non-technical stakeholders.
- **Interests:**

Technology, Business, Football, Volleyball, Basketball, Table Tennis, Running, Movies and series, Gaming, Swimming.

## NOTABLE PROJECTS

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### 1. HR Assistant RAG-Based Chatbot on Azure:

- Developed a Retrieval-Augmented Generation chatbot using Python and Azure Cloud services for HR assistance.
- Integrated Azure Document Intelligence to analyze CVs, generate embeddings for the content of the CVs, and then index them using Azure Cognitive Search for efficient retrieval.
- Utilized Azure OpenAI Service for natural language understanding and generating accurate and coherent responses to user queries.
- Stored CVs PDFs in Azure Blob Storage along with Azure Cosmos DB to check for duplicate CVs.
- Added functionality for users to add new CVs or replace existing ones.

### 2. Final Year Project: DIANA (Smart Energy Management System):

- Developed a home automation system aimed at optimizing solar energy usage by intelligently redistributing the functionality of selected devices.
- Designed and implemented a deep learning model to predict solar power generation for the upcoming hours and across a four-day period.
- Analyzed historical data to estimate energy consumption, enhancing forecasting accuracy.
- Integrated a solution for selling surplus solar energy to other users within the system.
- Applied AI search techniques to identify optimal solutions for maximizing solar energy utilization.
- Engineered synchronization between solar power and alternative energy sources to ensure seamless functionality.
- Created a mobile application for user interaction, offering real-time insights and control options.



- 3. Full Stack Web Application about Pizza Restaurant** - Built using HTML, CSS, JavaScript, Bootstrap, jQuery, and PHP including admin CRUD operations for menue items, ordering process, and reviews.
- 4. Responsive Flight Booking Website** - Developed using HTML, CSS, JavaScript, jQuery, and Bootstrap.
- 5. Database Management System for TV-Customer Tracking .**
- 6. Database Management System for Lebanese Elections** - Designed and implemented with a GUI using C# and Microsoft SQL Server.
- 7. Twitter Stock Market Prediction Machine Learning Model** - Created a Naïve Bayes Natural Language Processing model in Python to predict stock market trends based on Twitter sentiment.
- 8. Sentiment Analysis Machine Learning Model** - Developed a Python-based machine learning model to categorize movie reviews as positive or negative.
- 9. MIPS32 Assembly Instructions Compiler** - Built a compiler in C++ for MIPS32 assembly instructions.
- 10. MIPS32 Pipeline Simulator with Intuitive GUI** - Created a pipeline simulator in C++ featuring a user-friendly graphical interface.
- 11. Serial Communication Implementation Using Custom Protocol** - Developed a system for encrypted/decrypted data transfer between an Arduino microcontroller and a Cyclone FPGA using a custom protocol.
- 12. MIPS32 Hardware Emulator** - Built on Cyclone FPGA using Quartus Prime.

## CERTIFICATES

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- **CCNA1** Networking Certification from CISCO'S Networking Academy.
- **CCNA2** Networking Certification from CISCO'S Networking Academy.
- **CCNA3** Networking Certification from CISCO'S Networking Academy.
- **Cisco Networking Security.**

## LANGUAGES

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- **Arabic:** Native.
- **English:** Fluent.