

Nader Bou Hamdan

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SUMMARY

A driven Mechatronics Engineer with a passion for Intelligent Systems and Technologies. Developed a comprehensive set of skills to create innovative and high-performance robotics and automation solutions. Seeking a role where I can leverage my technical skills and cooperative spirit to ensure successful completion of projects.

EDUCATION

Lebanese American University (LAU) – Byblos, Lebanon

September 2020 – December 2024

Bachelor of Engineering, Major in Mechatronics Engineering

EXPERIENCE

Ascend Solutions – Research Intern

Remote, USA

July 2024 – August 2024

- Conducted research on applying **Large Language Models** to medical topics, enhancing their ability to extract and analyze healthcare-related data.
- Fine-tuned and trained **3 Hugging Face models** as part of research efforts to improve medical insights.

Black Arrow Security and Systems – Engineering Intern

Doha, Qatar

July 2024 – August 2024

- Developed and successfully closed a sale for an audiovisual ceremony for the **top-ranked** school in Qatar.
- Provided technical support for audiovisual setup and maintenance at multiple sites such as **Qatar Energy**.
- Attended biweekly meetings with the **Deputy general manager** to review and follow up on projects' progress.

ITP Media Group – Full Stack Web Developer Intern

Beirut, Lebanon

June 2023 – August 2023

- Collaborated on the creation of an employee **task management portal**, developing the frontend using Angular.
- Optimized the portal by refactoring the SQL database and improving backend performance through **algorithm optimization** using Node.js and Express.js.

PROJECTS

Derma Cam

Fall 2024

- Developed a skin diagnosis system using EfficientNET and image analysis techniques.
- Utilized SolidWorks to design and prototype the camera movement.
- Implemented and coded the AI and Computer Vision models with PyTorch and OpenCV and processed images using MATLAB.

Automatic Bartender, B.O.T.Y

Spring 2024

- Engineered a conveyor belt with pump controls using **fuzzy logic** controllers implemented on MATLAB and Arduino.
- Designed a 3D-printed gripper on SolidWorks for a shaker to effectively mix beverages.

Robotic Sorting Arm

Fall 2023

- Designed the hardware of the robotic arm using SolidWorks for **precise** mechanical structure.
- Integrated Arduino and Raspberry Pi for seamless communication between computer vision systems using OpenCV and hardware manipulation.

SKILLS AND HOBBIES

Languages: Arabic (Native), English (Fluent), and French (Basic)

Computer skills: Python (OpenCV, Sklearn, PyTorch, Tensorflow), C++, Linux, Git, SolidWorks, MATLAB, Java, Angular (TypeScript, HTML), SQL, AWS, ROS, Docker, LabView

Hobbies: Chess, Hiking, Gaming

CERTIFICATIONS AND INVOLVEMENTS

Administration Officer, LAU Simulation Models (MUN, etc.) – Beirut, Lebanon

2021 - 2024

Second Placement, Engineering Student Design Competition – Byblos, Lebanon

2023

Participation, LAU Case Competition – Beirut, Lebanon

2022

CSWA, SolidWorks

2021