



Sofia El Hassanieh

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Education

Degree	Institution
Bachelor of Mechatronics Engineering	Balamand University

Technical Skills

Category	Skills
Programming	C++, Python, MATLAB, C#, JavaScript,PHP,Python,HTML,CSS
Hardware	DC Motors, Arduino, Raspberry Pi, PLC
Software	SolidWorks, AutoCAD, LabVIEW, Simulink, Unity
CODING PROJECTS	Game Development, Circuit Design, Microcontrollers, Mobile App Development
Control Systems	PID Control, ROS, Circuit Design, Stress-Free Analysis

Networking & Linux	IT & Networking (Cisco), Linux System Administration
Soft Skills	Teamwork, Independent Problem-Solving, Presentation Skills

Projects

- **Autonomous Line-Following Robot:** Developed using DC motors, Arduino, and sensors to navigate autonomously on a pre-defined path. Included PID control and path optimization algorithms.
- **Smart Home Automation System:** Designed a fully automated home system using Raspberry Pi, Arduino, and IoT protocols to control lighting, heating, and security systems.
- **Maintenance 2 Project:** Designing an alternator full circuit.
- **3D Printed Robotic Arm:** Designed and fabricated a robotic arm using SolidWorks and 3D printing techniques. Integrated Arduino and motors for control.
- **Vending Machine with Microcontroller:** Developed a microcontroller-based vending machine system that uses a coin acceptor, stepper motors for product dispensing, and a user interface for product selection(Proteus software)
- **Space Shooter Game:** Developed a full space shooter game using C# and Unity, including player movement, AI-controlled enemies, and dynamic level progression.

Experience

Role	Company	Years
Intern	AinWzein Hospital(Biomedical and Generators Training)	2023
PLC Programmer & Engineer	Cement filling Automation	2024-2025

Professional Experience

- **PLC and Robotics for Cement Sorting:** Worked with two companies to design and implement automated systems using PLCs to sort and fill cement into 6 tanks. The systems ensured optimal efficiency and zero errors in product distribution. (Unity Pro (Schneider Electric) –Zelio Soft2)

- **DC Motor and Mechanism Design:** Designed and tested multiple DC motor-based systems for various applications, including controlling rotation and speed through PWM signals and interfacing with controllers.
- **Electrical and Mechanical CAD:** Created detailed electrical and mechanical CAD drawings, showcasing the design of circuits and mechanical parts for engines and motors.
- **Simulink Models:** Developed models for electrical systems such as motor controllers and sensors using Simulink to simulate performance and troubleshoot issues before implementation.
- **Game Development (C#):** Developed a full space shooter game with advanced gameplay mechanics, player controls, and AI-based enemies using C# and Unity, integrating object-oriented programming practices and asset management.
- **Networking & IT Systems:** Hands-on experience with networking and system administration (Cisco, Linux).
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Certifications

- Certified Robotics Programmer
- PLC and Automation Systems
- Advanced Control Systems with Simulink
- Linux System Administration
- IT & Networking (Cisco)
- Mobile App Development without Coding
- Flutter Development (Coding)
- PLC & Automation Systems
- Advanced Control Systems with Simulink
- ROS (Robot Operating System) Development

ADDITIONAL SKILLS:

- Problem-Solving: Strong Problem-Solving and analytical skills.
- Teamwork: Ability to work in a team.
- Presentation skills: excellent presentation and documentation skills.
- Adaptability: Quick to learn new technologies and programming languages.