

Tala Khaddour

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EDUCATION

Manara University, Latakia, Syria *November 2020 – August 2025*
Bachelor of Science in Robotics and Intelligent Systems Engineering
Cumulative GPA: 3.28/4.00 | EQF Level

National Center for the Distinguished (NCD), Latakia, Syria *June 2020*
High School Diploma – Scientific Stream
Final Grade: 92.3% | Rank: 3/75 | EQF Level 4

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Python, Arduino, Java
- **Embedded Systems & Hardware:** Microcontroller Programming (Arduino, Raspberry Pi), Verilog-HDL, VHDL
- **Robotics & Control:** ROS (Robot Operating System), Control Systems (PID, Adaptive Control, PD Compensator), MATLAB/Simulink
- **Modeling & Design Tools:** SolidWorks, CATIA
- **Other:** Neural Networks in Python, NLP

RELEVANT COURSEWORK

- Embedded Systems & Microcontroller Programming
- Control Systems & Robotics
- Artificial Intelligence & Machine Learning
- Signal Processing & Dynamic Systems
- Computer Vision & Path Planning

EXPERIENCE

SANAD, Latakia, Syria *July 2022 – August 2023*
Coach – Robotics and Arduino Programming

- Coached students in LEGO robotics, Arduino, and path-planning.
- Handled computer maintenance and equipment setup.
- Mentored students on teamwork and problem-solving.

PROJECTS

Intelligent Trajectory and Control of a Hand Exoskeleton for Rehabilitation *April 2025 – August 2025*

- Designed a hand exoskeleton for rehabilitation with mirrored motion and stereo vision tracking
- Implemented adaptive control strategies (SMC, DMRAC)
- Applied sensor filtering (IIR, Butterworth) to enhance stability

Control of Hand Exoskeleton

September 2024 – February 2025

- Compared PD Compensator, PID-Inverse Dynamics, and DMRAC strategies for nonlinear joint control.
- Conducted real-time simulations and evaluated robustness to disturbances.

Hand Exoskeleton Design & Dynamic Modeling

February 2024 – July 2025

- Developed and simulated a rehabilitation exoskeleton.
- Integrated pose estimation models (SHG, Lite HRNet) and forecasting from EMG signals.

Design and Implementation of an Arabic NLP Model

December 2024

- Developed and fine-tuned an Arabic NLP model based on LLaMA architecture.

Generating Electricity Using Noise

December 2019 – June 2020

- Built a prototype using piezoelectric material to convert sound into electrical energy.

PARTICIPATION

World Robot Olympiad (WRO) – Future Engineers Category

July 2022 – Aug 2022

- Designed a computer vision robot for map-solving and obstacle avoidance.
- Placed **5th in Syria**.

Girls in AI Hackathon

March 2021

- Created an AI assistant prototype for doctor search and patient–doctor connections.
- Collaborated with international mentors, including UK experts.

VOLUNTEERING

Syrian Science Olympiad (Senior Category) – Coach

May 2023 – Dec 2023

- Guided students in math and problem-solving.
- Helped participants qualify for national/international competitions.

Distinction and Creativity Agency – Event Organizer

Dec 2017 – Apr 2024

- Helped organize educational/science events.
- Supervised participants and ensured smooth execution.

LANGUAGES

- **Arabic:** Native
- **English:** C1 (Listening, Writing, Reading)
- **French:** A2 (Basic User)