Hana BEN ALAYA

+216 90 792 688 Hana.benalaya@outlook.com www.linkedin.com/in/hana-ben-alaya/

Experience

ACTIIS TUNIS April 2025 – October 2025
Piping Flexibility Analysis Engineer *Tunisia*

- Performed flexibility studies and hydraulic analyses of piping networks using CAESAR II, in compliance with EN 13480 and ASME B31.3 codes.
- Modelled piping networks, conducted static and dynamic analyses for various load cases, and defined the support system.

WE MAKE 3D July 2024 – August 2024
Electromechanical Engineer *Tunisia*

- Designed a storage, drying, and heating box for filament using SolidWorks.
- Programmed a filament heating system using Arduino.

GEFTECH July 2023
Electromechanical Engineer *Tunisia*

- Studied and designed an aircraft turbine blade part using SolidWorks.
- Prepared a manufacturing process plan with G-code.

Les Ciments de Bizerte Feb 2022 – June 2022
Technician *Tunisia*

- Studied and designed a combined system including a pallet conveyor and a lifting table using SolidWorks.

Ennakel Automobile Jan 2020 – Feb 2020
Technician (Introductory internship) *Tunisia*

Projects

CNC Machine for Acoustic Foam Cutting | *G-code*, *ESP32*, *ISIS*, *Universal G-code Sender*, *SolidWorks*

- Created 3D models and simulations for a CNC machine designed to cut acoustic foam using SolidWorks.
- Implemented GRBL for CNC machine control, improving the precision of the manufacturing process.

Filament Drying and Heating Storage Box | *PlatformIO*, *ISIS*, *SolidWorks*

- Designed and simulated a 3D heated storage box for filament drying using SolidWorks.
- Developed electronic wiring diagrams using ISIS.
- Programmed the system with PlatformIO (Arduino) to maintain optimal drying conditions.

Certificates

SolidWorks Associate – Mechanical Design (CSWA)
Higher Institute of Technological Studies of Kairouan April 28, 2022
Applications of AI for Predictive Maintenance – NVIDIA
ESPRIT Private Higher School of Engineering and Technology, Tunis October 24, 2024

Technical Skills

Programming Languages: C, C++, Python, MATLAB, VHDL
Mechanical CAD: SolidWorks, AutoCAD, Plant 3D, Navisworks , CAESAR II
Electrical: PSIM, Proteus
Embedded Systems: ESP32, STM32CubeMX, Quartus, Arduino, Node-RED, Altium Designer, WINDEV
Industrial Automation: TIA Portal V16, Factory IO
ERP / Industrial Management: SAP

Education

Private Higher School of Engineering and Technology (ESPRIT) Tunisia
Electromechanical Engineering
Higher Institute of Technological Studies of Kairouan Tunisia
Advanced Technician in Mechanical Engineering