

Hana BEN ALAYA

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Experience

ACTIIS TUNIS

Piping Flexibility Analysis Engineer

April 2025 – October 2025

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

Electromechanical Engineer

July 2024 – August 2024

Tunisia

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

GEFTECH

Electromechanical Engineer

July 2023

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)

April 28, 2022

Higher Institute of Technological Studies of Kairouan

Applications of AI for Predictive Maintenance – NVIDIA

October 24, 2024

ESPRIT Private Higher School of Engineering and Technology, Tunis

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