



MALKI KAWTAR

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PROFILE

Mechanical Engineering student specializing in Structures and Product Engineering, I have advanced skills in design, simulation and analysis of mechanical systems. Passionate about technological innovation and solving complex problems, I am looking for an **end of studies internship for a duration of 4 to 6 months starting from February 2026.**

PROFESSIONAL EXPERIENCE

End-of-year Project Internship : Tuyauto automotive equipment supplier July 2025 - September 2025

Risk assessment of production change from aluminum to steel on PR28 630T mechanical press:

- Led a process FMEA targeting the wear of machine rollers impacting aluminum cooling plates for vehicle batteries.
- Proposed, evaluated material-based solutions and developed an improvement plan.
- Performed techno-economic analysis to assess and prioritize investment options for quality and performance enhancements, achieving a payback period of 2.5 years.

Introductory Internship: ONCF- Equipment Division

July 2024 - August 2024

Discovery of rolling stock maintenance activities and railway industrial operations:

- Observed traction motor and axle assembly maintenance, learning about mechanical and electrical diagnostics.
- Gained practical insight into alignment, pressure testing, and troubleshooting procedures in a railway environment.

PROJECTS

Design study of a centrifugal press

February 2025 - June 2025

- Synchronization of two motors via an epicyclic gear train, design and modeling in Catia V5 and finite element analysis. Mechanical dimensioning and functional validation. Application of the TRIZ method for functional optimization.

Design and manufacturing of a wind turbine blade mold

February 2025 - June 2025

in polyester resin and fiberglass.

- Study of the geometry of a wind turbine blade and mold production. CAD modeling, structural and aerodynamic study.

Aerodynamic and structural analysis of a battery electric vehicle

October 2024- February 2024

- Numerical simulation (CFD and finite element analysis) for aerodynamic optimization and structural validation of an automotive chassis. Study of performance, stability and safety.

Design and dimensioning of an electric cable winding machine

February 2024 - June 2024

- Functional and kinematic analysis, design of the drive and guidance system. Transmission calculations (gears, shafts, bearings) according to ISO standards.

Design and dimensioning of a translation cart for machining unit

October 2023-February 2024

- Design and modeling of a linear displacement system. Complete mechanical study with dimensional validation.

EDUCATION

ENSAM Meknès – Arts et Métiers National School (University Moulay Ismaïl)

- Mechanical Engineering, Structures and Product Engineering - Engineering Degree Program In progress

Manarat Al Firdaous High school

- International Baccalaureate International Sciences Physiques - Highest Honors 2020

SKILLS

- **CAD Software / 3D Modeling :** Catia V5, Solidworks.
- **CAE Calculation and Simulation :** Ansys , Abaqus , RDM6, Robobat.
- **Environmental Analysis :** OpenLCA.
- **Programming :** C/ C++ , Python.
- **Office Software :** Pack Office (Word, Excel, PowerPoint)
- **Languages :** French-fluent , English-fluent , Arabic- native language.

CERTIFICATES

- Fundamentals of Computer-Aided Engineering - ESS Institute .
- Single Phase Single- Phase Pipe Hydraulics and Pipe Sizing - L&T EduTech Coursera.
- Fundamentals of Fluid Power - University of Minnesota Coursera.
- Lean Six Sigma Yellow Belt -European Center for Leadership and Entrepreneurship Education - ECLEE. .
- FEA: convergence and mesh independence - Coursera Applied Project .

INTERESTS

Extracurricular experiences :

- Editor-in-chief for Club Ensam Express
- Debater (Agon-ISCAE , Invictus ENCGF)

Hobbies:

- Reading books
- Exploring visual and literary arts