Abderrahmen Hamdi

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Education

- **National School of Engineers of Tunis** — Tunis, Tunisia
  Research Master in Industrial Engineer - Specialization in Industry 4.0 — *2022 - 2023*
- **Aviation School of Borj El Amri** — Manouba, Tunisia
  Mechanical Engineering Degree — *2017 - 2020*
- **Aviation School of Borj El Amri** — Manouba, Tunisia
  Preparatory Cycle for Engineering Studies - Physics and Technology — *2015 - 2017*

Skills Summary

- **Technical Skills:** Computer-Aided Desing (CAD), Computational Fluid Dynamics (CFD), Finite Element Analysis (FEA), Rapid Prototyping, 3D Printing
- **Software Tools:** CATIA V5, SOLIDWORKS, ANSYS, Abaqus, MATLAB, Excel
- **Industry Knowledge:** Product Development Lifecycle, DFMA, Manufacturing Processes, Maintenance procedures, HSE standards, Technical Documentation
- **Programming Languages:** Python, C++, VBA
- **Soft Skills:** Problem-Solving, Technical Communication, Project Management, Adaptability and Continuous Learning

Experience

- **Tunisian Air Force Research Center** — Bizerte, Tunisia
  Mechanical Design Engineer — *April 2024 - Present*
  - Designed and developed mechanical components and structures for UAVs.
  - Enhanced manufacturability, reduce weight, and improve assembly efficiency of parts.
  - Conducted prototyping and testing to validate design performance under real-world conditions.
  - Prepared technical documentation including reports, test procedures, and user manuals.
- **Turkish Aerospace Industries** — Ankara, Turkey
  Aeronautical Engineer — *March 2023 - April 2024*
  - Collaborated with a cross functional team to design and develop a UAV prototype.
  - Gathered and analyzed data on various UAVs to estimate the initial sizing and the aircraft weight (MTOW).
  - Conducted CFD analysis to optimize the aerodynamic efficiency.
  - Assessed and improved the UAV stability.
  - Prepared technical reports and presentation justifying key conceptual design decisions.
- **Tunisian Air Force Bell OH-58 Helicopter Unit** — Gabes, Tunisia
  Aircraft Maintenance Engineer — *September 2020 - March 2023*
  - Scheduled and coordinated maintenance operations to ensure the operational readiness of aircraft.
  - Collaborated with technical teams to troubleshoot, diagnose, and resolve mechanical and electrical issues.
  - Oversaw maintenance operations to ensure compliance with safety regulations and standards.
  - Ensured proper documentation and records for all maintenance activities.
  - Managed inventory of spare parts and materials, ensuring stock availability to support maintenance activities.

Projects

- **Carriable Anti-Drone Jammer Case and Pistol Design:** Designed a portable sheet metal case ensuring component protection and ventilation. Designed a CNC-machined jammer housing in POM-C. Optimized internal layout (RF module, battery, antenna) for accessibility and weight balance.
- **Quadcopter Design:** Performed initial sizing based on mission and payload requirements. Selected engines and propellers for optimal thrust and efficiency. Fabricated the quadcopter frame and component mounts using CNC machining and 3D printing. The system was assembled and tested to validate flight performance.
- **Target Drone Design:** Designed and developed a target drone for testing and training. Used lightweight, cost-effective foam shaped via hot wire cutting, with the overall structure reinforced using glass fiber. Integrated compact avionics and control systems to ensure flight stability.

Certifications

- **SOLIDWORKS CAD Design Expert Certificate** 2025
- **SOLIDWORKS Simulation Professional Certificate** 2025
- **SOLIDWORKS Flow Simulation Professional Certificate** 2026
- **SOLIDWORKS CAM Professional Certificate** 2025
- **Google Project Management Certificate** 2023