Mohamed Amine Affes
Electromechanical Engineer

📱 +4915147367055   aminmedaffes@gmail.com   🏠 Leipzig,Germany

in mohamed-amine-affes   ⌗ My Portfolio

Profile

Master's student in Mechatronics and Robotics with a solid foundation in embedded systems, sensor integration, and computer vision. Experienced in C++, Python, real-time data acquisition, and advanced CAD tools including SolidWorks and CATIA V5. Demonstrates strong technical and analytical skills through hands-on projects and industrial experience in automotive lighting, renewable energy systems, and intelligent automation. Motivated to contribute to advanced technology development, including AI-based perception systems and intelligent sensing applications.

Areas of Expertise

Embedded Systems · Sensor Integration · CAD Design (SolidWorks, CATIA V5) · Computer Vision · Real-Time Data Acquisition · Electrical System Design · Mechatronics · Python - C++ Programming · Industrial Automation (TIA Portal, PLC, SCADA) · Renewable Energy Simulation · Quality Management (Lean, Six Sigma, ISO 9001) · Project Coordination · Data Analysis · 3D Modeling

Professional Experience

Automotive Lighting Assembly Technician, *(Student job)*   **Brotterode, Deutschland** *Nov 2021 – Jan 2024*
- Tested and troubleshooted electrical components in automotive lighting systems.
- Operated hand tools and automated machinery for precise assembly.
- Conducted electrical quality control checks ensuring product compliance.

Renewable Energy Systems Engineer, *(Internship)*   **Schmalkalden, Deutschland** *06/2021 – 04/2022*
- Optimized solar energy production by conducting simulations to determine the maximum energy yield and hydrogen storage potential for fully solar-powered greenhouses in Germany.
- Developed a smart solar tracking system using sensors to detect optimal panel positioning, increasing energy capture and overall system performance.
- Designed and simulated a hybrid renewable energy system combining solar, wind, and water energy to enhance system sustainability.
- Streamlined component selection for cost-effectiveness and reliability by managing supplier relations and negotiating to reduce expenses.
- Collaborated with an international, interdisciplinary team to structure both the technical and business sides of the startup.
- Validated system efficiency through advanced simulations and regular progress reviews to identify challenges and next steps. hydrogen as an energy storage solution, converting surplus solar energy into green hydrogen for later use, supporting a sustainable greenhouse ecosystem.

Automotive Mechanic (Volkswagen, Audi, Skoda), *(Internship)*   **Tunis, Tunisia** *06/2019 – 07/2019*
- Conducted thorough vehicle inspections daily, identifying wear, damage, or electrical malfunctions.
- Diagnosed and troubleshooted mechanical and electrical issues using various diagnostic tools.
- Repaired or replaced critical vehicle components, including engines, brakes, and transmissions.
- Collaborated with fellow mechanics and technicians to solve complex vehicle issues.

Event Planner and Organizer (AIESEC) , *(Event Planner)*   **Tunis, Tunisia** *06/2018 – 10/2018*
- Developed event goals aligned with UN SDGs.
- Managed event logistics, venue selection, transportation, and scheduling.
- Coordinated with stakeholders, speakers, and volunteers to ensure event success.
- Created event timelines and managed production schedules.

Automotive Mechanic (TIMI MOTO), *(Internship)*   **Tunis, Tunisia** *06/2017 - 08/2017*
- Performed routine vehicle maintenance (oil changes, tire rotations, etc.).
- Repaired and replaced key vehicle components, such as engines, brakes, and suspensions.
- Collaborated with mechanics to troubleshoot complex vehicle issues.
- Ensured proper functionality and safety testing after repairs.

Online Courses & Certifications

- Digital Manufacturing and Design (Aug 30, 2022) - [Coursera](#)

- Supply Chain Logistics (Aug. 2020) - [Coursera](#)

- Programming for Everybody (Getting Started with Python) (Dec. 2021) - [Coursera](#)

- Write Professional Emails in English (Jan. 2021) - [Coursera](#)

- CSWP (Certified SOLIDWORKS Professional) (Jun. 2022) - [SOLIDWORKS](#)

Education

Masters in Mechatronics and Robotics *FH Schmalkalden University*   **Schmalkalden, DE** *2022 - Present*
Relevant Courses: Digital Signal Processing, Communication Systems, Design of Robot Workplaces, Automation Control, Systems Theory, Development of Mechatronic Systems, Robotic Vision,Sensor Systems, Mechanical Problems in Mechatronics, Quality Management.

Masters in Electro-Mechanical with Industrial Engineering specialization. *Esprit*   **Tunis, TN** *2016 - 2022*
Finite Element Method, Design of Tools for Metal Forming, Surfaces and Coating Technology, Industrial Automation (Pneumatic/Hydraulic Systems, Control Systems), Embedded Electronics, Robotics and Advanced CAD, Electromechanical Integration, Power Electronics, Electrical Machines, Mechanical Vibrations, Deformable Structure Mechanics, Numerical Analysis, Materials Science, Thermodynamics and Heat Transfer, Fluid Mechanics, Project Management.

Skills

- **Data Visualization:** Microsoft Power BI, Excel

- **Digital Marketing:** Project Management, Social Media Optimization, Content Writing, Campaign Analysis & Reporting.

- **Software:** Advanced proficiency in SolidWorks, CATIA V5, AutoCAD, Tia Portal, Autodesk Vault, Altium Designer, ANSYS, MATLAB, Adobe PhotoShop, Canva

- **Management Skills:** Expertise in Lean Management, Quality Management, Supply Chain Management, Six Sigma, and ISO 9001 standards. Familiar with Ishikawa (Cause and Effect) diagrams for problem-solving.

- **Soft Skills:** Presentation, Planning, Organized, Creative Problem-Solving, Teamwork, Active Listening, Adaptability, Analytical Thinking

Languages

- **English** [Native]

- **German** [Basic] - A2 Learning

- **French** [Native]

- **Arabic** [Native]