

Waseem Fanous

MECHANICAL ENGINEERING · DESIGN, SIMULATION & MANUFACTURING

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Mechanical Engineering undergraduate with hands-on experience in CAD, ANSYS (Fluent & Structural) and thermal analysis. Work spans genset installation and commissioning, plant maintenance, and design projects in structural modelling, airflow and systems simulation. Seeking an internship in mechanical analysis, additive manufacturing, durability & fatigue, or design optimisation.

EDUCATION

Eötvös Loránd University

EXPECTED JAN 2027

B.Sc. Mechanical Engineering, Junior · GPA 4.5 / 5.0 · Szombathely, Hungary

EXPERIENCE

MTU Rolls-Royce – Al Mulla Power Solutions

JAN – MAR 2026

Genset Engineer Trainee · Kuwait

- Supported installation of an MTU 20V4000 DS3600 genset package at Kuwait International Airport, using AutoCAD and ANSYS for layout design, load testing and thermal constraint checks.
- Assisted mechanical placement, transportation and site integration based on kVA rating, voltage levels and terminal load requirements.
- Designed louvre and ventilation layouts by calculating required airflow from heat-rejection and ambient temperature data, ensuring compliance with manufacturer thermal limits.

Aptiv

JUL – AUG 2025

Manufacturing Support, Student Work · Hungary

- Performed tolerance-controlled crimping and assembly of automotive cable harnesses for Opel, Audi and Mercedes on a high-volume production line, meeting strict quality specifications.
- Operated welding and friction-fit machines to join components, inspecting output against specification to maintain line quality standards.

Fine Hygienic Holding

JUN – JUL 2024

Maintenance Engineering Intern

- Carried out daily inspections of machine condition, blade tolerance deviation and equipment service life to support reliability and durability monitoring.
- Disassembled and reassembled process components with new filters and inserts, validating reassembly against manufacturer specifications.
- Monitored sensor data and measured heat dissipation in tumblers and blades to ensure safe operation.

Progress-Soft

JUL – AUG 2023

Software Engineering · Amman, Jordan

- Developed mechanical simulation algorithms for industrial automation software
- Integrated physics engines with real-time control systems for manufacturing processes
- Created 3D visualization tools for mechanical system monitoring and diagnostics
- Collaborated with cross-functional teams to optimize software performance and user experience

ENGINEERING PROJECTS

Adaptive Hybrid Cobot Gripper for In-Space Satellite Assembly — B.Sc. Thesis (in progress)

EXPECTED DEC 2026

- Developing a B.Sc. thesis on an adaptive gripper for on-orbit satellite assembly; planned pipeline pairs generative design and topology optimization (nTop) with FEA validation (ANSYS).
- Early-stage work covers CAD concept development in Fusion 360 with Text-to-CAD ideation, and a planned bench-level grasp-adaptation rig using a force sensor and Arduino impedance controller.

Nuclear Pool Manipulator Simulator — Hepenix

SEP – OCT 2025

- Designed a conceptual manipulator system for operation in a nuclear pool environment, focusing on safety, reach and mechanical stability.
- Analyzed operating constraints include limited visibility, submerged actuation and radiation-safe handling using simulated environments.
- Designed anodized aluminum uprights, optimizing strength and stiffness in SolidWorks and ANSYS.

Pattern-Morphing Adaptive Tire (AMAT) — Bosch Innovation Competition

MAR – APR 2025

- Designed an adaptive morphing tire able to traverse varied terrain using data relayed from onboard sensors.
- Developed a C++ application to process LIDAR point-cloud data and generate a visual terrain map.
- Integrated complex mechanisms include a collapsible core and interchangeable tread patterns.

International Space Robotics Competition — Manufacturing Lead

FEB – JUN 2025

- Led a team of 15 student engineers that manufacture 120+ metal parts in 12 weeks for a planetary rover platform.
- CNC machined components to achieve a 5× improvement in tolerance, from ± 0.005 in to ± 0.001 in.

Jet Engine CAD and Simulation Project

2024

- Modelled a jet engine assembly in Solid Edge using part modelling, assembly and standard CAD tools.
- Conducted CFD analysis in ANSYS Fluent to study flow behavior, blade-angle effects and efficiency trends.
- Evaluated stress concentrations and critical loading regions using ANSYS structural analysis tools.

TECHNICAL SKILLS

SOFTWARE ANSYS (Fluent & Structural) · Fusion 360 · nTop · SolidWorks · Solid Edge · Autodesk Inventor · AutoCAD · MATLAB · Edgcam · SINUMERIK · C++

METHODS CFD · FEA · Structural Analysis · Thermal & Airflow Analysis · Durability & Fatigue Monitoring · Generative Design & Topology Optimization · Design for Manufacturability · Validation & Verification · CNC Machining Fundamentals

LANGUAGES Arabic (Native) · English (C2) · Hungarian (A2)