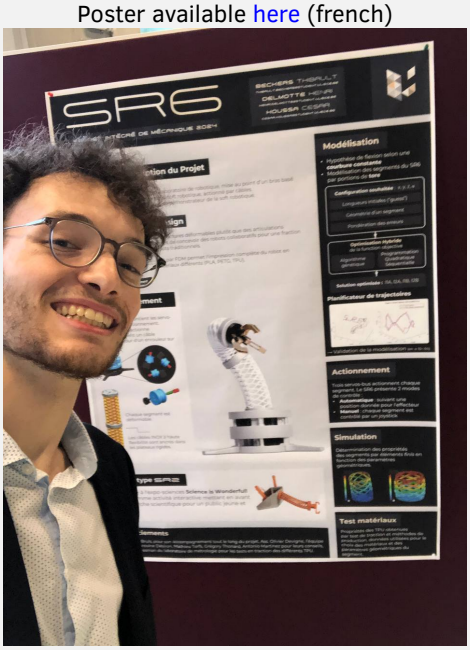
Poster available here (french)



César Houssa

Student
Mechanical engineering
Automotive engineering

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Github

About me

Mechanical engineering student, currently studying for a master's on sustainable automotive engineering. Following a bachelor in civil engineering in Liège University, I've developped a particular interest in numerical mechanical engineering.

Software & Stack

SIEMENS NX, Samcef Structural Linear Solver, Samcef Flow, FreeCAD, Python, Matlab, OpenSCAD, Linux, C, C++, Java, ...

Internship - POI

Design using *numerical mechanics*:

- **CAD** - parametric models for simulations,
- **FEA** - static and dynamic analysis ,
- **Topological optimisation**,
- **Programming** analysis automation,
- **Manufacturing** - prototyping with FDM

Studies - Université de Liège

Master's — Mechanical engineering, specialized in sustainable automotive engineering *current studies*

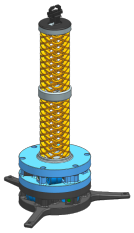
Master's focused on automotive engineering, preparing for the current and future challenges in automotive engineering, namely the increase in performance and safety, while lowering emissions.

Bachelor's — Civil Engineering - Major in **mechanical engineering** *diploma 2023*

Bachelor's focused on general engineering, with a major focus on mechanical engineering, and a minor focus on software engineering.

A few project - from uni classes

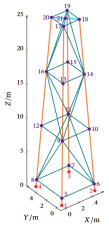
Soft robotics



Design & assembly - Robotic arm

On request from the robotic lab of the university of Liège, design and prototyping of a robotic arm based on soft robotics. Mechanical design on NX, fast prototyping by *sprints* using 3D printing.

OOP, FEA

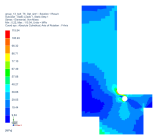


Vibrational Analysis - Wind turbine truss mast

Python, Matlab, Siemens NX, Samcef

Software development using OOP for the vibrational analysis of a truss making up the base of a wind turbine

FEA



Analysis - Bolt critical load and optimization

Siemens NX, Samcef

Introductory study of a bolt loaded axially. Analytical validation along with mesh convergence study for several types of mesh. Topological optimisation of the geometry for maximum loading capabilities.

Personal projects

Design — Automated wood dust vacuum system - wood shop — Currently

Ground-up design of an automated system activating seamlessly with the operation of tools. Lowcost approach using off-the-shelf and custom made mechanisms made with Freecad.

Integration — Screen support for dynamic signaling systems — July 2024

VESA compatible support holding a screen casting device, for Beevr - prototyping, 3D printing.

Other professional experiences

2022	Deliveries - team work
2021	Web Dev - autonomy
	Electrical work - Buildings - on job-site experience
2018	Music production - event handling
2017	Logistics - manual labor