# François Vansnick

*Mechanical Engineer*

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## PROFILE

Mechanical Engineer specialized in mechanical design, modeling and simulation. Passionate about mechanical systems and high-performance applications such as aeronautics and motorsport. Eager to turn ideas into practical designs and contribute to real-world projects. I'm motivated and ready to apply my analytical and creative skills to develop innovative components.

## EDUCATION

**UCLouvain Master's in Mechanical Engineering**                                       2023-2025
Options: Dynamics, Robotics, Biomechanics, Design, Manufacturing and Mechanics of materials

**UCLouvain Bachelor's in Engineering Science**                                        2019-2023
Options: Mechanics and Computer Science

## TECHNICAL SKILLS

**CAD & Design:** SolidWorks, AutoCAD - 3D modeling, Assemblies, Technical drawings, Tolerance analysis

**Simulation:** SolidWorks Simulation, Abaqus, Robotran, Digimat, FEMM - Finite Element and Multibody Dynamics

**Programming:** Python, MATLAB, C, Arduino, Java, HTML, CSS

**Manufacturing:** Machining, Advanced Manufacturing Technologies, Welding Science

**Materials:** Composite Materials, Process and Materials selection (Ansys Granta Selector)

**Quality & Safety:** Industrial risk assessment, Safety standards and quality management

**Languages:** French (Native), English (Proficient), Dutch (Basic)

## SELECTED PROJECTS

**High-Performance Micro-Motor Test Bench (Master Thesis) - Collaboration with Mirmex Motor**
Complete design of a test bench to measure no-load losses in micro-motors up to 100,000 rpm. Defined specifications, performed 3D/2D CAD modeling, FEA simulations and detailed component dimensioning. Developed mathematical and physical models, validated through simulations and experimental testing. Designed and drafted more than 20 custom machined parts. Implemented a data-processing algorithm to quantify losses with 1% accuracy.

**Automatic Optical Fiber Spooling Machine - Collaboration with AeroSpacelab**
Developed the mechanical design of an optical fiber spooling and coating system intended for satellites. Managed design iterations, structural calculations, material selection and mechanical integration with an aerospace partner.

**Energy Recovery from Rain - Machine Design Project**
Designed and prototyped a compact rain-energy harvesting system with a micro hydraulic turbine and generator. Created detailed CAD models and functional prototype using 3D printing and laser cutting.

## SOFT SKILLS

Analytical ● Creative ● Problem-solving ● Meticulous and Reliable ● Team-oriented ● Continuous improvement mindset

## CERTIFICATIONS

SolidWorks Mechanical Design Certification (Dassault Systèmes, 2023) ● MATLAB Onramp (MathWorks, 2024)