

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, Fusion 360 - 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)

PORTFOLIO

Full portfolio with detailed projects, reports and certificates: [vansnickfrancois.github](https://github.com/vansnickfrancois)