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[Bastien Vilair](#)



## Skills

**Research & development of solutions**

**Mechanical design, manufacturing methods**

**Project management**

**Team work, Cooperative**

**Autonomy, Adaptability**

**Respectful, Attentive to others**

## Computer skills

### Microsoft office

Master multiple softwares of Microsoft Office suite

### Mechanical design (CAD)

Designed and analysed many systems on SolidWorks, TopSolid V7, 3DEXPERIENCE

### Simulations (CAE & FEM)

Used Abaqus, Ansys suite and Altair suite for simulations

### Manuf. methods (CAM)

Studied on manufacturing with Mastercam and Autodesk FeatureCAM

### IT (Prog., Database)

Studied programming with Matlab, Python and R  
Studied databases using SQL and Access

## Interests

### Motor sports

F1, Racing simulation

### Sports

basketball, cycling, bodybuilding, tennis, swimming

## Languages

### French

Native speaker

### English

Intermediate/professional level

# Bastien Vilair

## MECHANICAL ENGINEER IN RESEARCH & DEVELOPMENT

I'm looking for a job in mechanical engineering and I'd like to work in research & development in fields related to automotive.

## Education

### Industrial engineering degree

Sept. 2022 - Aug. 2025 **Institut National des Sciences Appliquées (INSA)** Blois, France  
Attend lessons in engineering and industrial sciences, languages and communications...

### Master's degree in mechanics

Sept. 2024 - Aug. 2025 **Institut National des Sciences Appliquées (INSA)** Blois, France  
Attend lessons in mechanical structure, advanced materials, vibration analysis, fluid dynamics, thermomechanical simulations, crash, turbomachinery...

### Bachelor degree in sciences

Sept. 2019 - Aug. 2022 **Ecole Nationale Supérieure des Arts et Métiers (ENSAM)** Angers, France  
Attended lessons in mechanics, energy, design, electronics, sciences...


## Academic projects

### Engineering projects :


- **Design** of an **AREM axial fan** with Javafoil and **Matlab**;
- **Numerical and experimental characterisation** of the lift and drag of a **wing profile** as a function of its angle of incidence;
- **Research and development** project to design an optimised **hydraulic turbine**;
- **Mechanical design** project on an overhead crane gearbox on **Solidworks**;
- Project to model a simplified aircraft using the **finite element method** on **Matlab**;
- **Topological optimisation** of a part using the **finite element method** on **Abaqus**.

## Work experience

### Development engineer [internship]


Apr. 2025 - Sept. 2025 **Mercedes-Benz AG** Stuttgart, BW, Germany   
Objective: Supporting the **R&D** department in the **development of a V8 AMG engine**  
- **Designing** parts to **test** different aspects of the engine : friction improvements, water cooling flow, oil capacity...

### Assistant engineer [Internship]

Apr. 2024 - Aug. 2024 **Nuclear power plant of Nogent-sur-Seine (EDF Group)** Nogent-sur-Seine, France   
Objective: Draw up a preventive maintenance program of the plant's laboratory.

- Carried out an inventory of the plant's equipment and the associated operating and maintenance standards
- Proposed sustainable maintenance solutions for all equipment


### Project manager [Sandwich course]

Sept. 2021 - Aug. 2022 **M3M (SKF Group)** Les Trois-Moutiers, France   
Objective: Analysing needs and improving the different processes or industrial workstations.

- Managed a project to study and redesign a workstation improving ergonomics, safety and productivity

**Obtained an industrial project manager certificate**

### Method technician [Internship]

Apr. 2021 - July 2021 **ERMETO (SENIOR AEROSPACE Group)** Fossé, France   
Objective: Improving industrial workstations and industrializing some products.

- Updated and industrialized some processes and documents like manufacturing methods
- Relocated a workstation and optimized its production flows