Automation of Reduced-Order Models for Flutter assessment (Loads and Aeroelastics)

About Positive Aviation

Positive Aviation is a Toulouse-based engineering and industrial company developing certified modifications **ATR 72** aircraft. Our flagship program, **FF72-S**, transforms the ATR 72 into an **amphibious water-scooping firefighting aircraft** using floatplane architecture and proven technologies.

By combining aeronautical and naval-industry expertise, the FF72 aims to deliver a pragmatic, affordable and quickly available solution for aerial firefighting operators.

Mission

Starting from a full-aircraft **Global Finite Element Model (GFEM)**, you will help build an **automated workflow** to generate **condensed / reduced-order structural models** for aeroelastic and **dynamic stability (flutter)** analyses. The goal is to make the process fast, robust and easily repeatable whenever the baseline GFEM changes (updates, modifications, new configurations).

You may also implement/standardize **aero-structural coupling** (mapping / splines) when required.

Tech skills we're looking for

- Structural dynamics (modal analysis, dynamic response)
- FEM background and comfort with large models (minimum knowledge of Nastran/OptiStruct/Abaqus/Ansys software)
- Programming/scripting (**Python preferred**, MATLAB acceptable)
- Nice to have: aeroelasticity basics (flutter, dynamic stability concepts)

Soft skills

- Autonomous, rigorous, and curious
- Strong problem-solving mindset
- Clear communication
- Proactive in english, french would be a plus

Send your **CV** + a short note to: **tommaso.delaurentis@ff72.fr**