Enrico FOGLIA,
PhD candidate @ ISAE-SUPAERO and USherbrooke

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🌐 enricofoglia

Research Interests

Geometrical Deep Learning with application to physical systems. **Shape optimization** in fluid dynamics, adjoint methods. **Aeroacoustics**, high-fidelity simulations, complex fluid dynamics phenomena.

Research Experience

2023 - ongoing   **PhD candidate.** DAEP, ISAE-SUPAERO and Mechanical Engineering Department, Université de Sherbrooke.
Modeling of aerodynamically generated sound using Geodesic Convolutional Neural Networks, learning features directly on the samples' surface mesh without any need for interpolation.

2023   **Intern.** AKOU, DAAA, ONERA
Developed a python package for propeller aeroacoustic optimization using elsA's adjoint solver. The acoustic post-treatment is carried out using a solid surface FW-H formulation for rotating surfaces in the frequency domain. The program developed during this internship is going to be presented at the **30th AIAA-CEAS conference** in 2024 (accepted).

2021-2023   **Graduate researcher.** DAEP, ISAE-SUPAERO
Reduced order modeling of a airfoil undergoing arbitrary pitching motion at low Reynolds numer, by using polynomial and time delay coordinates models.

summer 2022   **Intern.** DAEP, ISAE-SUPAERO
Adapted and optimised a code in Fortran and Python for a low fidelity tool for the evaluation of aerodynamic loads on an airfoil at moderate Reynolds number. Wrote all the relevant documentation.

Education

2021 – 2023   **M.Sc., Aerospace Engineering** ISAE-SUPAERO
Major in Advanced Aerodynamics and Acoustics. Average GPA: 4.0
Thesis title: *P.A.O.L.A.: Propeller Aeroacoustic Optimization Leveraging the Adjoint*

2018-2021   **B.Sc. Aerospace Engineering** Politecnico di Torino
Part of the "Young Talents" program (Honors Course). Final grade 110/110.
Thesis title: *Low Order Modeling for fluid flow control*.

2021   **Erasmus** Universidad Politécnica de Madrid

Language skills

- **Italian**: native speaker
- **English**: full professional proficiency (C1)
- **Spanish**: full professional proficiency (C1)
- **French**: professional working proficiency (B2/C1)
- **Portuguese**: elementary proficiency (A2)