

I am a first year PhD student between IFPEN and INRIA on the topic of *decentralised learning and its industrial applications*. I am using multi-agent Reinforcement Learning applied to wind farm control. I have a background in fluid dynamics and data science.

Experience

- 2024– **PhD Student**, *IFPEN - INRIA (ARGO team)*, Paris
Present Conducting research on multi-agent Reinforcement Learning applied to wind farm control
- 2024 **Research Intern**, *IFPEN*, Rueil-Malmaison
Reinforcement learning for wind farm power tracking
- 2023 **Research Intern**, *EPFL - UNFoLD Lab*, Lausanne
Reinforcement learning applied to the control of a real small-scale vertical axis windturbine
- 2022–2024 **Part-time research Intern**, *ISAE Supaero*, Toulouse
Deep learning for optimisation of flapping wing kinematics

Education

- 2020–2024 **Engineering degree (MSc)**, *ISAE Supaero*, Toulouse
Specialised in fluid dynamics (turbulence, instabilities, external aerodynamics, numerical schemes...), and Data Science (probability theory, applied mathematics, deep learning, reinforcement learning)
- 2023 **Master 2 Dynamique, Energétique et Transferts**, *Université de Toulouse*, Toulouse
Research master of fluid dynamics, with courses of aero-acoustics, aerosols, turbulence and instabilities
- 2018–2020 **Preparatory Classes for the French Grandes Écoles (CPGE)**, *Lycée Saint Louis*, Paris

Skills

- Programming Python (Pytorch, Tensorflow,...), C, Java, Fortran, R, Matlab
- Languages French (native), English (fluent, C1), Spanish (B1), Arabic (beginner)

Publications

- 2023 B. Corban, M. Bauerheim, T. Jardin “Discovering optimal flapping wing kinematics using active deep learning”, *Journal of Fluid Mechanics*, doi:10.1017/jfm.2023.832