Riccardo **MILANI** | RESUME

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PhD • Research engineer • Numerical methods

Experience

07/'22- **Research engineer** — ONERA, Châtillon

- Numerical schemes and AI for the CFD. Project management. Internships and PhDs advisor
- Software development (CODA, CoMMA). Scientific computing, HPC, installation management on computing clusters

01/'21-04/'22 **Postdoctoral researcher** — CEREA - École des Ponts ParisTech

- SCIENCES^{2024}, the physics of sports. Archery: training support and performance optimization
- CFD simulations of arrow flights in real-life conditions, statistical analysis, computer vision

09/'16-02/'17 **Research Internship, 6 months** — EDF R&D, Chatou

- Development and numerical analysis of a 3D HHO method for anisotropic diffusion
- Integration within the industrial code *Code_Saturne* (C); parallelization by OpenMP

03-08/2015 **Research Internship, 5 months** — US ESI R&D, San Diego

- First steps into the development of a new method for a fast computation of the vibro-acoustic response of a system
- Validation against software simulations

Education

2017 - 2020 **PhD in Applied Mathematics** — École des Ponts ParisTech, INRIA, and EDF R&D

- *Compatible Discrete Operator* schemes for the unsteady incompressible Navier–Stokes equations. Advisors: Ern Alexandre (ENPC, INRIA) and Bonelle Jérôme (EDF R&D)
- Peer-reviewed article: *RM*, Bonelle, Ern; *Artificial compressibility methods for the incompressible Navier–Stokes equations using lowest-order face-based schemes on polytopal meshes*, 2022, CMAM

2013 - 2017 **Cycle of *Polytechnicien* Engineer** — École polytechnique

- Education cycle equivalent to BSc and MSc
- Specialization: Applied Mathematics - PDEs

2010 - 2017 **BSc and MSc in Mathematical Engineering** — Politecnico di Milano

- *Laurea Triennale* and *Magistrale* in Mathematical Engineering. Specialization: Applied Mathematics & Computer Sciences
- Score: 110 and honors/110 (BSc and MSc). Awarded "Best freshman" (2010) after the results of the entry test and first semester exams

Programming skills

- **Good knowledge**: C/C++, OpenMP, MPI, `python`, Unix systems, LaTeX, Git/SVN, spack, shell scripting, *Code_Saturne*, Office
- **Basic knowledge**: MATLAB, Fortran, OpenCV, R, Rust, SALOME

Languages

- **Italian**: Native
- **English**: Fluent, FCE certificate, B2
- **French**: Fluent, TCF certificate, C1
- **German, Russian**: Basic

Extracurricular activities

- Google FooBar Challenge invitation
- Head of a 40-student dormitory ('15)
- General-treasurer of AIM ('16)
- PhD-students representative for EDF-MFEE ('18-'20)
- Running (Paris marathon '19, '24)

Volunteering and other Interests

- Summer work camps (Kenya '10, '11; Rwanda '17)
- Member of Smileland, which backs an orphans village in Congo ('15-'22)
- Italian classes for refugees ('15)