

# Riccardo MILANI | RESUME

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## PhD, Mathematical Engineer

### »»» Education

- since 2021 **Postdoctoral researcher** [CEREA - École des Ponts ParisTech](#)
- » SCIENCES<sup>2024</sup>, the physics of sports. Archery: training support and performance optimization
  - » CFD simulations of arrow flights in real-life conditions, statistical analysis, computer vision
- 2017 - 2020 **PhD Student 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: *Milani, Bonelle, Ern; Artificial compressibility methods for the incompressible Navier–Stokes equations using lowest-order face-based schemes on polytopal meshes*, 2022, CMAM, 22(1), 133–154
- 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

### »»» Experience

- 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
  - » Validations against software simulations
- 08/2014 **Summer Internship** [VTB Bank, Irkutsk](#)
- » Foreign Exchange Control Group
  - » Support in the preparation and final validation of files about international contracts, records management

### »»» Programming skills

- » **Good knowledge:** C/C++, OpenMP, MPI,  $\text{\LaTeX}$ , Unix systems, MATLAB, Git/SVN, python, *Code\_Saturne*, shell scripting, Office
- » **Basic knowledge:** Fortran, OpenCV, R, SALOME, FreeFem++, Java

### »»» Languages

- » **Italian:** Native
- » **English:** Fluent, FCE certificate, B2
- » **French:** Fluent, TCF certificate, C1
- » **Russian:** Conversational level

### »»» 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)

### »»» Volunteering and other Interests

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