

# Riccardo MILANI | RESUME

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## PhD, Mathematical Engineer

### »»» Education

- |             |   |   |
|-------------|---|---|
| since 2021  | <b>Postdoctoral researcher</b>  | CEREA - École des Ponts ParisTech             |
|             | <ul style="list-style-type: none"><li>» SCIENCES<sup>2024</sup>, the physics of sports. Archery: training support and performance optimization</li><li>» CFD simulations of arrow flights in real-life conditions, statistical analysis, computer vision</li></ul>  |   |
| 2017 - 2020 | <b>PhD Student in Applied Mathematics</b>   | École des Ponts ParisTech, INRIA, and EDF R&D |
|             | <ul style="list-style-type: none"><li>» <i>Compatible Discrete Operator</i> schemes for the unsteady incompressible Navier–Stokes equations. Advisors: Ern Alexandre (ENPC, INRIA) and Bonelle Jérôme (EDF R&amp;D)</li><li>» Peer-reviewed article: <i>Milani, Bonelle, Ern; Artificial compressibility methods for the incompressible Navier–Stokes equations using lowest-order face-based schemes on polytopal meshes</i>, 2022, CMAM, 22(1), 133–154</li></ul> |   |
| 2013 - 2017 | <b>Cycle of Polytechnicien Engineer</b>   | École polytechnique                           |
|             | <ul style="list-style-type: none"><li>» Education cycle equivalent to BSc and MSc</li><li>» Specialization: Applied Mathematics - PDEs</li></ul>  |   |
| 2010 - 2017 | <b>BSc and MSc in Mathematical Engineering</b>  | Politecnico di Milano                         |
|             | <ul style="list-style-type: none"><li>» <i>Laurea Triennale</i> and <i>Magistrale</i> in Mathematical Engineering. Specialization: Applied Mathematics &amp; Computer Sciences</li><li>» Score: 110 and honors/110 (BSc and MSc). Awarded "Best freshman" (2010) after the results of the entry test and first semester exams</li></ul>   |   |

### »»» Experience

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|-------------|---|-----------------------|
| 09/16-02/17 | <b>Research Internship, 6 months</b>  | EDF R&D, Chatou       |
|             | <ul style="list-style-type: none"><li>» Development and numerical analysis of a 3D HHO method for anisotropic diffusion</li><li>» Integration within the industrial code <i>Code_Saturne</i> (C); parallelization by OpenMP</li></ul> |                       |
| 03-08/2015  | <b>Research Internship, 5 months</b>  | US ESI R&D, San Diego |
|             | <ul style="list-style-type: none"><li>» First steps into the development of a new method for a fast computation of the vibro-acoustic response of a system</li><li>» Validations against software simulations</li></ul>               |                       |
| 08/2014     | <b>Summer Internship</b>  | VTB Bank, Irkutsk     |
|             | <ul style="list-style-type: none"><li>» Foreign Exchange Control Group</li><li>» Support in the preparation and final validation of files about international contracts, records management</li></ul>                                 |                       |

### »»» 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)