MARCO FERRARI

PERSONAL INFORMATION

DATE OF BIRTH	23/09/1994, Trieste (Italy).
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PROFILE

I am a determined, motivated, and fast-learner person. During my academic experience, I developed a **scientific mindset** by which I can **methodically approach** engineering related tasks. I have a keen interest in **computational methods**, **optimization algorithms** and **artificial intelligence**. My solid theoretical background is combined with experience gained through traineeship and student projects.

CAREER OBJECTIVE

New graduate in Mechanical Engineering looking for a **R&D** position in an **innovative** company, which allow me to keep up with **cutting-edge technologies** and methodologies, to solve problems in an effective manner.

EDUCATION

SEPTEMBER 2017 – APRIL 2020

Master's Degree in Mechanical Engineering

University of Trieste, Italy.

Final marks: 110/110 summa cum laude.

Average exams marks: 29.83/30.

Thesis: "Development of a hybrid decision system based on domain knowledge and machine learning techniques".
Supervisors: Prof. D. Pozzetto and Eng. H. Kirchner.

SEPTEMBER 2013 – MARCH 2017

Bachelor's Degree in Industrial Engineering

University of Trieste, Italy.

Final marks: 107/110.

SEPTEMBER 2008 – JUNE 2013

Technical High School Diploma

Technical Institute A. Volta, Trieste, Italy.

Final marks: 100/100 summa cum laude.

AWARDS

SEPTEMBER 2017 — Winner of the **Talent Acquisition** scholarship offered from the University of Trieste as one of the best graduated students.

NOVEMBER 2013 — Winner of a scholarship offered by the Italian **Ministry of Education** to excellent high school graduates.

WORK EXPERIENCE

SEPTEMBER 2019 – FEBRUARY 2020

Traineeship – product specialist

Cybertec S.r.l., Trieste, Italy.

Tasks: scripting, code reviews, technical writing, database queries.
Skills: code versioning, Agile development.

MARCH 2013

Internship

CPI-ENG S.r.l., Trieste, Italy.

Tasks: design of equipment for industrial engines with 3D CAD software.

JULY 2011 – AUGUST 2011

Internship

GOVONI Impianti S.r.l., Trieste, Italy.

Tasks: installation and maintenance of domestic and industrial electrical systems, maintenance of photovoltaic systems.

IT SKILLS

Excellent working ability with **Python** for **scientific computing**, by using *numpy*, *pandas*, *scipy*, *matplotlib*, *plotly*, *seaborn* libraries. Good knowledge of tools for the analysis and automated manipulation of data, and machine learning techniques (*scikit-learn*). Good knowledge of **MATLAB**.
Academic experience with **CFX** and **Fluent** for CFD simulations, **SolidWorks** for 3D modelling and structural analysis. Familiarity with **modeFrontier** for the optimization and automation of the design process.
Excellent knowledge of the **MS Office** suite. Familiarity with **LaTeX**.

SOFT SKILLS

Problem solving attitude, propensity to collaboration, **team working** and peer tutoring, good priority management ability, capable of **communicate effectively**.

LANGUAGE SKILLS

Italian – Mother tongue.

English – Proficient. Comprehension C1*, Production B2*.

* Self-assessment based on Common European Framework of Reference for Languages (CEFR).

VOLUNTEERING

SEPTEMBER 2011 – SEPTEMBER 2012

Librarian

Elementary School G. Lucio, Muggia (TS), Italy.

Tasks: cataloguing an elementary school library's material.

COURSES AND ACTIVITIES

Machine learning course @ Coursera • Soft skills summer school @ EESTEC.

INTERESTS

Guitar · Music recording and editing · Basketball · Inclusive basketball · DIY.

PORTFOLIO

A repository containing relevant projects can be found on GitHub.

- Evaluation of the flow in an asymmetric plane diffuser: comparison among experimental and numerical data, with several turbulence models. Software used: CFX 19.0 for numerical simulation, python for data visualization.
- 1D diffusion on a fin: **finite volume** analysis in a Jupyter Notebook.
- Travelling Salesman problem: mono-objective **optimization** through the implementation of the simulated annealing algorithm, in MATLAB.
- Simulation of fuzzy and PID controllers for active suspensions: **model-based** simulation of 2DOF suspensions, with Python and Simulink.
- **Multi-Criteria-Decision-Making**: application of the TOPSIS MCDM ranking method to evaluate the best design. Visualization with Dash (Python).

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