

EUROPEAN  
CURRICULUM VITAE  
FORMAT



PERSONAL INFORMATION

Name

**DANIELE PATRIZI**

WORK EXPERIENCE

- Dates (from - to)
- Name and address of the employer
  - Type of business or sector
  - Occupation or position held
- Main activities and responsibilities

September 2020 – March 2021

University of Rome Tor Vergata (Department of Industrial Engineering), Via del Politecnico 1, 00133 Rome

Education

University Tutor

Lectures and planning of seminars

EDUCATION AND TRAINING

- Dates (from - to)
- Name and type of organisation providing education and training
- Principal subjects/occupational skills covered
  - Title of qualification awarded
- Level in national or international classification (if relevant)

September 2014 – June 2022

University of Rome Tor Vergata (Department of Industrial Engineering)

Thermal, hydraulic, and electrical machines, systems for energy production, industrial and environmental thermo-fluid dynamics, rational use of energy and sustainable development.

Master of Science in Energy Engineering

Doctor in Energy Engineering

PROJECT COMPLETED

- Dates (from - to)
- Title
- Description

December 2021 – June 2022

Advanced methods for automatic shape optimization of road vehicles driven by RBF mesh morphing

In collaboration with the University of "Tor Vergata", RBF Morph and Volvo Cars, a fully automated design exploration workflow built on the synergic use of high-fidelity CFD solvers (STAR-CCM+) and the meshless commercial morpher RBF Morph was developed and tested with two industrial applications: (1) the aerodynamic optimization of a car body and (2) the minimization of the water film thickness deposited on the lens of a camera located on the underside of a side-view mirror of a Volvo vehicle under soiling conditions.

- Dates (from - to)
- Title
- Description

May 2021 – September 2021

Numerical methods for solving a stationary and transient flow in a 2D channel using SIMPLE and SIMPLE-R algorithm

A numerical method has been implemented for solving a problem of two-dimensional fluid mechanics. The algorithm, implemented in MATLAB language, uses a Semi-Implicit Method for Pressure-Linked Equations. To evaluate the goodness of the numerical solution obtained this way, the results of the procedure were compared with analytical solutions available in literature and with numerical solutions of commercial codes (Ansys Fluent).

- Dates (from - to)
- Title
- Description

April 2020 – July 2020

Design and sizing of a steam generation system and relative smoke disposal chimney

The design and sizing of a steam generator for industrial use and the related exhaust fume evacuation system was carried out, in compliance with current regulations and the directives of the Italian Thermotechnical Committee (CTI 2-205).

- Dates (from - to)
- Title
- Description

November 2018 – May 2019

Numerical simulation of the thermal wall behaviour of buildings under dynamic conditions

A finite element numerical model, made with the help of a commercial solver (COMSOL 5.2a), was proposed, which simulates the thermal behaviour of the walls of buildings for civil or industrial use under dynamic conditions. The numerical model was validated through analytical procedures implemented in MATLAB language and through the data collected in an experimental campaign.

## PERSONAL SKILLS AND COMPETENCES

NATIVE LANGUAGE

Italian

OTHER LANGUAGES

- Reading
- Writing
- Speaking

### ENGLISH

Proficient

Proficient

Proficient

- Reading
- Writing
- Speaking

### GERMAN

Fluent

Elementary

Elementary

SOCIAL SKILLS AND COMPETENCES

- Proactivity
- Communication skills
- Teamwork
- Empathy
- Cooperation

ORGANIZATIONAL SKILLS AND COMPETENCES

In the academic field I have had the opportunity to participate in various projects, familiarizing myself with the design standards in reference to the latest national and European regulations, working individually and collaborating in groups, both as a member and as a leader, with always positive results.

TECHNICAL SKILLS AND COMPETENCES

- Computer Aided Engineering (CFD, 3D modeling, optimization studies)
- Control and management of industrial processes
- Energy management and energy efficiency
- Design and modeling of mechanical and energy systems
- Environmental impact assessment and sustainability study
- Computer programming languages and software (Microsoft Office Package, MATLAB & Simulink, Simcenter STAR-CCM+, Ansys, COMSOL, VENTO, RBF Morph, C/C++, Python, Java)

OTHER SKILLS AND COMPETENCES

- Technology and IT innovation
- Learning programming languages and German
- Fitness and calisthenics at amateur level

DRIVING LICENSE(S)

class/category B