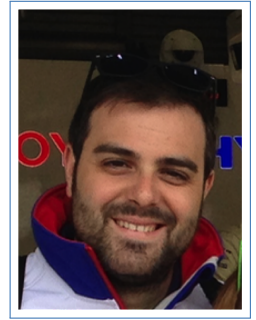


Andrea Penza

Curriculum Vitae

34 Compass Court
High St, N8 7FF
London, UK

☎ (+44) 7428 838583
✉ andreapenza.12@gmail.com
📱 [andrea-penza-5b7b5050](https://www.linkedin.com/in/andrea-penza-5b7b5050)
📧 [andreapenza.12](https://www.instagram.com/andreapenza.12)



Info

Born April 8, 1985 in Milan (Italy)
Citizenship Italian
Marital Status Single
Driving License Car (B)

Profile

Italian CFD Engineer with 7 years of experience in Motorsport (Le Mans and Formula 1) and America's Cup competition. Lived and worked across three different countries so far, I am ambitious, open-minded, flexible thinker and worker. Fully focus on achieving targets and success.

Working Experience

Feb 2017 - present **CFD Tools & Methods Engineer, Red Bull Racing Formula One Team, Milton Keynes (UK).**



- Develop and maintain highly evolved ANSA CFD pre-process workflow. Collaborate with ANSA software developers to further improve surface meshing in-house process.
- CFD non-standard processes which require development from scratch, automation, and post-processing analysis.
- Planning tests and evaluating latest CFD technologies on the market.

Apr 2016 - Jan 2017 **CFD Process Engineer, Manor Racing Team, Banbury (UK).**



- Continuous development of our highly automated OpenFOAM-based CFD Process
- CFD Process optimization to improve CFD accuracy and turnaround time
- Advanced remeshing strategies snappyHexMesh-based
- Releasing new Postprocessing tools to accommodate requests of CFD users

Apr 2014 - Mar 2016 **Aerodynamicist & CFD Methodology Engineer, Toyota Motorsport GmbH, Cologne (Germany).**



- As CFD Methodology:**
 - Successfully released OpenFOAM automated CFD process to replace Star-CD methodology
 - Develop and update CFD scripting for Toyota Hybrid LMP1 car, as well as for customer WTCC, LMP3 and Formula4 cars
 - In charge for CFD vs WT correlation. Creation of an automated process based on Python
 - Maintain and update in house VTK-based python automated post-processing
 - Main developer of CFD database concept from scratch
- As Aerodynamicist:**
 - CFD Aero development working in Front and Rear groups. Front brake cooling CFD development.
 - 3D surface parametric design
 - Wind Tunnel shifts as Aerodynamicist developing Toyota LMP1 2015 and 2016 car

Jul 2012 – Mar 2014



CFD Engineer, *Cineca*, SuperComputing Applications and Innovation Department, Segrate (Italy).

- Investigation regarding usability of OpenFOAM at Luna Rossa Challenge America's Cup Team
- Released fully-automated OpenFOAM-based CFD Process for hydrodynamic multiphase applications
- Complex geometries meshing using snappyHexMesh (AC72 multi-hull and appendages) and Pointwise (fully structured wingsail mesh)
- Non uniform boundary conditions implemented (wind twist)
- Deep HPC knowledge having been based at Cineca where production cluster was hosted

Oct 2012 - Feb 2014



Lecturer, *Politecnico di Milano*, Milano (MI).

Academic tutor lecturer for the course **"Instability and Turbulence"**.

- Writing of C++ Trilinos code for CFD application
- setup of OpenFOAM RANS cases
- post-processing of DNS data in Paraview

Education

2008 - 2012

Master of Science, *Politecnico di Milano*, Milano, Italy.

Aeronautical Engineering - Aerodynamic specialization

- **MSc Thesis**: "*Linear Stability of 2D Incompressible Flows using Trilinos*", An open-source C++ based CFD software for flow stability investigations

2004 - 2008

Bachelor's Degree, *Politecnico di Milano*, Milano, Italy.

Aerospace Engineering

Computer & Technical skills


| | |
|-----------------|--|
| CFD | OpenFOAM, Star-CD & Star-CCM+, Ansys Fluent |
| Wind Tunnel | WT session shifts developing LMP1 2015 and 2016 car at Toyota Motorsport WT1 (Cologne) |
| Meshing | snappyHexMesh, ANSA, pro-STAR & CCM+, TGrid, Pointwise |
| CFD tools | Catia v5, NX, SolidEdge |
| Post-pro | VTK library, Paraview, Periscope |
| Programming | Python, C/C++ languages |
| Version control | SVN, Mercurial |
| Miscellaneous | Enovia VPM, Trilinos library, Linux OS, Mac OS X, Windows, MS Office, SAP |

Conferences, Lectures & Courses

| | |
|----------|---|
| May 2017 | "Beta CAE User Conference", Thessaloniki (GRE) - attendee |
| Dec 2015 | "Aerodynamic Development in Motorsport", Politecnico di Milano, Milan (ITA) - lecturer |
| Oct 2014 | "ESI OpenFOAM User Conference 2014", Berlin (GER) - attendee |
| Aug 2014 | "Catia v5, in house training at Toyota Motorsport", Cologne (GER) - attendee |
| Mar 2014 | "HPC enabling OpenFOAM for CFD Applications", CINECA, Bologna (ITA) - lecturer |
| Jul 2013 | "OpenFOAM advanced training by OpenCFD-ESI", Paris (FRA) - attendee |
| Jun 2013 | "PRACE 12th Summer School of Scientific Visualization", CINECA, Milan (ITA) - lecturer |
| Apr 2013 | "ESI OpenFOAM User Conference 2013", Frankfurt (GER) - attendee |
| Nov 2012 | "HPC Enabling OpenFOAM for CFD Applications", CINECA, Bologna (ITA) - lecturer |
| Oct 2012 | "Pointwise: a high level meshing tool for CFD applications", Milan (ITA) - attendee |
| Oct 2012 | "Basic Python programming for scientific applications", Milan (ITA) - attendee |
| Jun 2012 | "European Trilinos User Group Meeting", Ecole Polytechnique Fédérale de Lausanne, Lausanne (SUI) - attendee |
| May 2012 | "Introduction to CFD simulations using OpenFOAM", Milan (ITA) - attendee |

Languages

Italian  **Mothertongue**

English  **Fluent** - professional speaking thanks to last 4 years spent working abroad
TOEIC certification achieved

German  **Good**
Zertifikat Deutsche at Goethe Institut (Milan) certification achieved

Interests & Attitude

I love Motorsport and every competition involving Aerodynamics. Attracted by every aspects of CFD. Former basketball player, Rotaract Club co-founder and vice president, passionate about travelling and meeting new cultures and people

Signature

