ALESSANDRO CHIARI

16/06/1994

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⌂ Via Italo Svevo 60 Reggio Emilia

Driving License B, A2 - own car

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DIGITAL SKILLS

- MATLAB
- Maxima
- Hypermesh, Optistruct
- Marc Mentat
- Catia V5
- Suite Office (Power Point, Excel, ...)
- LaTeX
- Fundamentals: Adams, Amesim, Solidwork, Python, VBA, CES

LANGUAGE SKILLS

English B2

LEISURE TIME

Drawing, Cycling, Skiing,...

WORK EXPERIENCE

01/11/2020 – Current

PhD - **MilleChili Lab.** - University of Modena and Reggio Emilia, Department of Engineering “Enzo Ferrari”

Machine component design - Finite Element Method - Analytical modelling techniques - Experimental test - Optimization

- Research fields: Stress concentration factors, Dental prostheses, Pin-lug connection, Homogenization techniques for lattice structures, Anti-roll bars, Control arm
- Teaching support: Chassis Design - Master Vehicle Eng., Machine Design - ITS Maker
- Secondment: VDG Lab., University of Pretoria, SA (29/09/2022-02/12/2022)

01/02/2020 – 31/10/2020

Research grant - **MilleChili Lab.** - University of Modena and Reggio Emilia, Department of Engineering “Enzo Ferrari”

Machine component design - Finite Element Method - Analytical modelling techniques

07/2012

Worker - **Next Hydraulics srl**, Boretto RE

Construction working experience in fluid power and lifting fields

EDUCATION

02/12/2019

Master's Degree in Vehicle Engineering - **CdM Lab.** - University of Modena and Reggio Emilia, Department of Engineering “Enzo Ferrari**”**

Final Mark: 110/110 - Thesis: “Formulation of new multipoint constraints for the finite element analysis of constant cross-section beams”

17/10/2016

Bachelor's Degree in Mechanical Engineering - **Vibrations and Powertrain Lab.** - University of Modena and Reggio Emilia, Department of Engineering “Enzo Ferrari”

Final Mark: 105/110 - Thesis: ”Pitting development on spur gears”

06/2013

Scientific high school diploma - **"Aldo Moro"**, Reggio Emilia

Final Mark: 96/100

Quanto dichiarato nel presente curriculum vitae corrisponde al vero ai sensi degli artt. 46 e 47 del D.P.R. 445/2000

ADDITIONAL INFORMATION

Collaborations

European project OWHEEL: Benchmarking of Wheel Corner Concepts Towards Optimal Comfort by Automated Driving, (MSCA-RISE-2019). Work package: "Passive wheel corner concept with composite elements".

- Secondments at the Vehicle Dynamics Group (VDG), University of Pretoria: Nov-Dec 2022 and May-June 2023 (planned). Work on the connection between multi-body dynamic simulation and finite element analysis.

Research topics:

- Finite element investigation on the topic of Stress Concentration Factors in the paper: "Shafts with U-shaped circumferential grooves: design charts for stress concentration factors, radial displacement and Poisson's ratio influence".
- Within the framework of the OWHEEL project, research paper on the design of automotive Anti-roll bars: "A Spline-Based Analytical Model for the Design of an Automotive Anti-Roll Bar". Planned presentation at the WCX SAE World Congress Experience, in Detroit, Michigan, April 2023.
- Experimental, numerical, and analytical investigation in the bio-mechanical field of dental prostheses in the paper: "Load bearing capability of three-units 4Y-TZP monolithic fixed dental prostheses: An innovative model for reliable testing".
- Numerical and analytical characterization of the equivalent mechanical properties of lattice materials (homogenization techniques).