BIONDO LUCA - CURRICULUM VITAE

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Torino – TO– 10138

❖ Born: March 18, 1997

❖ Nationality: Italian

❖ Linkedin

PRESENTATION

Automotive engineer currently enrolled into a PhD at Politecnico, born in the south of Italy.

Passionate of challenges, in particular for what concerns the motorsport world, focusing on ICE technology, powertrain, hybrid solutions, vehicle dynamics and vehicle control.

About myself I like to spend time in outdoor activities, explore new places appreciating different cultures and architectures, visiting museums, art galleries and training to the gym.

EDUCATION

NOV/01/2023 – Ongoing

Torino -TO-

Politecnico di Torino – PhD into DIMEAS department in collaboration with Easyrain ISPA

Topic: Detection of aquaplaning and identification of potential friction in tyre/road contact under low grip

SEP/01/2023 – NOV/01/2023

Torino -TO-

Politecnico di Torino – Research Fellowship into DIMEAS department

Topic: Electrification and control of a 1:5 scale vehicle

SEP/30/2020 – JUL/17/2023

Torino -TO-

Politecnico di Torino – Automotive Engineering Master Degree

Product Development Area

Final Grade 107/110

Conference Date	Exam	Credits	Final Grade
JAN/25/2021	Numerical Modelling and simulation	8	23
FEB/02/2021	Propulsion systems and their applications to vehicles	10	25
FEB/10/2021	Car body design and aerodynamics	8	27
FEB/24/2021	Electrical drives for eMobility	8	30 cum laude
JUN/14/2021	Motor vehicle design	8	30 cum laude
JUN/21/2021	E-powertrain components	8	30 cum laude
SEP/15/2021	Energy management in hybrid and electric vehicles	6	30
GEN/24/2022	Engine emissions control	8	25
FEB/03/2022	Vehicles dynamics simulation	8	30
FEB/14/2022	Vehicle noise and vibration	6	23
JUN/17/2022	Electronic systems for vehicles	6	27
JUL/05/2022	Automotive Fluid Power Systems	6	30
NOV/08/2022	Driver Assistance & System Design	12	24

Thesis *Electrification and Control of a Scale Vehicle*

Description

The main objective of the thesis was to electrify a scaled vehicle previously powered by an internal combustion engine. The thesis explains all the necessary steps to carry out this conversion, including testing, components selection, integration, studied layouts, and employed control methods, performing an in-depth analysis on this last. The Arduino board played a fundamental role in the initial stages, later transitioning to a more complex system such as Speedgoat, allowing to achieve a more refined and precise system control. This procedure was carried on obtaining a fully controllable vehicle, developing so an open system for future applications.

SEP/30/2016 – SEP/22/2020

Torino -TO-

Politecnico di Torino – Bachelor Degree in Mechanical Engineering

Final Grade 92/110

Thesis

eBooster per la riduzione del turbo lag e dei consumi negli autoveicoli

Description

The topic of the thesis is the eBooster component, which is an upgrade of the existing turbocharger. The thesis motivates the creation of the device, analogies and differences with the mechanical type, the different topology that could be exploited, with a brief recap on pros and cons of each one, focusing more on the electrical machine used.

2011 – 2016

Telese Terme -BN-

IIS Telesi@ – Liceo Scientifico

Final Grade 92/100

PROFESSIONAL EXPERIENCE

JUL/2017 – AUG/2017

Telese Terme -BN-

Pub Fritti & Sfizi – Occasional work

I worked in different roles, in a part-time way, including waiter, managing the bills and kitchen helper.

PAPERS

APR/09/2017

Vella, A.D., Biondo, L., Tota, A., and Vigliani, A., "Electrification and Control of a 1:5 Scale Vehicle for Automotive Testing Methodologies," SAE Technical Paper 2024-01-2271, 2024, doi:10.4271/2024-01-2271.

LANGUAGE SKILLS

Italian

Mother tongue

English

Reading	Listening	Spoken Interaction	Spoken Production	Writing
B2	B2	B2	B2	B2

SKILLS

Hard

- Vehicle Control;
- eMotor;
- Vehicle Dynamics;
- Simulation;
- Data Acquisition;
- Data Processing;
- Real-Time Target Machine Speedgoat;
- Arduino;

Soft

- Teamworking;
- Time-Scheduling;
- Work Scheduling;
- Communication;
- Problem Solving;

Computer

- Windows OS intermediate knowledge;

- GNU/Linux basis course participation in 2019;
- C/C++ programming basis;

- Suite Office high knowledge, particularly Word, Excel and Powerpoint;
- MathWorks – MATLAB, high level
    - Simulink
    - Simulink Real-Time
      Simscape environment
- Dassault Systèmes – SolidWorks high level;
- Autodesk – AutoCAD medium level;
- HyperWorks Desktop 2020 medium knowledge;
- MSC Software – Adams Car, basis;
- Star-CCM+ basis;
- GT-SUITE basis;
- Simcenter Amesim basis;
- Arduino IDE, intermediate;
- Escon Studio, intermediate;

OTHERS

- Driving license B;
- Available to travel in Italy and abroad;
- Available to relocate.

Autorizzo il trattamento dei miei dati personali presenti nel CV ai sensi dell'art.13 d. lgs. 30 guigno 2003 n. 196 - "Codice in materia di protezione dei dati personali" e dell'art. 13 GDPR 679/16 - "Regolamento europeo sulla protezione dei dati personali"