

Curriculum Vitae

BORIS PETRONE



EDUCATION

- From 1st of November 2022 to Today
PhD in AUTOMOTIVE ENGINEERING FOR INTELLIGENT MOBILITY at **ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA** in collaboration with **FERRARI S.P.A.**
Research Project: *Algorithm development aimed at experimental data processing and non-conventional injection systems control strategies validation*
- 2nd of December 2019
MASTER'S DEGREE IN ADVANCED AUTOMOTIVE ENGINEERING – ADVANCED POWERTRAIN at **UNIVERSITÀ DEGLI STUDI DI MODENA E REGGIO EMILIA**
Thesis Title: *Real time multi bricks thermal model of a Selective Catalytic Reduction system for Hardware In-the Loop application*
Grade: **110 / 110 cum Laude**
- 25th of July 2017
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING at **POLITECNICO DI MILANO**
Thesis Title: *Analysis of transmission system of an Unmanned Aircraft Vehicle*
Grade: **103/110**

WORK EXPERIENCES

- From 1st of January 2021 to 22nd November 2022
Full-time permanent contract
Powertrain ICE Function Specialist
MARELLI EUROPE S.p.A
Test implementation and execution in Hardware In-The Loop environment, focused on validation of ECUs Software Control Strategies functions concerning Air and Fuel system, Combustion Processes, Synchronism and Exhaust Aftertreatment system management for Diesel, Gasoline and Motorbike applications.
- From 23rd of September 2019 to 31st of December 2020
Staff Leasing permanent contract
Validation Reference Engineer
MARELLI EUROPE S.p.A with ADECCO
Test implementation and execution in Hardware In-The Loop environment, in order to validate engine control strategies in Engine Control Units, for Gasoline and Diesel Engines applications. Brief experience of Test Automation development for Cybersecurity Authenticated Software Update validation. Reference SW Validation Engineer for Diesel Euro 6d-Final Engine Control Units.
- From 15th of April 2019 to 13th of September 2019
Curricular Full-Time Traineeship
Hardware In the Loop Tools Chain Engineer
MARELLI EUROPE S.p.A
Test Automation development and monitoring in Hardware In-The Loop Environment, in order to validate Engine Control Unit embedded Software, dedicated to diagnostic strategies for Diesel engine application.
- From 3rd of November 2016 to 30th of January 2017
Curricular Full-Time Traineeship
Mechanical Simulation Engineer of drone HCP-M
HELICAMPRO S.r.l., GRASSOBBIO (BG)
During the traineeship I worked in the technical office. I was in charge of simulations and analysis of different stress conditions of helicopter drone transmission system in different flying situations, and engine cooling fan system.

LANGUAGES	<ul style="list-style-type: none"> ▪ Italian Native Language ▪ English UK Certificates: TOEIC LISTENING AND READING. SCORE: 840
IT SKILLS	<ul style="list-style-type: none"> ▪ Operating Systems: Microsoft Windows ▪ Programming languages: Matlab, Python, C/C++ ▪ Software of modeling, simulation and analysis for dynamical systems: Simulink ▪ Word processing and spreadsheets: Microsoft Word, PowerPoint, Excel ▪ Software for Hardware In-The Loop simulations for ECU ControDesk dSPACE ▪ Development Tool Software for ECU: INCA, MDA ▪ Software for diagnostic tool management: DIAnalyzer, DiagRA ▪ Software for data transfer analysis in serial bus: CANalyzer
FORMATIVE COURSES	<ul style="list-style-type: none"> ▪ IL MOTORE FERRARI: PRODOTTO E PROCESSO – FERRARI S.P.A. – from 27 OTTOBRE to 18 DICEMBRE 2017 ▪ FUTURE OF AUTOMOTIVE FOR INTELLIGENT MOBILITY – MUNER HE – from 17 NOVEMBRE to 7 DICEMBRE 2022 – 90 hours ▪ SUPERVISED MACHINE LEARNING: REGRESSION AND CLASSIFICATION – COURSERA, DEEPLARNING AI – from 23 NOVEMBRE to 5 DICEMBRE 2022 – 30 hours ▪ ADVANCED LEARNING ALGORITHMS – COURSERA, DEEPLARNING AI – from 10 DICEMBRE 2022 to 4 GENNAIO 2023 – 40 hours
SCIENTIFIC PUBLICATIONS	<ul style="list-style-type: none"> ▪ E. Giovannardi, A. Brusa, B. Petrone, N. Cavina, E. Corti and M. Barichello, "An Enhanced Light Gradient Boosting Regressor for Virtual Sensing of CO, HC and NOx" 2023 IEEE International Workshop on Metrology for Automotive (MetroAutomotive), Modena, Italy, 2023, pp. 1-6, doi: 10.1109/MetroAutomotive57488.2023.10219122. ▪ E. Giovannardi, A. Brusa, B. Petrone, N. Cavina, R. Tonelli, I. Kitsopanidis, "AI-based Virtual Sensing of Gaseous Pollutant Emissions at the Tailpipe of a High-performance Vehicle", SAE International Journal of Engines, submitted online on 06/09/2023, manuscript number: JENG-2023-0050.

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