

Francesco Argentieri

Mechatronic Engineer

contact

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Francesco Argentieri
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languages

Italian—mother tongue
English—upper
intermediate

education

- 2015 – 2020 **M. Sc.** in Mechatronics Engineering University of Trento
Thesis "*Enhancing UAV capabilities with machine learning on board*".
Specialization in Mechanics–Mechatronics
- 2008 – 2015 **Bachelor** in Mechanics Engineering Marche Polytechnic University
Thesis "*Structural analysis of an automotive hot formed sheet component with variable thickness*".
Specialization in Energy–Thermomechanical

experience

- 05/2022 – PRESENT **Rimac Technologies - Kineton** Naples, Italy
"*Software developer - Consultant*".
Infotainment software developments for Hyper/Luxury cars. Program-
ming in C++17 language and use of Qt framework.
software: C++, Qt, QML, Git, BitBucket, JIRA
- 06/2020 – 05/2022 **Kineton** Naples, Italy
"*Embedded software developer*".
I developed the applications Qt/QML and services for Automotive Grade
Linux. So, I have gained experience in software development using OOP,
enhancing my knowledge regarding C++17, STL and Linux Environment.
software: C++, Qt, QML, AGL (Automotive Grade Linux), Git, GitLab

academic projects

- 04/2019 – 03/2020 **University of Trento** Trento, Italy
"*Enhancing UAV capabilities with machine learning on board*".
This project focuses on the activity of providing the drone's ability to take
advantage of the detection and classification of objects with TensorFlow
Lite. The whole system is run on ARM cortex-A53 and TPU processors for
tensor calculation, the project uses Raspberry Pi3b and Coral Dev-Board.
software: Python, Tensorflow, Altair PBS (HPC), C++/Qt, \LaTeX
- 09/2018 – 11/2018 **University of Trento** Trento, Italy
"*Rapid development CNN for image classification using fine-tuning tech-
niques and implementation on SoC systems*".
Train CNN for binary classification by refinement techniques starting from
already known models. Optimization and execution for devices low power
consumption hardware such as Intel Movidius USB and Raspberry Pi 3B.
software: Python, Keras, Tensorflow, Altair PBS (HPC), \LaTeX

09/2017 – 06/2018	University of Trento <i>"Distributed robots mapping exploration".</i> The project explores the problem of localization and mapping for an unknown environment with a team of robots. The simulation shows SLAM techniques based on Montecarlo to reconstruct the map using several robots at the same time to map the environment. software: Matlab, mex, C++, \LaTeX	Trento, Italy
05/2017 – 08/2017	University of Trento <i>"Helicopter's tail-boom and rotor vibration analysis".</i> The project finite-element developed to predict and analyzing free vibration characteristics of two different helicopters tail structures using static structural and dynamic analysis emphasis on the rotor's starting phase. software: Ansys Mechanical (APDL), \LaTeX	Trento, Italy
02/2015 – 06/2015	DIISM, Marche Polytechnic University <i>"Structural analysis of an automotive hot formed sheet component with variable thickness".</i> The project developed regarding automotive components hot formed with variable thickness by FEM analysis. The purpose was to compare the components with variables thickness, verify its response to static stresses respect a previous study where the same component had constant thickness. software: Ansys Mechanical, Altair HyperMesh, LsDyna, Qt, \LaTeX	Ancona, Italy

skills

Programming

C, C++, Qt, Python, Ruby

Software

Microsoft Office, Visual Studio Code

Package

Ansys, HyperWorks, Maple, Matlab, FreeCad

Other

\LaTeX , Arduino, Raspberry Pi

OS

Linux, MacOS, Windows

certification

10 / 2022 **Qt 6 Core Intermediate with C++**

Udemy

09 / 2022 **Solid C++**

Udemy

10 / 2021 **Autonomous Robots: Kalman Filter**

Udemy

02 / 2021 **ROS For Beginners (ROS Noetic, Melodic, Kinetic)**

Udemy

07 / 2020 **Graduation to Professional Engineer (Italian legislation)**

24 July - I session - University of Trento

12 / 2018 **Safety in the laboratory**

University of Trento

driver's license B

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October 1, 2022