

# Francesco Argentieri

Mechatronic Engineer

## contact

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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

- 06/2020 – PRESENT **Kineton** Naples, Italy  
"*Embedded Software Developer*".  
Developing application Qt/QML for Automotive Grade Linux.  
Experience in software development using OOP in C++.  
Proficiency in C++14/17/ STL, and Linux Environment.  
**software:** C++/Qt, AGL (Automotive Grade Linux), QML, Git, GitLab
- 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 techniques 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** Trento, Italy  
"*Distributed robots mapping exploration*".  
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++,  $\LaTeX$

05/2017 – 08/2017

### University of Trento

Trento, Italy

*"Helicopter's tail-boom and rotor vibration analysis".*

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),  $\LaTeX$



02/2015 – 06/2015

### DIISM, Marche Polytechnic University

Ancona, Italy

*"Structural analysis of an automotive hot formed sheet component with variable thickness".*

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,  $\LaTeX$



## skills

### Programming

C++, C, Qt, Python, Ruby, R

### Software

Microsoft Office, Visual Studio Code

### Package

Matlab, Simulink, Maple, Ansys, SolidWorks, HyperWorks

### Other

Internet networking, Arduino, Raspberry Pi,  $\LaTeX$

### OS

MacOS, Linux, Windows

## certification

### 2020 Graduation to Professional Engineer (Italian legislation)

24 July - I session - University of Trento

### 2018 Safety in the laboratory

University of Trento

### 2015 Council of Europe Level B1 (PET)

Cambridge English, University of Cambridge

## driver's license B

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