



Andrea Wrona

Curriculum Vitae

Personal Information

Name **Andrea**
Surname **Wrona**
Date of birth October 1, 1996
Place of birth Gagliano del Capo (Lecce) – Italy
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Education

2020– **PhD in Automatic Control, Bioengineering and Operations Research,**
ongoing *Sapienza, Rome.*

In 2020 I have won a Sapienza PhD scholarship. Among the three, my curriculum is “Automatic Control” and my studies rely on communication control systems, with relevant focus on space and terrestrials applications.

2018–2020 **Master of Science in Control Engineering**, *Sapienza*, Rome, 110/110 *summa cum laude*.

I completed my master studies with a comprehensive average of 29.91/30).

In february, 2020 I have been admitted to the *Students Honors Program*, reserved to the most valuable students. The matter of the Program is: networked systems and consensus dynamics.

The Master thesis I have developed concerns the active debris removal problem and space manipulator systems modeling and control, with particular attention on the dynamic couplings between the base platform and the robotic arm.

During the Master course I joined five projects:

- Optimal control of an active suspension system;
- Dynamic coefficients identification for the KUKA LWR IV+ robot;
- Stable walking for a biped walker;
- Rendezvous and formation control for unicycles via consensus;
- Kinetic Energy Recovery System (KERS) for a Formula 1 car.

2019 **Trieste Next**, Trieste.

In september, 2019 I joined the scientific research festival “Trieste Next”. In particular I attended three visits to companies in Friuli Venezia Giulia and eleven conferences about artificial intelligence and Big Data

2019 **TESP Robotics**, *Tohoku University*, Sendai – Japan.

In may, 2019, after succeeding in an internal selection in my university, I have been admitted to the Summer School organized by the Tohoku University in Sendai, Japan. The programme took place from july, 26 to august, 12 in Sendai. During these days I joined the Space Robotics Laboratory, working on a project involving autonomous navigation through obstacles of a wheeled mobile robot.

2015–2018 **Bachelor of Computer and Control Engineering**, *Sapienza*, Rome, 110/110 *summa cum laude*.

As part of the degree course I joined the *Students Honors Program*, reserved for the most deserving student. In the first instance I had the possibility to study the *Wave Digital Filters*, analytic objects useful for the numerical integration of dynamical electric systems. Successively I dealt with complex dynamical systems, focusing on modeling and control issues: in particular, I analyzed the dynamics of vehicle active suspension systems, suggesting control schemes which had to respect the specifications of asymptotic stability and disturbance rejection.

During the third year, together with two colleagues, I developed a project regarding an image recognition problem, using and comparing several different convolutional neural network (CNN). To handle this kind of problem I used Python with *TensorFlow* libraries.

As bachelor thesis I have developed a deep study and analysis of power systems, with focus on voltage control.

2010–2015 **Classical High School**, *Giuseppe Stampacchia*, Tricase (LE), *100/100*.

While in high school, I participated to latin and ancient greek *certamina* at local and national level and also to mathematical and physical contests, qualifying at the national final of the Mathematical Games at the *Bocconi* University (Milan).

Certifications

Title *CLAD: Certificate LabVIEW Associate Developer*

Description Certification obtained by *National Instruments* on December, 2017, after attending a practical course at Sapienza University.

Languages

Italian *Mother Tongue*

English *B2*

Comments In–depth knowledge of english language, both in written and in oral form. In order to improve my language skills I attended for two years summer schools in Liverpool and Birmingham. During these study trips I was admitted to the B2–level class.

Spanish Knowledge of few words and simple phrases.

Computer skills

Operating Systems Windows, UNIX–like, Mac OS.

Programming Languages C, C++, Java, Python, Assembly, MATLAB, Simulink, LabVIEW.

Attitudes

Accurate, precise, with a remarkable ability in problem solving and strong attitude to team–working. I am focused on teamwork and goals.

Interests & Hobbies

I love traveling, discovering new places and new cultures. I am addicted to the scientific discovers, in particular the novelties in the mathematical and physical fields. While reading, I prefer the classics of latin and ancient greek literature, in particular the comedies. I am also interested in cinema, especially in dramatic movies. In my spare time I enjoy swimming, playing chess and football. I have been cultivating my passion for the acoustic guitar for many years.

In compliance with the art.13 of the Italian Legislative Decree 196/2003, I hereby authorize you to use and process my personal details contained in this document.

Rome – December 15, 2020

Signature

Andrea Moro