

# Gabriele Conforti

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**Nationality:** Italian | **Gender:** Male | Italy

## ● WORK EXPERIENCE

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11/2020 – CURRENT – Rome, Italy

**RESEARCH FELLOWSHIP (ASSEGNO DI RICERCA)** – ARCALAB, SCUOLA DI INGEGNERIA AEROSPAZIALE, SAPIENZA UNIVERSITÀ DI ROMA

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**Responsible:** Prof. Fabio Curti

**Research Project:**

"Artificial Intelligence application to the Orbit Determination problem for the SIA-Sapienza/ASI's SPOT project"

**Other Activities:**

■ SITAEL's uHETSat AOCS:

- Performance assessment through Monte Carlo simulations using FES simulator
- Control Law Review

06/2020 – 11/2020 – Rome, Italy

**JUNIOR RESEARCH FELLOWSHIP** – ARCALAB, SCUOLA DI INGEGNERIA AEROSPAZIALE, SAPIENZA UNIVERSITÀ DI ROMA

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**Responsible:** Prof. Fabio Curti

**Research Project:**

"Orbit Determination Techniques for Space-Based Optical Observations for SIA-Sapienza/ASI's SPOT (Star sensor image on-board Processing for Orbiting objects deTection) project"

## ● EDUCATION AND TRAINING

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09/2017 – 03/2020 – Roma, Italy

**MASTER'S DEGREE IN SPACE AND ASTRONAUTICAL ENGINEERING** – Università di Roma La Sapienza, Facoltà di Ingegneria Civile e Industriale

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- Spaceflight Mechanics
- Space Systems
- Control Systems
- Aerospace Materials
- Rocket Guidance
- Space Propulsion

**Thesis:** Machine Learning Algorithms for Initial Orbit Determination from Too-Short Arc Optical Observation

108/110

09/2014 – 11/2017 – Rome, Italy

**BACHELOR'S DEGREE IN AEROSPACE ENGINEERING** – Università di Roma La Sapienza, Facoltà di Ingegneria Civile e Industriale

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- Linear Algebra
- Calculus
- Physics
- Thermodynamics
- Aerospace Structures
- Aerodynamics
- Applied Mechanics

◦ Electronics, Telecommunication

## ● LANGUAGE SKILLS

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Mother tongue(s): **ITALIAN**

Other language(s):

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	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH</b>	B2	C1	B2	B2	B2

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*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## ● PUBLICATIONS

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### **Adaptive control for proximity maneuvers around asteroids using Extreme Learning Machine-based gravity field estimation**

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Conference: 31st AAS/AIAA Space Flight Mechanics Meeting, Virtual 2021

**Authors: Andrea D'Ambrosio, Gabriele Conforti, Ivan Agostinelli, Fabio Curti.**

### **Gauss-PSO Algorithm for Too Short Arc Initial Orbit Determination for Ground SPOT**

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Conference: 72nd International Astronautical Congress (IAC), Dubai, United Arab Emirates 2021

**Authors: Gabriele Conforti, Fabio Curti, Luigi Ansalone, Claudia Facchinetti, Alberto Tuozi**

## ● COMMUNICATION AND INTERPERSONAL SKILLS

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### **Communication and interpersonal skills**

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Good Communication skills gained through High School Students tutoring

### **Teamworking**

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Acquired thanks to research activities in multicultural and multidisciplinary environment

## ● **JOB-RELATED SKILLS**

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### **Job-related skills**

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- Advanced Knowledge:
  - MATLAB
- Good Knowledge
  - Simulink
  - Python Programming Language
  - Orbit Determination techniques from optical observations (Acquired during the master's thesis work)
  - Keras, Tensorflow, Sci-kit Learn Libraries for Machine Learning
  - Office Suite (Word, Excel, Powerpoint)
  - Windows and Linux Operating Systems
  - Latex
- Basic Knowledge
  - CAD (CATIA)
  - FEM software (MARC)
  - 3D printing

## ● **BACHELOR THESIS CO-ADVISOR**

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### **Studio di un sistema di ruote di reazione in configurazione ridondante per il controllo d'assetto**

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Author: Alessandro Seita  
Advisor: Prof. Fabio Curti  
Co-advisor: Gabriele Conforti

## ● **CERTIFICATIONS**

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### **STK Level 1 Certification**

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