

Marco MASTROFINI

PERSONAL DATA

PLACE AND DATE OF BIRTH: Frascati, Italy | 29 Nov 1992
ADDRESS: Monte Compatri, Italy
PHONE: 338 6085858
E-MAIL: mastrom92m@gmail.com
LINKEDIN: marco-mastrofini

WORK EXPERIENCE AND SCOLARSHIPS

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|-------------------|---|
| DEC 2019-PRESENT | <p><i>Co-PI of SPOT: "Star sensor image on-board Processing for Orbiting objects deTection", an Italian Space Agency/ Sapienza University of Rome project</i></p> <p>The project focuses on the development of a SW/HW payload to process Star Trackers' images for Space Situational Awareness purposes. I lead a development group through several activities: documentation preparation, feasibility studies, trade offs and Hardware In the Loop experimental set up design and preparation for Verification & Validation tests of the payload.</p> |
| JAN 2020-SEP 2021 | <p><i>Collaboration with "Leonardo Finmeccanica", Campi di Bisenzio, Florence</i></p> <p>This research activity focused on study and development of star sensors' high angular rates determination algorithms in the framework of Leonardo-Sapienza collaboration in the new AASTR star sensor development project. I was in charge of documentation preparation and software architecture development.</p> |
| JAN 2016-DEC 2018 | <p><i>Scholarship at "Experimental Fluid dynamics Laboratory" of DIMA (Department of Mechanical and Aerospace Engineering), "La Sapienza" University of Rome</i></p> <p>Provided technical support to chief technician for setting up experiments and to students (in particular Erasmus program ones) during their laboratory experiences. I became familiar with solving practical problems, handling accidents, planning laboratory activities, team work organization and improved in interacting with other colleagues.</p> |
| APR 2015-OCT 2015 | <p>Summer Scholarship at INFN-LNF (NATIONAL INSTITUTE OF NUCLEAR PHYSICS-FRASCATI NATIONAL LABORATORIES), Space Applications</p> <p><i>Thermal Analysis of CCRs-(Corner Cube Reflectors)</i></p> <p>Experimental test activities and data analysis concerning CCRs for Lunar Laser Ranging applications. In this framework, I gained experience in experimental set up, team work organization, use of Infrared Cameras and data processing.</p> |
| FEB 2015-APR 2015 | <p><i>Scholarship at "Computer Science Laboratory", "La Sapienza" University of Rome</i></p> <p>Provided technical support for maintaining computers' operative systems and software updated. Became familiar with Windows operative, Ubuntu and team work organization.</p> |

EDUCATION

- NOV 2020-PRESENT | *PhD Student in "Astronomy, Astrophysics and Space Sciences", "La Sapienza" University of Rome*
My current research activity is focused on attitude GNC systems based on Artificial Intelligence technique.
- OCTOBER 2019 | **Master's Degree in SPACE and ASTRONAUTICAL Engineering, La Sapienza University, Rome (10/15/19)**
110/110 *summa cum laude*
Thesis: "Analysis and Development of guidance algorithms for autonomous satellite formation flying missions" | Advisor: Prof. Christian CIRCI | Co-advisor: Prof. Fabio CURTI
GPA: 29.25/30
SUBJECTS: Space Flight Mechanics & Systems, Control Systems, Space Navigation, Spacecraft Design, Interplanetary trajectories and missions, Telecommunications.
- JULY 2015 | **Bachelor's Degree in AEROSPACE Engineering**
110/110 *summa cum laude, La Sapienza University, Rome (07/15/15)*
Thesis: "Thermal Characterization of a Retroreflector Payload for Lunar Laser Ranging Missions" | Advisor: Mauro MIGLIORATI
GPA: 28.25/30
SUBJECTS: Flight Mechanics, Aerodynamics, Numerical methods, Aerospace Structures & Propulsion, Telecommunication systems.
- JULY 2011 | **Istituto Tecnico Aeronautico di Stato "F. De Pinedo", Rome |**
Final Grade: 100/100
Studies focused on Aircrafts pilotage, Navigation and Air Traffic Control.

PUBLICATIONS, PRESENTATIONS AND CERTIFICATES

- FEB 2021 | CO-AUTHOR IN: A. D'AMBROSIO ET AL., "Optimal reference orbital tracking around asteroids via Particle Swarm Optimization and inverse dynamics technique, 31st AAS/AIAA Space Flight Mechanics Meeting, Virtual
- OCT 2020 | AWARD AS EXCELLENT GRADUATE OF A.Y. 2018/2019
La Sapienza "University of Rome", Rome
- JAN 2020 | POSTER PRESENTATION AND CO-AUTHOR IN: "Star sensor image on-board Processing for orbiting Objects deTection-SPOT", 5th IAA Conference on University Satellite Missions and CubeSat Workshop, Rome
- OCT 2019 | PEGASUS CERTIFICATE, Master's Degree in Space and Astronautical Engineering, Sapienza University of Rome.
- APR 2019 | AGI SATELLITE TOOLKIT , First Level Certification
- JUN 2018 | OCCUPATIONAL HEALTH AND SAFETY TRAINING
- SEP 2017 | CO-AUTHOR IN: E. CIOCCI ET AL., "Performance analysis of next-generation lunar laser retroreflectors", *Advances in Space Research*, Volume 60, Issue 6, 15 September 2017, Pages 1300-1306
- MAY 2011 | TRINITY ENGLISH CERTIFICATION, Grade 10 Graded Examination in Spoken English. Level 2 Certificate in ESOL International (Speaking and Listening).

LANGUAGES

ITALIAN: Mothertongue
ENGLISH: Fluent (Listening: B2, Reading: C1, Spoken: B2, Written: C1)

COMPUTER SKILLS

Basic Knowledge: AGI STK, PYTHON, LABVIEW, SIMULINK, \LaTeX , KERAS
Advanced Knowledge: MATLAB, Microsoft: Excel, Word, PowerPoint

TECHNICAL SKILLS

Documentation Knowledge:
ECSS-S-ST-00C, ECSS-M-ST-10C, ECSS-E-ST-40C, ECSS-E-ST-10-24C, ECSS-Q-HB-80-04A
Technical Knowledge: Star Trackers, Astrodynamics, Optical sensors

INTERESTS, ACTIVITIES AND MEMBERSHIPS

Member of SIMCA (*Società Italiana di Meccanica Celeste e Astrodinamica*), September 2019
Technology, Open-Source, Programming

Climbing, Mountaineering, Trekking, kayaking, Swimming (4th level cert.), Travelling, amateur Photographer, History, Archeology, Geography, Books, Trumpet player.

DRIVING LICENSE: B

I authorize the use of my personal data according to the Legislative Decree 30 June 2003, n.196 "Code for the Protection of personal Data".

Signature:

