

Mark Anthony De Lunas De Guzman

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● WORK EXPERIENCE

01/09/2023 – CURRENT Rome, Italy

RESEARCH ACTIVITY SCHOLARSHIP HOLDER SCUOLA DI INGEGNERIA AEROSPAZIALE DELLA SAPIENZA UNIVERSITÀ DI ROMA

Research project: "Pre-Phase A for CubeSat Mission to Demonstrate the Lig-A Accelerometer". I participated in the research project as the successful candidate selected through a competitive application process.

The research project is stipulated between SIA (Scuola di Ingegneria Aerospaziale) and INRiM (Istituto Nazionale di Ricerca Meteorologica). My contributions to the project focus on mission analysis. Specifically, I design simulations to provide insights into the orbit and the attitude of the satellite, as well as deliver results related to the ground segment. Furthermore, I contribute to the project also by providing the documentation related to my work, in the form of presentations and technical notes.

● EDUCATION AND TRAINING

Rome, Italy

BACHELOR'S DEGREE IN AEROSPACE ENGINEERING University of Rome La Sapienza

I gained basic engineering knowledge, with a major focus on aerospace-related subjects, such as flight mechanics and space exploration.

Thesis "Study on the Impulsive Thrust Approximation in Orbital Transfer Optimization"

Rome, Italy

MASTER'S DEGREE IN SPACE AND ASTRONAUTICAL ENGINEERING University of Rome La Sapienza

My studies were mainly focused on astrodynamics, orbit determination, attitude control and space robotics. I also gained basic knowledge of propulsion, gasdynamics and electronics. The courses I attended required a consistent employment of Matlab. For my thesis, I developed skills in Python and became familiar with the Gazebo simulator, using plug-ins and developing Single Description Format files to set up the simulations, as well as with Robot Operating System 2, developing a publisher-subscriber nodes architecture and integrating ROS2 with Gazebo.

Thesis "Forward Kinematic Modeling to Enhance Rover Localization and Pose Estimation" - I have studied and tested a kinematic model using Python codes; also Gazebo and ROS2 were employed to set up and manage the simulations required for the thesis

● LANGUAGE SKILLS

Mother tongue(s): **ITALIAN** | **TAGALOG**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2

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

● **DIGITAL SKILLS**

Matlab | Python | ROS2 | Google Drive | Linux | Microsoft Office package: Microsoft Word, Excel, PowerPoint, Access | STK 11

● **ADDITIONAL INFORMATION**

EXTRACURRICULAR TRAINING ACTIVITIES

STUDENT TEAM ACTIVITIES

- **Sapienza Space Team**, from November 2015 to November 2016. The team participated in the CanSat Competition 2016. I worked in the Flight Descent subsystem of the team, focusing on the manufacturing and testing of the mechanical parts of the glider we built for the competition. Working for the team, I gained skills in handling hardware components and as well as practical experience with passive attitude control devices.
 - **Sapienza Technology Team** from 2017 to 2018. We collectively developed a rover design that was later built. The team activities allowed me to gain practical experience in placing and interfacing different parts to obtain a compact design for a fully functioning rover.
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Rome , 07/02/2024

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