Felice Piccolo

Space Engineer

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Languages

- Italian ●●●●●
- English ●●●●○

Hard Skills

- MATLAB ●●●●○
- Latex ●●●●○
- Microsoft Office ●●●●○
- Simulink ●●●○○
- SolidWorks ●●●○○
- Ansys ●●●○○
- Git ●●●○○
- Python ●●○○○
- Catia V5 ●●○○○

Soft Skills

- Teamwork ●●●●●
- Adaptability ●●●●●
- Analytical Skills ●●●●○
- Problem Solving ●●●●○
- Time Management ●●●●○

Certificates

Certificate in Advanced English (C1) - Cambridge English, 2014

Python for Everybody Specialization - Coursera, 2020

Work Experience

Feb 2021 - Present — **Research Fellow** — Politecnico di Milano
GNC Engineer for ESA's Milani CubeSat, part of the Hera mission to the Didymos binary system.
–Design and integration of a hardware-in-the-loop facility to validate Milani's optical navigation system.
–Development of an estimation algorithm to assess the knowledge of the spacecraft state throughout the mission.

July 2020 - Jan 2021 — **Space Systems Engineer** — Sidereus Space Dynamics
–Design of a microlauncher specifically devised for CubeSats.
–Arduino programming: sensors integration and radio communication.

Education

2019 - 2020 — **Alta Scuola Politecnica** — Politenico di Milano, Politecnico di Torino
–Excellence school focused on interdisciplinary projects and horizontal skills development.
–Main subjects: dynamics of innovation, design methods and processes, decision making and policy design, digital twins.

2018 - 2020 — **M.Sc. in Space Engineering** — Politecnico di Milano
–Final grade: 110/110 with honors.
–Thesis subject: "Numerical simulations for the design of a hardware-in-the-loop experiment for interplanetary CubeSats". The thesis focused on three areas: the validation of the orbital propagator employed in the experiment, the development of an uncertainty propagation tool and the definition of a detailed experiment architecture.

2015 - 2018 — **B.Sc. in Aerospace Engineering** — Università di Napoli Federico II
–Final grade: 110/110 with honors.
–Thesis subject: "Analysis of Aerocapture manoeuvers for a Martian probe". I studied the aerocapture manoeuver and evaluated its feasibility for a Martian probe.

Academic Projects

2019-2020 — **Innovative Solar Tracker Design - Group Project**
15-month Alta Scuola Politecnica project in collaboration with COMAU SpA.
–Design of an automatic panel locking mechanism devised for COMAU's Hyperion robot.
–Finite Element Analysis of the tracker's structure using Ansys.

2020 — **X-Ray Spectrometer Design - Group project**
Phase 0 system design of an X-ray spectometer: requirements definition and decomposition, trade-off analysis, system architecture definition, subsystems and interfaces design.

2020 — **CubeSat Attitude Simulation and Control**
–Modeling of attitude dynamics and nonlinear control laws for a 6U CubeSats in Earth orbit.
–Simulation of de-tumbling and tracking manoeuvres in Simulink.

2020 — **Modeling and Simulation of GOCE's DFACS - Group Project**
Dynamic simulation of the main components of the Drag Free and Attitude Control Systems of the GOCE spacecraft.

2019 — **Interplanetary and Near Earth Mission Analysis - Group Project**
–Interplanetary Explorer Mission: optimal trajectory design for a Mars-Mercury transfer, with flyby at Venus.
–Earth Planetary Mission: ground track, orbital perturbations analysis and filtering.