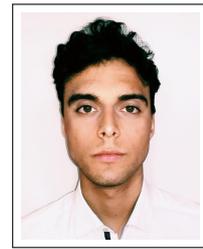


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Research interests

Highly nonlinear astrodynamics • Numerical methods for astrodynamics • Autonomous interplanetary CubeSats

Education

- Nov 2019 – Present **PhD student in Aerospace Engineering**, Politecnico di Milano, Milan, Italy. Supervisor Prof. Francesco Topputo.
- Oct 2016 – Apr 2019 **MSc in Space Engineering**, Full Marks with Honours (110/110 Cum Laude), Politecnico di Milano, Milan, Italy. Thesis on "*Payload, Orbit, and Environment Simulation for LUMIO Mission Coverage Analysis*". Supervisor Prof. Francesco Topputo.
- Sep 2013 – Sep 2016 **BSc in Aerospace Engineering**, Full Marks with Honours (110/110 Cum Laude), Politecnico di Milano, Milan, Italy.

Publications and presentations

Merisio, G., Massari, M., Di Lizia, P., Biggs, J., Giordano, C., Franzese, V., Topputo, F., Koschny, D., Vennekens, J., Walker, R., et al. (2020). "Predicting the Outcome of the LUMIO Lunar Cubesat". In: *71st International Astronautical Congress (IAC 2020)*.

Cervone, A., Topputo, F., Speretta, S., Menicucci, A., Biggs, J., Di Lizia, P., Massari, M., Franzese, V., Giordano, C., Merisio, G., et al. (2020). "KEYNOTE: Phase A Design of the LUMIO Spacecraft: a CubeSat for Observing and Characterizing Micro-Meteoroid Impacts on the Lunar Far Side". In: *71st International Astronautical Congress (IAC 2020)*.

Merisio, G., Topputo, F., Franzese, V., Giordano, C., Cervone, A., Speretta, S., and Walker, R. (2019). "LUMIO CubeSat: Toward a Lunar Situational Awareness". In: *EPSC-DPS Joint Meeting 2019* (Geneva, Switzerland).

Topputo, F., Merisio, G., Franzese, V., Giordano, C., Cervone, A., Speretta, S., and Walker, R. (2019). "LUMIO CubeSat: Toward a Lunar Situational Awareness". In: *iCubeSat 2019, 8th Interplanetary CubeSat Workshop* (Milan, Italy).

Research experience

- Jan 2021 – Present **Temporary research fellowships**, Politecnico di Milano, Milan, Italy.
Research on "*EXTREMA Pillar 3, project awarded an ERC Consolidator Grant in 2019*".
Supervisor Prof. Francesco Topputo.
- Nov 2019 – Dec 2020 **Temporary research fellowships**, Politecnico di Milano, Milan, Italy.
Research on "*Modeling and simulation of payload-orbit-environment interaction for LUMIO mission*". Supervisor Prof. Francesco Topputo.
- Mar 2006 – Jun 2016 **Feasibility study for Alstom Ferroviaria in collaboration with Aermatica and DAER Politecnico di Milano**, Milan, Italy. Supervisor Prof. Luca Angelo Di Landro.

Teaching experience

- AY 2020 – 2021 **Teaching assistant**, Politecnico di Milano, Milan, Italy. "*Introduction to Space Mission Analysis*", BSc in Aerospace Engineering. Instructor Prof. Francesco Topputo.
- AY 2019 – 2020 **Teaching assistant**, Politecnico di Milano, Milan, Italy. "*Introduction to Space Mission Analysis*", BSc in Aerospace Engineering. Instructor Prof. Francesco Topputo.

Projects

- Jan 2021 – Present **ERC | EXTREMA – Engineering Extremely Rare Events in Astrodynamics for Deep-Space Missions in Autonomy**, Politecnico di Milano, Milan, Italy.
Performed high-fidelity trajectory design of ballistic capture. PI Prof. Francesco Topputo.
- Mar 2020 – Feb 2021 **ESA | LUMIO lunar CubeSat phase A study**, Politecnico di Milano, Milan, Italy.
Performed mission requirements definition, payload requirements definition, and ADCS design. PI Prof. Francesco Topputo.

Work experience

- Mar 2019 – Jul 2019 **R&D engineer at R4P S.r.l.**, Trainee, Milan, Italy.
Designed solutions for advanced engineering problems in the following industrial fields: aerospace, aeronautics, oil & gas, mechanical, automotive, and medical devices.

Awards

- 2019 EPSC bursary award for early career scientist, EPSC-DPS Joint Meeting 2019, Geneva, Switzerland.
- 2016 ASPRI programme certification (Alta Scuola Politecnica Ricerca e Innovazione), Politecnico di Milano, Milan, Italy.

Memberships

- 2021 – Present Italian Association of Aeronautics and Astronautics (AIDAA)
- 2019 – 2020 Europlanet Society (euroPLANET)

Communication skills

- Italian* **Native proficiency**
- English* **Full professional proficiency**

Milan, 14 May 2021.