

Andrea Jimmy Pacursa

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🌐 Andrea Jimmy Pacursa

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🌐 Portfolio

🏠: Via Aspromonte 19, 20834, Nova Milanese (MB)

Education

Ph.D. in Aerospace Engineering

Research: Mission Analysis, Nonlinear Guidance, Robust Optimization

Politecnico di Milano, Italy

Feb. 2026 – Present

M.Sc. in Space Engineering

Final Grade: 110/110 cum Laude

Politecnico di Milano, Italy

Sept. 2023 – Dec. 2025

Thesis: “Nonlinear Sample-based Guidance leveraging GPU-based Propagation”.

Developed at DART Lab - PoliMi under technical supervision of ESA-ESOC Mission Analysis Section (OPS-GFA)

B.Sc. in Aerospace Engineering

Final Grade: 100/110

Politecnico di Milano, Italy

Sept. 2020 – July. 2023

Scientific High School Diploma

Final Grade: 100/100

Liceo Scientifico "Ettore Majorana" Desio (MB), Italy

Sept. 2015 – June. 2020

Experience

Ph.D. Researcher

DART Lab - PoliMi

Milan, Italy

Feb. 2026 – Present

Research in nonlinear guidance schemes with sample-based map inversion for autonomous and robust trajectory optimization.

Banquet Waiter

Fuoco & Vino - Brasa con Cucina

Paderno Dugnano (MI), Italy

Aug. 2023 – Dec. 2024

Event organization, Reception of customers, Table service, Cashier, General cleaning.

Headwaiter

Ristorante Pizzeria L'Impronta

Muggiò (MB), Italy

Apr. 2022 – Aug. 2023

Relations with suppliers, Reception of customers, Table service, Cashier.

Rider

Ristorante Pizzeria L'Impronta

Muggiò (MB), Italy

Jul. 2021 – Apr. 2022

Delivery to customers, General cleaning.

Private Lecturer

Self-employed

Italy

Jan 2019 – Present

Delivery of private lessons in mathematics, physics and engineering foundation topics. Design of both in-person/remote lectures.

Public Talks

Conference Talk: Massive Parallel Propagation for Robust Nonlinear Guidance

22nd PEGASUS Student Conference

Valencia, Spain

April 2026

Invited Talk: Nonlinear Sample-based Guidance leveraging GPU-based Propagation

ESA European Space Operations Centre (ESOC)

Darmstadt, Germany

November 2025

Conference Talk: Preliminary Mission Analysis and GNC Design for the HORUS mission

76th International Astronautical Congress (IAC) - Astrodynamics Symposium

Sydney, Australia

October 2025

Awards & Certifications

Introductory Certificate in Project Management <i>International Project Management Association (IPMA)</i>	Italy Issued: June 2025
DSU Scholarships for Merit <i>Politecnico di Milano</i>	Italy Issued: 2020 - 2025
ETS TOEIC - Test of English for International Communication <i>British Language Services / Linguaviva</i>	Italy Issued: September 2022
High School Graduate Scholarship for Merit <i>Comune di Nova Milanese</i>	Italy Issued: 2021
ECDL Full Standard Certificate <i>Associazione Italiana per l'Informatica e il Calcolo Automatico (AICA)</i>	Italy Issued: May 2018
ECDL Standard Certificate <i>Associazione Italiana per l'Informatica e il Calcolo Automatico (AICA)</i>	Italy Issued: May 2018

Publications

1. **A.J. Pacursa**, L. Bucci, A. Masat, A. Pasquale, A. Martinelli, P. Lunghi, “Nonlinear Sample-based Guidance leveraging GPU-based Propagation”, *Journal of Guidance, Control and Dynamics*, submitted.
2. **A.J. Pacursa**, “Massive Parallel Propagation for Robust Nonlinear Guidance”, *22nd PEGASUS Student Conference*, Valencia, Spain, 2026.
3. **A.J. Pacursa**, M. Cappuccio, M. Braga, D. Bellini, M.G. Juvara, M.D. Dowell, F. Cataffo, L. Cesarini, G. Biraghi, B. Beretta, M.R. Lavagna, “High-Resolution Imaging in VLEO: Preliminary Mission Analysis and GNC Design for the HORUS Mission”, *76th International Astronautical Congress*, Sydney, Australia, 2025. doi: 10.52202/083087-0122
4. L. Cesarini, M.D. Dowell, F. Cataffo, G. Biraghi, B. Beretta, M. Cappuccio, **A.J. Pacursa**, M. Braga, D. Bellini, M.G. Juvara, M.R. Lavagna, “HORUS: A High-Resolution Earth Observation Mission in Very Low Earth Orbit”, *76th International Astronautical Congress*, Sydney, Australia, 2025. doi: 10.52202/083084-0036

Skills and Interests

Programming: Python, MATLAB

Simulation & Modeling: Simulink, Simscape, Dymola, Modelica

Scientific Libraries: SPICE (NAIF), MATLAB Aerospace Toolbox, CUDAjectory

CAD: SolidEdge, SolidWorks, Inventor

Hardware: Arduino

Source Control: Git

Project Management: ProjectLibre

Computer Skills: LaTeX, Microsoft Office

Languages: Italian (Native), English (Fluent), French (Basic)

Interests: Passionate about writing, sketching and playing football at a competitive level.