Eugenio Cuniato

Automation Engineer

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SHORT BIO

Eugenio Cuniato was born in Naples, Italy, on June 13, 1997. He received his Bachelor's degree in Automation Engineering in 2018 from the University of Naples Federico II. Two years later, he received his Master's degree in Automation Engineering from the same institution.

He is currently a Ph.D. student at the Autonomous Systems Lab (ETH Zürich). His research interests include Aerial Physical Interaction, Human-Robot Cooperation and Automatic Control.

WORK EXPERIENCE

Jul. 2022 Apr. 2022	**Visiting Researcher** at Voliro, Zürich (Switzerland). Visual Servoing for wind turbines inspection with an aerial manipulator.
Mar. 2021 Oct. 2020	**Internship** at PRISMA Lab, department of Information Technology and Electrical Engineering, Naples (Italy). Development of a hardware-in-the-loop Human-Drone simulator.

EDUCATION

Ongoing May 2021	**Ph.D. student in Aerial Robotics** at Autonomous Systems Lab, ETH Zürich. Advisor: Prof. Dr. Roland Siegwart.
Jan. 2021 Oct. 2018	**MSc in Automation Engineering (Magna cum laude)** at Università degli Studi di Napoli Federico II, Department of Electrical Engineering and Information Technology. Dissertation: *Control of an Aerial Manipulator for bird diverters installation.* Advisor: Dr. Fabio Ruggiero.
Oct. 2018 Sep. 2015	**BSc in Automation Engineering (Magna cum laude)** at Università degli Studi di Napoli Federico II, Department of Electrical Engineering and Information Technology. Dissertation: *Development of motor software drivers for an omnidirectional platform.* Advisor: Prof. Dr. Luigi Villani.

AWARDS

- Best Paper Award on Safety, Security and Rescue Robotics at the International Conference on Intelligent Robots and Systems (IROS 2022).

- Best Automation Engineering student, University of Naples Federico II, 2018. Award given each year to the student with the highest exams score and the Bachelor's Degree obtained in no more than 3 years.

LANGUAGES

Italian: Native   *English*: Fluent

SKILLS

Programming Skills	C/C++, Python, MATLAB, Pytorch, Robot Operating System (ROS).
Embedded Hardware Platforms	NVIDIA Jetson, Raspberry PI, Arduino, STM.
CAD	CATIA V5, Siemens NX.
Main competences	Intelligent Systems, Robotics, Aerial Manipulation, Control.

RESEARCH PROJECTS

- [Project Aerial-Core](#) (2020-2021): "Aerial Cognitive Integrated multi-task Robotic system with Extended operation range and safety", funded by the European Union's Horizon 2020 research programme.

- [Project AERO-TRAIN](#) (2021-2024): "AErial RObotic TRAINing for the next generation of European infrastructure and asset maintenance technologies", funded by the European Union's Horizon 2020 research and innovation programme under a Marie Skłodowska-Curie Grant.

PUBLICATIONS

International Conference Papers

1. **Hui, T., Cuniato, E., Pantic, M., Tognon, M., Fumagalli, M., Siegwart, R.**. "Passive Aligning Physical Interaction of Fully-Actuated Aerial Vehicles for Pushing Tasks." *ICRA 2024: International Conference on Robotics and Automation*, Yokohama, Japan, May 2024.

2. **Cuniato, E., Andersson, O., Oleynikova, H., Siegwart, R., Pantic, M.**. "Learning to Fly Omnidirectional Micro Aerial Vehicles with an End-To-End Control Network." *ISER 2023: International Symposium on Experimental Robotics*, Chiang Mai, Thailand, December 2023.

3. **Cuniato, E., Geles, I., Zhang, W., Andersson, O., Tognon, M., Siegwart, R.**. "Learning to Open Doors with an Aerial Manipulator." *IROS 2023: InternationalConference on Intelligent Robots and Systems*, Detroit, USA, October 2023.

4. **Cuniato, E., Geckeler, C., Brunner, M., Strübin, D., Bähler, E., Ospelt, F., Tognon, M., Mintchev, S., Siegwart, R.**. "Design and control of a micro overactuated aerial robot with an origami delta manipulator." *ICRA 2023: International Conference on Robotics and Automation*, London, England, May 2023.

5. **Cuniato, E., Cacace, J., Selvaggio, M., Ruggiero, F., Lippiello, V**. "A hardware-in-the-loop simulator for physical human-aerial manipulator cooperation." *ICAR 2021: International Conference on Advanced Robotics*, Ljubljana, Slovenia, December 2021.

Journal Papers

1. **Gorlo, N., Bamert, S., Cathomen, R., Käppeli, G., Müller, M. S., Reinhart, T., Stadler, H., Shen, H., Cuniato, E., Tognon, M., Siegwart, R.**. "Geranos: a Novel Tilted-Rotors Aerial Robot for the Transportation of Poles." *IEEE Robotics and Automation Magazine*, 2023.

2. **Malczyk, G., Brunner, M., Cuniato, E., Tognon, M., Siegwart, R.**. "Multi-directional interaction force control with an aerial manipulator under external disturbances." *Autonomous Robots*, 2023.

3. **Cuniato, E., Lawrance, N., Tognon, M., Siegwart, R.**. "Power-based safety layer for Aerial Vehicles in Physical Interaction using Lyapunov Exponents." *IEEE Robotics and Automation Letters*, 2022.

Book Chapters

1. **Orozco-Soto, S. M., Cuniato, E., Cacace, J., Selvaggio, M., Ruggiero, F., Lippiello, V., Siciliano, B.**. "Aerial Manipulator Interaction with the Environment." *Control of Autonomous Aerial Vehicles: Advances in Autopilot Design for Civilian UAVs, Springer Nature*, 2023.