Luca Russo

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 https://github.com/Aliothy 🌐 Personal Website

Education

UIC-UNIVERSITY OF ILLINOIS AT CHICAGO

- PhD student in Mechanical and Industrial Engineering — In Progress-GPA 4.00/4.00
- Master of Science in Electrical and Computer Engineering — October 2024–GPA 4.00/4.00

POLITECNICO DI TORINO | *Turin, Italy*

- Master of Science in Mechatronics Engineering — October 2024–final grade 110 cum laude/110
- Bachelor of Science in Aerospace Engineering — July 2022–final grade 110 cum laude/110

Technical Skills

PROGRAMMING LANGUAGES: C, C++, Octave, Python.

SOFTWARES: Arduino IDE, Automation Studio, Codesys, Confluence, FluidSim, Git, Jira, LTSpice, Matlab, Microsoft Office, MuJoCo, ROS, ROS 2, Simscape, Simulink, Stateflow.

CAD and STRUCTURAL ANALYSIS: SolidWorks, Catia V5, Hypermesh, Patran and Nastran.

Relevant Experiences

UIC January 2024 – Current
Research Assistantship - PhD student *C++, Python, Linux System*

- Developing C++ and Python ROS2 nodes for controlling drones in heterogeneous robotics systems.
- Simulating the coded algorithm both in simulation environments (Gazebo / MuJoCo) and hardware implementation.

Research Assistantship - Master's Thesis

- Modeling and implementation of a highly non-linear legged microrobot in the MuJoCo simulation environment.
- Coding and development of a closed-loop control algorithm through Deep Reinforcement Learning.

Chicago EDT-STUDENT TEAM January 2024 – Present
Leader of the Control System Team *C++, Python, Linux System*

- Leading the team that designed the control systems for a digging robot for the NASA challenge LUNABOTICS.
- Developing the main navigation algorithm by estimating the position of the robot through IMU, cameras, and motor encoders by using the Isaac ROS Visual SLAM package.
- Awarded the 5th place of the Caterpillar Autonomy Award

Internship Experience

PROGEM srl April 2022 – June 2022
Quality Engineer Intern *Carmagnola, Italy*

- Tested aerospace components with measurement tools such as calipers and coordinate-measuring machines.
- Drafted the needed quality documentation according to the ISO 9001 and AS 9100.

Publications

[1] L. Russo, E. Chandler, K. Jayaram, and A. R. Trivedi, "Dynamic resonance frequency identification for economic insect-scale legged robot locomotion," in *2024 6th International Conference on Control and Robotics (ICCR)*, 2024, pp. 142–146. doi: 10.1109/ICCR64365.2024.10927506.

[2] L. Russo, M. S. Mondal, S. Ramasamy, J. D. Humann, J. M. Dotterweich, and P. A. Bhounsule, "Precision auto-landing of an aerial vehicle on a moving ground vehicle: A modular ros2 approach," *ASME IDETC-CIE*, 2025, Accepted for publication.