# Luca Russo

+1 872 279 9425 luca.russo2000@gmail.com https://www.linkedin.com/in/lucarusso2000
https://github.com/Aliothy

## Education

**UIC-UNIVERSITY OF ILLINOIS AT CHICAGO**

- PhD student in Mechanical and Industrial Engineering — September 2024-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 – September 2024

*Research Assistantship - Master's Thesis*

- Modeling and implementation of a highly non-linear four-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*

- 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.
- Performed the Brinell Hardness Test.
- Drafted the needed quality documentation according to the ISO 9001 and AS 9100.

## Projects

**Stewart's platform** | *Matlab, Simulink* — January-June 2023

- Studied the Inverse kinematic of the Platform by using linear analysis tools such as roto-translation matrices.
- Designed a controller in Simulink to stabilize the position of a ball posed on top of the platform.

**Satellite position estimation** | *Python, Google Earth Engine* — September-December 2023

- Implemented and tuned an Extended Kalman filter to estimate the trajectory of the Landsat 7 satellite from the images taken from the Google Earth Engine platform.

**ICARUS-STUDENT TEAM** | *Hypermesh, Matlab* — September 2021-July 2023

- Designed and simulated aeronautical structures for a model aircraft competing in the Air Cargo Challenge.

## Publications

*Dynamic Resonance Frequency Identification for Economic Insect-scale Legged Robot Locomotion*, L.Russo, E. Chandler, K. Jayaram, A. R. Trivedi. Accepted for publication in *IEEE International Conference on Control and Robotics (ICCR)*, December 2024