

Luca Russo

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github https://github.com/Aliothy

Education

UIC-UNIVERSITY OF ILLINOIS AT CHICAGO

- PhD student in Mechanical and Industrial Engineering
- Master of Science in Electrical and Computer Engineering

Started in Fall 2024
October 2024–GPA 4.00/4.00

POLITECNICO DI TORINO | Turin, Italy

- Master of Science in Mechatronics Engineering
- Bachelor of Science in Aerospace Engineering

October 2024–final grade 110 cum laude/110
July 2022–final grade 110 cum laude/110

Technical Skills

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

SOFTWARES: Arduino IDE, Automation Studio, Codesys, FluidSim, LTSpice, Matlab, 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

Control System Engineer

- Designing of 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