

**Updated
July 29, 2025**

Personal information

Name / Surname

Address

Telephone

Personal Email

Nationality

Date of birth

Filippo Zoffoli

Via Duca Degli Abruzzi, 39z, Rimini, RN

+39 3662963596

filippo.zoffoli6@unibo.it

Italian

13/12/1998

Research Summary

Research focus

Keywords

Highlights

Control, kinematic analysis, and calibration of Cable-Driven Parallel Robots.

Cable-driven robotics, hybrid control, estimation and self-calibration, robot kinematic design.

4 peer-reviewed publications (1 in high-impact journal *Mechanism and Machine Theory*); participation in IFIT conference.

Didactic and Scientific Activities

Dates

Name and Address of employer

Type of business or sector

Type of employment

Main activities and responsibilities

19/02/2024 - 11/06/2024 and 17/02/2025 - 13/06/2025

University of Bologna, Via Zamboni 33

University

Academic tutor of the Laboratory of Robotics and Mechatronics

Teaching support activities, production and maintenance of teaching materials.

Dates

Name and Address of employer

Type of business or sector

Type of employment

Main activities and responsibilities

04/06/2025 – 04/09/2025

University of Minnesota, Department of Aerospace Engineering and Mechanics, Minneapolis, MN, USA, 107 Akerman Hall 110 Union Street SE Minneapolis, MN 55455

University – Research Internship

Visiting PhD Researcher

Research on novel self-calibration methods for cable-driven parallel robots, with a focus on online initial-pose self-calibration.

Education and training

Dates

Title of qualification awarded

Principal subjects/Occupational skills covered

Name and type of organization providing education and training

Level in national or international classification

01/03/2023 - in progress

Ph.D. in Mechanics and Advanced Engineering Sciences

Reconfigurable robotic systems for automated large-scale applications

University of Bologna - Department of Industrial Engineering

90

Dates

19/09/2020 - 10/10/2022

Title of qualification awarded
Principal subjects/Occupational skills covered
Name and type of organization providing education and training
Level in national or international classification

Master Degree in Mechanical Engineering
Thesis title: Feedback Control of Underactuated Cable-Driven Parallel Robots, final grade: 110/110L
University of Bologna

74

Dates
Title of qualification awarded
Principal subjects/Occupational skills covered
Name and type of organization providing education and training
Level in national or international classification

19/09/2017 - 07/10/2020
Bachelor's Degree in Mechanical Engineering
Thesis title: Design of a portable coffee press, final grade: 106/110
University of Bologna

71

Personal skills and competences

Mother tongue
Other language(s)

Self-assessment
European level

English
Spanish

Italian

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C1	C1	C1	C1	C1
A1	A1	A1	A1	A1

^(*) Common European Framework of Reference (CEF) level

Communication skills

Good ability to draw up reports; excellent skills in summarizing and presenting work derived from team projects during university and Ph.D. studies. Good ability in public speaking.

Organisational and managerial skills

Strong planning and goal-setting abilities. Effective team collaboration, including interdisciplinary projects with electronics and computer science domains.

Computer skills and competences

Specialized in Office Suite, Specialized in CAD software. Known programming languages: MATLAB (High), Python (Medium), C (Medium), C++ (Medium).

List of publications

- [1] Ida' E., **Zoffoli F.**, Carricato M. (2024). Hybrid-Control-Based Workspace Analysis of Overconstrained Cable-Driven Parallel Robots. In: Lenarčič, J., Husty, M. (eds) Advances in Robot Kinematics 2024. ARK 2024. Springer Proceedings in Advanced Robotics, pp. 324-331, doi:10.1007/978-3-031-64057-5_37
- [2] **Zoffoli F.**, Coccia V., Ida' E., Carricato M. (2024). A rapid initial-pose self-calibration method for underactuated cable-driven parallel robots, In: Quaglia G., Boschetti G., Carbone G. (eds), Advances in Italian Mechanism Science, IFToMM Italy 2024, Mechanisms and Machine Science, pp. 366–374, doi:10.1007/978-3-031-64553-2_43
- [3] **Zoffoli F.**, Ida' E., Carricato M. (2025), Design and control optimization for hybrid-controlled overconstrained cable-driven parallel robots, Mechanism and Machine Theory, 209, pp. 1-17, doi:10.1016/j.mechmachtheory.2025.105998
- [4] **Zoffoli F.**, Ida' E., Carricato M. (2025), Initial-pose self-calibration for deployable overconstrained Cable-Driven Parallel Robots, presented in the 34th International Conference on Robotics in Alpe-Danube Region, RAAD2025, 18-20 June, Belgrado, Serbia