



# Andrea Lucarini

26 years old

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## RESEARCH INTEREST

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Cable-Driven Parallel Robot (CDPR), Optimal Design, Trajectory Planning, Underactuation

## RESEARCH EXPERIENCE

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**Visiting PhD Student** | *Laboratoire de Robotique Université Laval*

Nov. 2025 – Present

Supervisor Prof. Cardou: optimal trajectory planning for underactuated systems

Québec, Canada

## EDUCATION

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**PhD Programme** | *Mechanics and Advanced Engineering Sciences*

Nov. 2023 – Present

Thesis Title: Advancing CDPRs through Nonlinear Constrained Optimization

Univ. of Bologna, Italy

**Master Degree with honors** | *Mechanical Engineering: Robotics*

Oct. 2021 – Oct. 2023

Thesis Title: Mechatronic Design Solution for Planar Overconstrained CDPR

Univ. of Bologna, Italy

**Bachelor Degree with honors** | *Mechanical Engineering*

Oct. 2018 – Oct. 2021

Thesis Title: Design of a Sensorized Cable-Routing System for CDPR

Univ. of Bologna, Italy

## HONORS AND AWARDS

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**CableCon 2025 Best Student Paper** | 7th International Conference on CDPRs, Hong Kong

Jul. 2025

Rest-to-Rest Trajectory Planning for Underactuated CDPRs Using Input Shaping: Preliminary Results

**IFIT Bronze Best Student Paper Award** | 4th Int. Conference of IFToMM Italy, Naples

Sep. 2022

Kinematic Modeling and Design of a Sensorized Cable-Routing System for CDPRs

## PATENT & TECHNOLOGY TRANSFER

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**Italian Patent Application 102 025 000 019 243**

2025

Cable-Driven Parallel Robotic Device for Field Installations

Status: pending

## PERSONAL SKILLS

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### Languages

Italian: native

English: **C1** Cambridge English Language Assessment (Dec. 2017)

French: **DELFB2** Ministère de l'Éducation nationale français (Jul. 2017)

### Programming and Digital Skills

C, Matlab, Simulink and Simscape languages

CAD software: Creo PTC, Solidworks, ADAMS View

Document preparation software: Excel, PowerPoint, Word, LaTeX, Inkscape

### Professional Service & Soft Skills

Co-supervised 3 MSc theses and 2 BSc final projects

Teaching Assistant – Mechanics of Machines (MSc Level)