Davide **De Benedittis**

Robotics Engineer · Researcher

Robotics Postdoc at the University of Pisa specializing in **learning-based and model-based control** of legged and multi-robot systems. Founding engineer at two startups, leading the ROS 2 stacks of an RL-driven quadruped and a VLA-controlled humanoid.

Contact

davide.debenedittis@gmail.com
https://ddebenedittis.github.io/
ddebenedittis
davide-de-benedittis
UPFlKT4AAAAJ
0000-0002-7185-6784

Skills

Methods

Optimal Control & MPC,
Reinforcement Learning (RL),
Vision-Language-Action (VLA), Sim-to-Real,
State Estimation, SLAM, Motion Planning

Programming Languages

Python · C++ · MATLAB

Robotics

ROS 1 & 2 · Gazebo · MuJoCo
Isaac Sim · Isaac Lab · MoveIt

Libraries

CasADi · Pinocchio · PyTorch
JAX · LeRobot · GR00T

DevOps

Docker · Git

Languages

English	Fluent (C1)
Italian	Native

Publications

6 journal papers published (4 first-author), **1** conditionally accepted, **3** under review, **3** conference presentations.

Journals

IEEE Robotics and Automation Society (RAS): RA-L, RA-M, T-FR

IEEE T-SMC, IEEE T-CST, Scientific Data

Conferences

IROS 2025, IROS 2026, I-RIM 3D 2024

Experience

Postdoctoral Researcher — *Pisa, Italy*

University of Pisa — *Jul 2026–Present*

- Researching **reinforcement learning** and **sampling-based MPC** for legged and multi-robot systems.

Founding Software Engineer — *Remote · Part-time*

Cyber Fusion — *Nov 2024–Present*

- USA-based startup developing accessible, open-source quadrupedal robots.
- Owned the **ROS 2** architecture of the quadruped, from ros2_control and safety to EKF state estimation and visual and lidar SLAM.
- Trained blind and perceptive **RL locomotion** and fall-recovery policies in Isaac Lab and deployed them **on hardware**.

Founding Software Engineer — *Remote · Part-time*

Borg Robotics — *Dec 2024–Jul 2026*

- USA-based startup developing humanoid robots for autonomous logistics.
- Led the ROS 2 stack of a wheeled humanoid, from teleoperated data collection to **VLA-based control**.
- Prototyped **DDP-based control** for a bipedal humanoid in simulation.

Research Stay — *Delft, Netherlands*

TU Delft — *May–Nov 2025*

- Researched **motion planning** for mobile multi-robot systems in Javier Alonso-Mora's Autonomous Multi-Robots Lab.

Field Missions — *Valfurva and Perugia, Italy*

University of Pisa — *Jun 2022 and May 2023*

- Deployed quadrupedal robots across two field campaigns for autonomous habitat monitoring in alpine screes and grasslands.

Benchmarking Mission — *Madrid, Spain*

CSIC — *Apr 2023*

- Benchmarked quadrupedal locomotion on irregular terrains, contributing to a reproducible assessment methodology published in IEEE RA-M.

Education

Ph.D. in Robotics Engineering — *Pisa, Italy*

University of Pisa — *Nov 2022–Jul 2026*

- Supervised by Lucia Pallottino and Manolo Garabini.
- Researched motion planning and control of legged robots, mobile multi-robot systems, and robotic arms.
- Co-developed Pronto2, a ROS 2 **state estimation** library for legged robots based on multi-sensor Kalman filtering.
- Mentored M.Sc. students and was teaching support for a semester in Antonio Bicchi's course.

M.Sc. in Robotics and Automation Engineering — *Pisa, Italy*

University of Pisa — *Oct 2018–Oct 2022*

- Graduated **110/110 cum laude**.

B.Sc. in Mechanical Engineering — *Pisa, Italy*

University of Pisa — *Oct 2014–Oct 2018*

- Graduated 110/110.

Full Merit Scholarship (*allievo ordinario*) — *Pisa, Italy*

Sant'Anna School of Advanced Studies — *Oct 2014–Oct 2017*

- Awarded by national competitive examination (acceptance rate **below 5%**); full scholarship held alongside the B.Sc.