Bernardo **Lanza**

Ph.D. | Robotics Engineer

About me

I'm a tech specialist with a Ph.D. in mechatronics, focused on applying AI and computer vision in agriculture. My background in measurement science and statistics supports my approach to managing projects, from device prototyping to data analysis and validation. Beyond work, I enjoy history, creating DIY IoT gadgets, and volunteering in my community.
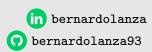
personal

Bernardo Lanza - 1993 - Italy

Areas of specialization

Metrology · Statistics · Optical sensors · Embedded Linux · Computer Science · Dynamics · Physics

Soft skill

Creativity · Solution-oriented · Critical thinking · Manual and Mechanical skill · empathy · Self-sufficiency

Interests

Blockchain · Electronics · Arduino · Biology · History · Volunteering

LANGUAGES

Italian	Native speaker
English	B2-Academic writing

 bernardolanza

 bernardolanza93

Full Portfolio

SHORT RESUME

2022–2024
Ph.D.
LEAD · Mechanical and Thermal Measurement Lab
Embedded vision system on agricultural tractors

UNIVERSITY OF BRESCIA

2024
Ph.D. research abroad
RESEARCH SCIENTIST · University of Lleida Spain
3D recostruction of orchards using LiDARs and RGB-D sensors (SLAM-IMU-GNSS)

2022–2023
Developer
PH.D STAGE · Prospecto
MCU, Sensors and Optical Measurements for Agriculture

2021–2022
Research Fellowship
RESEARCH SCIENTIST · University of Brescia
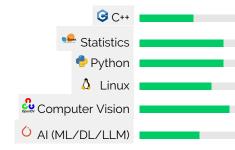Gesture recognition for human gym training and plants/weeds detection (mediapipe - YOLO)

DEGREES

2025
Computer vision for agriculture
PH.D. · University of Brescia

2020
Mechatronic Engineering
M.S. · University of Trento

2017
Industrial Engineering
B.S. · University of Trento

TECH SKILLS

- C++
- Statistics
- Python
- Linux
- Computer Vision
- AI (ML/DL/LLM)

PROJECTS

2023
Gesture recognition for Healthcare 4.0
RESEARCH SCIENTIST · University of Brescia
Vision-based system to monitor surgical handwashing using gesture recognition. Implemented machine learning to analyze collected data.

2021
Vision system for body and gym gesture recognition
LEAD · University of Brescia
Vision-based pose estimator for human body and gym gesture recognition.

CERTIFICATES & GRANTS

2023 Best poster awards, IEEE Metrology for Agriculture and Forestry
2021 DeepLearn 2021 Summer school

LECTURE

2023 "Probabilistic Sensor Fusion: From Naïve Bayes to Kalman Filters: *Lab. of Mechanical and Thermal Measurements, 2023.*

PUBLICATIONS

2023 *First Step Towards Embedded Vision System for Pruning Wood Estimation* , IEEE Metrology for Agriculture and Forestry
2023 *Gesture recognition for Healthcare 4.0: a machine learning approach to reduce clinical infection risks* IEEE Xplore.
2022 *Deep learning for gesture recognition in gym training performed by a vision-based augmented reality smart mirror*, ISBS, International Society of Biomechanics

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