

KEVIN GALASSI

Postdoctoral Researcher

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kevin-galassi

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EXPERIENCE

CEO & Co-Founder

ROBOSECT srl – Spinoff Project, University of Bologna

2023 – Ongoing Bologna, Italy

- Design of a dual-robotic platform for electrical control panel quality control.
- Design of ML task (OCR, Obj. Detection, Instance segmentation)
- Deploy of ML algorithms in embedded devices (Nvidia Jetson).
- Management of funding activities, projects proposal and business development.

Visiting Researcher

NaverLabs Europe

Mar. 2023 – Sep. 2023 Grenoble, France

- Development of an Nvidia IsaacSim-based simulation for cloth-like objects transformer

Visiting Researcher

Technical University of Munich - TUM

Oct. 2022 - Nov. 2022 Munich, Germany

- Testing simulating environment for Deformable linear objects.
- Application of Reinforcement Learning (SB3) for DLOs manipulation.

Ph.D. Candidate and Postdoctoral Researcher

University of Bologna

Nov. 2020 – Ongoing Bologna, Italy

- Research activities for REMODEL and INTELLIMAN European projects.
- Machine learning perception of deformable linear objects
- Robotic learning for deformable objects manipulation.
- Development of robotic platform for industrial application.

EDUCATION

Ph.D. in Artificial Intelligence for Industry 4.0

University of Bologna/Politecnico of Turin

Nov. 2021 – Mar. 2025

Thesis title: “Robotic Learning for Perception and Manipulation of Deformable Objects”.

M.Sc. in Automation Engineering 110/110 with honors

Alma Mater Studiorum – University of Bologna

Sep. 2018 – Oct. 2020

Thesis title: “Motion and trajectory planning for a robotic manipulation of deformable electrical wires”

ABOUT ME

I enjoy learning about design and improving mechatronic systems because it allows me to address the problems from mechanical, electrical and software perspectives.

During my PhD, I was motivated by creating a spin-off project. Now that it has ended, I am seeking a new technical and inspiring challenge to prove myself.

I also enjoy watching old and boring movies. Ask me a photo of my cat, Arthur.

EXPERTISE

Python C++ ROS

Simulator (IsaacSim, Gazebo, PyBullet)

CAD (SolidWorks, CREO) Rapid prototyping

Pytorch Computer vision

LLM Foundation Models Robotic Learning

Reinforcement Learning

SCIENTIFIC PRODUCTION

- 7 Journals (TASE, T-Mech, T-II, RA-L)
- 11 conference publications (ICRA, IROS, AIM)
- 1 Italian Patent (102023000014613)

STRENGTHS

Teamwork Goal oriented Adaptability

Industry collaboration Initiative

Communication & Dissemination Skills

- Pitching of business plan and startup project
- Grant writing and reviewing
- Oral presentation of my results at several international conferences.

Leadership Mentoring

- Co-supervisor of >10 master's thesis students in industrial and research application
- Teaching assistant for international degree courses @ UNIBO.
- Teaching of robotics for middle-school and high-school.

LANGUAGES

Italian (native) ●●●●●

English (IELTS – C1) ●●●●●

French ●●●●●

PUBLICATIONS

Journal Articles

- A. Caporali, K. Galassi, R. Zanella, and G. Palli, “Gnn topology representation learning for deformable multi-linear objects dual-arm robotic manipulation,” *IEEE Transactions on Automation Science and Engineering*, vol. 22, pp. 14738–14751, 2025. doi: 10.1109/TASE.2025.3562231.
- G. Laudante, M. Mirto, O. Pennacchio, *et al.*, “Mechatronic integration of a dual-arm robotic system for wiring harness manufacturing,” *IEEE/ASME Transactions on Mechatronics*, pp. 1–12, 2025. doi: 10.1109/TMECH.2025.3536627.
- A. Caporali, K. Galassi, and G. Palli, “Dlo perceiver: Grounding large language model for deformable linear objects perception,” *IEEE Robotics and Automation Letters*, vol. 9, no. 12, pp. 11385–11392, 2024. doi: 10.1109/LRA.2024.3491428.
- A. Caporali, P. Kicki, K. Galassi, R. Zanella, K. Walas, and G. Palli, “Deformable linear objects manipulation with online model parameters estimation,” *IEEE Robotics and Automation Letters*, 2024.
- A. Caporali, K. Galassi, and G. Palli, “Deformable linear objects 3d shape estimation and tracking from multiple 2d views,” *IEEE Robotics and Automation Letters*, 2023.
- A. Caporali, K. Galassi, B. L. Žagar, R. Zanella, G. Palli, and A. C. Knoll, “Rt-dlo: Real-time deformable linear objects instance segmentation,” *IEEE Transactions on Industrial Informatics*, 2023.
- A. Caporali, K. Galassi, R. Zanella, and G. Palli, “Fastdlo: Fast deformable linear objects instance segmentation,” *IEEE Robotics and Automation Letters*, vol. 7, no. 4, pp. 9075–9082, 2022.

Conference Proceedings

- A. Caporali, K. Galassi, G. Berselli, and G. Palli, “Monocular estimation of connector orientation: Combining deformable linear object priors and smooth angle classification,” in *2024 IEEE International Conference on Advanced Intelligent Mechatronics (AIM)*, 2024, pp. 799–804. doi: 10.1109/AIM55361.2024.10637081.
- A. Caporali, K. Galassi, M. Pantano, and G. Palli, “Deformable objects perception is just a few clicks away – dense annotations from sparse inputs,” in *2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2024, pp. 5880–5887. doi: 10.1109/IROS58592.2024.10802495.
- K. Galassi, A. Caporali, G. Laudante, and G. Palli, “Scalable shared encoding architecture for learning-based error detection in robotic wiring harness assembly,” in *2024 IEEE International Conference on Advanced Intelligent Mechatronics (AIM)*, 2024, pp. 518–523. doi: 10.1109/AIM55361.2024.10637054.
- K. Galassi, B. Wu, J. Perez, G. Palli, and J.-m. Renders, “Attention-based cloth manipulation from model-free topological representation,” in *2024 IEEE International Conference on Robotics and Automation (ICRA)*, IEEE, 2024.
- A. Pasquali, K. Galassi, and G. Palli, “A fast score-based method for robotic task-free point-to-point path learning,” in *2023 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM)*, IEEE, 2023, pp. 1159–1164.
- K. Galassi, A. Caporali, and G. Palli, “Cable detection and manipulation for dlo-in-hole assembly tasks,” in *2022 IEEE 5th International Conference on Industrial Cyber-Physical Systems (ICPS)*, IEEE, 2022, pp. 01–06.
- R. Meattini, D. Chiaravalli, K. Galassi, G. Palli, and C. Melchiorri, “Experimental evaluation of intuitive programming of robot interaction behaviour during kinesthetic teaching using semg and cutaneous feedback,” *38*, vol. 55, Elsevier, 2022, pp. 1–6.
- A. Caporali, K. Galassi, G. Laudante, G. Palli, and S. Pirozzi, “Combining vision and tactile data for cable grasping,” in *2021 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM)*, IEEE, 2021, pp. 436–441.
- A. Caporali, K. Galassi, and G. Palli, “3d dlo shape detection and grasp planning from multiple 2d views,” in *2021 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM)*, IEEE, 2021, pp. 424–429.
- P. M. Fresnillo, S. Vasudevan, W. M. Mohammed, *et al.*, “Deformable objects grasping and shape detection with tactile fingers and industrial grippers,” in *2021 4th IEEE International Conference on Industrial Cyber-Physical Systems (ICPS)*, IEEE, 2021, pp. 525–530.
- K. Galassi and G. Palli, “Robotic wires manipulation for switchgear cabling and wiring harness manufacturing,” in *2021 4th IEEE International Conference on Industrial Cyber-Physical Systems (ICPS)*, IEEE, 2021, pp. 531–536.