

Roberto Bigazzi

Ph.D in Computer Vision and Deep Learning

+39 334 8756245 | roberto.bigazzi.1995@gmail.com | robertobigazzi.it | bigazzon | roberto-bigazzi

Summary

I'm a Post-Doc Researcher at the University of Modena and Reggio Emilia, specializing in Computer Vision and Deep Learning for Embodied AI. I completed my Ph.D. at AlmageLab, and during my Master's, I studied at the Polytechnic University of Milan with Professor Marco Gribaudo. I also spent a period as a visiting student researcher at Stanford University's Autonomous Systems Lab under Professor Marco Pavone.

Knowledge and Technical Skills

Domains Visual Navigation, Multimodal Learning, Natural Language Processing, Reinforcement Learning, Deep Learning
Programming Python, Java, Javascript, C++, C#, C, MATLAB, SQL, Microcontroller Programming (Arduino)
Languages Italian (Mother tongue), English (Proficient *TOEIC (C1), FCE (B2)*)

Education

Ph.D. @ University of Modena and Reggio Emilia

Doctorate in Information and Communication Technologies under the supervision of Prof. Rita Cucchiara

Modena, Italy

Nov. 2019 - Mar. 2023

Visiting Student Researcher @ Stanford University

Research on Visual Navigation at Autonomous Systems Lab (ASL) under the supervision of Prof. Marco Pavone

Stanford, California, United States

May 2022 - Aug. 2022

Master of Science @ Polytechnic University of Milan

M.S. in Computer Science and Engineering (Thesis with Prof. Marco Gribaudo)

Milan, Italy

Sep. 2017 - Oct. 2019

Erasmus+ Student @ Technische Universität Wien

Erasmus+ Exchange Semester

Vienna, Austria

Oct. 2018 - Feb. 2019

Bachelor of Science @ Polytechnic University of Milan

B.S. in Computer Science and Engineering

Milan, Italy

Sep. 2014 - Sep. 2017

Experience

Postdoctoral Research Fellow @ University of Modena and Reggio Emilia

Computer Vision and Deep Learning Research: Visual Navigation and Multimodal Learning for Embodied Agents

Modena, Italy

Mar. 2023 - present

Research Fellow @ AlmageLab - University of Modena and Reggio Emilia

Research on Embodied AI during Doctorate at AlmageLab

Modena, Italy

Nov. 2019 - Mar. 2023

Research Fellow @ ASL - Stanford University

Research on Visual Navigation at Autonomous Systems Lab

Stanford, California, United States

Jun. 2022 - Aug. 2022

Lecturer @ IFOA Modena / Bologna and Prometeia

"Python, Machine Learning, Deep Learning, Data Science, and NLP" courses

Modena / Bologna, Italy

Jan. 2021 - Nov. 2021

Project Developer @ Cyber-Physical Systems Group - Technische Universität Wien

Vertical Farming System Project for the IoT Course of the Prof. Ezio Bartocci at TU Wien

Vienna, Austria

Oct. 2018 - Jan. 2019

Main Publications

2024 International Conference on Robotics and Automation (ICRA) (Collaboration with Stanford University and Georgia Tech)

Mapping High-level Semantic Regions in Indoor Environments without Object Recognition

2023 International Conference on Robotics and Automation (ICRA)

Embodied Agents for Efficient Exploration and Smart Scene Description

2022 Robotics and Automation Letters (RA-L) + International Conference on Robotics and Automation (ICRA)

Focus on Impact: Indoor Exploration with Intrinsic Motivation

2020 25th International Conference on Pattern Recognition (ICPR) (Oral Presentation)

Explore and Explain: Self-supervised Navigation and Recounting

2023 22st International Conference on Image Analysis and Processing (ICIAP) (Honorable Mention for ICIAP Best Paper Award)

Towards Explainable Embodied Navigation and Recounting

Under Review

AIGeN: An Adversarial Approach for Instruction Generation in Vision-and-Language Navigation

Teaching Activities

Teaching Assistant, Computer Architectures course

Lecturer and Project Tutor, AI for Automotive course

Project Tutor, Neural Network Computing, AI and Machine Learning for Automotive and Computer Vision and Cognitive Systems courses

Program Committees

Peer Reviewer, Conferences: ICRA, IROS, ECCV, WACV, ICPR, ACMMM; Journals: RA-L, GRSL, PRL, TOMM.

Evaluator, ELLIS Ph.D. Program

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