Emanuele Giacomini

Education

Nov 2021 – Sep 2025 **PhD in Computer Engineering**
University of Rome, Sapienza
Focused on Simultaneous Localization And Mapping (SLAM)
and 3D Reconstruction via LiDAR and RGB-D sensors.

Oct 2019 – Oct 2021 **MSc in Artificial Intelligence and Robotics** (2 years, English)
University of Rome, Sapienza
Final grade: 110 cum laude / 110

Sept 2016 – Oct 2019 **BSc in Computer Engineering** (3 years, Italian)
University of Rome, Sapienza
Final grade: 110 cum laude / 110

Sept 2011 – Jul 2016 **High School Diploma**
Istituto Tecnico Industriale Pacinotti/Archimede (Rome)

Activities

Apr 2024 – Jun 2024 **Abroad period at University of Amsterdam (UVA)**
Collaboration with *Martin R. Oswald* during which I worked in optimization of
2DGS representations via pure LiDAR cues.

Nov 2021 – Sep 2025 **Robot Programming Assistant - *University La Sapienza*, Rome**
Supported *prof. Giorgio Grisetti* during the teaching activities for Robot Programming.

Sept 2022 – Jul 2023 **Robocup Arm Challenge *University La Sapienza*, Rome**
Tutored the university team that won second place at the 2023 Robocup
Arm manipulator challenge.

Mar 2021 – Jul 2021 **Honours Programme - *University La Sapienza*, Rome**
Studied dimensionality reduction methodologies for 3D LiDAR sensors.
The project involved the study and implementation of state-of-the-art and new techniques
for 3D point cloud representation in 2D. The project is validated by real experiments
using the *Ouster OS0-128* sensor.

Mar 2021 – Jul 2021 **Research grant - *University La Sapienza*, Rome**
I've designed and developed a localization system for wireless networks.
The system was designed to work in LoRAWAN environment in which a single device
ping the network continuously while the centralized localization system
process the sequence of Received Signal Strength (RSS) features
for each reached gateway.

Oct 2019 – Feb 2020 **Research project: BLUES - *University La Sapienza*, Rome**
We developed a new paradigm for the creation of Bluetooth Low Energy mesh networks.
The project was written in C/C++ for embedded systems (ESP32).
Submitted at **First International Workshop on Intelligent Things and Services 2020**

Jun 2019 – Feb 2020 **Research grant - *University of Rome, Sapienza*, Rome**
I've developed a Life Detection system based on a sequence of low resolution pictures.
The detector is written in C++ and it's based on OpenCV framework.
Works by stacking a multitude of filters for feature extraction on iris/pupil activity.

Feb 2019 – Oct 2019 **Honours Programme - *University of Rome, Sapienza*, Rome**

Studied and applied odometry calibration on 4W Holonomic mobile platform.
Realized a multi joint implementation for the Orazio firmware.

Oct 2018 – Feb 2019 **Python Developer - *University of Rome, Sapienza*, Rome**
CVRPTW (Capacitated Vehicle Routing Problem with Time Windows) Solver developed using Google OR-Tools framework.
Developed with the collaboration of CTL (Centro di ricerca per il Trasporto e la Logistica).

Feb 2018 – Jun 2018 **CyberChallenge Attendee - *University of Rome, Sapienza*, Rome**
Attendee for Cybersecurity training programme organized by the CINI, in collaboration with the Ministry of Defence and the SISR.
The programme covered arguments like: malware analysis, reverse engineering and web security.

Oct 2016 – May 2018 **Teacher in Robotics - *IIS Pacinotti/Archimede*, Rome**
Held a course on robotics (ICARO) in which I trained 10 teams/year for the RJC
During the last year, one of the soccer teams achieved the second place at the European Open competitions.

Computer Skills

Languages	C/C++, CUDA, Python, Matlab, Octave, Assembly(x86)
Systems	Unix, Windows, Embedded Programming
Other Software	Github, ROS (1 and 2), PyTorch, OpenCV.

Language Skills

Italian	Native
English	Working proficiency

Last updated: March 9, 2026