



Samuele Depalo

ABOUT ME

Enthusiastic robotics engineer with a strong academic background in control systems, embedded systems, and artificial intelligence. While collaborative group projects helped me improve my collaboration abilities, promoting personal and professional development, my thesis work started me with industrial-grade code design, which sparked a strong interest in obstacle avoidance strategies for marine autonomous vehicles, particularly when combined with the complex detection process. My desire to learn more about this field, and my strong work ethic, position me to meaningful contributions to this research area.

DIGITAL SKILLS

ROS / ROS2 / Python / C / C++ / MATLAB / Gazebo (Robotics simulator) / Git / LaTeX

EDUCATION AND TRAINING

Master of Science in Robotics Engineering

University of Genoa [09/2021 – 04/2024]

City: Genoa | Country: Italy | Final grade: 110 Cum Laude | Thesis: Protocol-Driven A* Algorithm for Fast USV Motion Planning in Dynamic Obstacle Avoidance Scenarios

Thesis contribution:

- enforcing maritime rules in a pre-existent local **planning algorithm for USV**
- design of an algorithm for computing intersection points between the vehicle and the trajectory of obstacles
- implementing an algorithm for **path collision checking** with moving obstacles
- implementing the A*-based local planner as a **C++ USV-independent library**
- performance evaluation of the code for real-time constraints
- kinematic **validation of the code**
- software-in-the-loop testing with a dynamic model
- field **tests at sea**

Main course projects:

- Experimental robotics: several projects based on **ROS/ROS2**, often tested in the Gazebo environment
- Embedded systems: led the **design of a basic control system** for an autonomous ground vehicle, paying particular attention to hardware specification, interrupt handling, sensor monitoring and communication protocols
- Cooperative robotics: teamwork on the implementation of **algorithms for bimanual manipulation**
- Artificial intelligence for robotics: **domain analysis** and problem definition for warehouse automation using PDDL
- Machine learning: **data analysis** through the implementation on MATLAB of algorithms such as Naive Bayes, Linear Regression, k-Nearest Neighbors Classifier and Neural Networks

Undergraduates in Computer science and Automation Engineering

Politecnico di Bari [2016 – 2021]

City: Bari | Country: Italy | Final grade: 107/110 | Thesis: AUTONOMOUS DRIVING APPLICATION FOR LANE CHANGE BY DEEP REINFORCEMENT LEARNING

IT and Telecommunication technician

Technical Institute "Guglielmo Marconi" [2011 – 2017]

City: Bari | Country: Italy | Final grade: 100/100

MATLAB Fundamentals

MathWorks, Training Services [2020]

Website: matlabacademy.mathworks.com/progress/share/certificate.html?id=edb13e31-307f-4226-a4e7-aa9ff8e16675

Self-paced course about the MATLAB technical computing environment. Themes of data analysis, visualization, modeling, and programming were explored throughout the course.

Poliba Soft Skill - Training Academy

Politecnico di Bari [2020]

Training course for the development of transversal skills, held by experts in the career guidance sector, entrepreneurs and company testimonials through meetings followed by group workshop spaces. The course focused on topics such as strategic communication, team building and problem-solving, skills assessment and active job search.

Crash Course on Python

An online course authorized by Google and offered through Coursera [2021]

Website: coursera.org/verify/WMNDBM49HQRV

Self-paced course focused on the understanding of what Python is and why Python is relevant to automation. The continuous assessment ranged from the writing of short scripts, to perform automated actions, to the creation of entire Python projects.

CCNA Discovery: Networking for Home and Small Businesses

Cisco, Networking Academy [2014]

WORK EXPERIENCE

Food Delivery Driver

Glovo, Just Eat, Deliveroo [2017 – 2020]

IT Technician, Intern

MicroPro - Anne Galligan [10/07/2017 – 30/08/2017]

City: Dublin, Ireland

Advanced computer maintenance (both software and hardware)

Software Engineer, Intern

Yumitel - Lucía Nuñez Delgado-Roig [11/09/2016 – 05/10/2016]

City: Sevilla, Spain

Web sites developer and programmer

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English

LISTENING C1 READING C1 WRITING C1

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

Spanish

LISTENING A2 READING A2 WRITING A1

SPOKEN PRODUCTION A2 SPOKEN INTERACTION A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

HOBBIES AND INTERESTS

Electronics projects Since high school, I have been using Arduino boards for IoT projects. It's the best way to keep training in software development and electronics. The next project involves using the Raspberry to build a remote house surveillance system.

Sports Sports have been part of my life since I can remember. Among them, canoeing has been an absolute passion of mine for half of my life, with notable competitive victories, including two Italian championships. Currently, I'm looking for fresh experiences, and in the last year, I've tried sailing, climbing, skiing, and mountain biking. My next goal is to get into kitesurfing.