Mazzitelli Federico

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Federico Mazzitelli

Robotics and Control Systems Engineer

I earned my Master's degree in Robotics and Automation Engineering in 2017 from the University of Pisa. In the same year, I joined the Aitronik Team, where I worked on the development of guidance and control systems for autonomous land, marine, and underwater vehicles. I am currently responsible for the Autonomous Underwater Vehicle area, where I oversee the entire software development lifecycle, including testing and deployment of underwater vehicles.

Experience

July 2017 - Today, *Robotics Control Systems Engineer*, Aitronik

Guidance, Control, and Navigation Systems:

- Designed and implemented guidance, control, and navigation algorithms, ensuring precise vehicle operation in terrestrial and marine environments.
- Employed advanced techniques like path planning, obstacle avoidance, and trajectory optimization to enable terrestrial and marine vehicles to navigate effectively in challenging terrains and conditions.
- Behavior selection algorithm that empowered vehicles to make informed decisions in real-time, adapting their actions to their environment and mission objectives.

Localization Algorithms:

- Development of robust localization algorithms for GPS-denied environments.
- Employed advanced sensor fusion techniques to integrate data from multiple sensors,including cameras, radars, and lidars, to achieving high accuracy and robustness in localization.

Simulation Environments:

- Developing and maintaining simulated environments to test the robustness and reliability of our autonomous vehicles, identifying and addressing potential issues before deploying them in actual operations.

Graphical User Interfaces:

- Designed and implemented graphical user interfaces that empowered users to control, monitor and plan missions for autonomous vehicles.

Education

2013 - February 2017, University of Pisa

Master of Science in Robotics and Automation Engineering
Thesis: A Game Theoretic Robotic Team Coordination Protocol For Intruder Herding.
Publication: IEEE Robotics and Automation Letters · 18 lug 2018

2007 - 2013, University of Perugia

Bachelor of Science in Electronic and Information Engineering
Thesis: Computer Science, Electronics, Dynamical Systems (SISO).

2002 - 2007,Liceo Scientifico Galeazzo Alessi, Perugia, Italy

High School Diploma, Second Level College of Science

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Languages

Italiano
Native or bilingual proficiency

English
Professional working proficiency

Software Development Skills

Programming
- C/C++
- Python
- Matlab/Simulink

Operating Systems
- Linux
- Android
- Windows

Frameworks and Enviroments
- ROS/ROS2
- Docker
- UnrealEngine
- Gazebo
- QT

Interests

Professional
Robotics, computer science & eletronics enthusiast.

Personal
Tennis, cinema, arts, DIY, boardgames with friends.