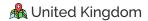
Alberto Soragna







ABOUT ME



Robotics Software Engineer with over 5 years of hands-on expertise in autonomous navigation and an in-depth understanding of Software Architecture. ROS 2 expert: I serve in its Technical Steering Committee and as a maintainer and one of the most active developers of the ROS 2 Open-Source C++ core libraries.

Technical Lead with a proven track record of successfully organizing and executing complex projects with small development teams. I foster a culture of continuous improvement, emphasizing clean, well-documented, and thoroughly tested code. I understand the benefits and trade-offs of Agile methodologies and I can implement them when suitable to enhance collaboration and project outcomes. I define metrics and KPIs to track the work and communicate concisely and effectively with stakeholders. By understanding business priorities, I can move with urgency and also develop incremental solutions to mitigate risks.

Besides robotics, I enjoy a balance of outdoor and indoor hobbies, such as hiking, playing board games, reading books, and studying personal finance.

TECH SKILLS



8+ years experience with C++

It is my go-to language. I have an indepth understanding of its features and design choices. I contributed to define coding guidelines for my company and mentored junior developers.

Proficient with Python

I often use it for prototypes and nonperformance-critical applications.

Worked on projects using Bash, C, Java, JavaScript, Matlab.

Daily user of Docker, Git, LaTeX.

LANGUAGES



ltalian: Mothertongue 告 English: Fluent

🚱 Chinese: 🛮 Basic spoken

EXPERIENCE



Principal Robotics Engineer |

August 2018 - Present

iRobot

Pasadena, CA, USA

- Promoted from Robotics Engineer to Senior Robotics Engineer to Principal Robotics Engineer, consistently exceeding expectations.
- Technical Lead in a team of 5 engineers for two years, with the primary goal of driving the internal adoption of ROS 2. Significantly improved ROS 2 performance, reducing its CPU usage by over 70% and optimizing its RAM utilization. Thanks to these enhancements, I successfully deployed ROS 2 to millions of Roomba™ robots.
- · Software Architect for floorcare and educational robotics navigation ap-
- Designed and implemented libraries for dead-reckoning pose estimation. global path planning, and behavior-trees for mission planning.

Data Scientist | MusixMatch

January 2018 - July 2018 ♥ Bologna, Italy Implemented a Java pipeline to recognize product references in lyrics and provide recommendations for advertisements. Developed a Python framework for training and testing neural networks for various NLP tasks.



Robot

Graduate Internship | KUKA Robotics

July 2017 - January 2018 ♦ Augsburg, Germany Designed and implemented C++ algorithms for the efficient autonomous exploration of environments exploiting prior information. Authored two patents and a paper based on this project.



EDUCATION



MSc Artificial Intelligence and Robotics September 2015 - January 2018 Final Grade: 110/110 With Honors | Thesis: "Active SLAM using Connectivity Graphs as Prior" Advisor: Prof. Giorgio Grisetti



BSc Automation Engineering University of Bologna

September 2012 – June 2015 **9** Bologna, Italy Final Grade: 109/110 | Thesis: "Design and Implementation of the Guidance Law for a Quadrotor Aerial Vehicle" Advisor: Prof. Lorenzo Marconi



PUBLICATIONS



2019 Active SLAM using Connectivity Graphs as Priors. Soragna A., Baldini M., Joho D., Kuemmerle R., and Grisetti G. IEEE IROS.

2019 ROS 2 for Consumer Robotics. Soragna A., Oxoby J., and Goel D. ROSCon.

Optimal graph exploration with active loop closure. Soragna A., Bal-2018 dini M., and Kuemmerle R. European patent.

2018 Online adaptation of a prior topology graph to the observed environment during autonomous exploration. Soragna A., Baldini M., and Joho D. European patent.