Alberto **Soragna**

alberto.soragna@gmail.com United Kingdom https://alsora.github.io

ABOUT ME

I am an expert Software Engineer with comprehensive knowledge of the various components that make up autonomous mobile robotics applications. My professional experience encompasses build systems and CI/CD, software architecture, communication middlewares, autonomous behaviors, state estimation, and machine learning. I am a renowned ROS 2 developer, as maintainer and contributor of its core libraries and a member of the ROS 2 Technical Steering Committee. In my free time I enjoy a balance of outdoor activities and various hobbies such as playing board games, reading books and studying personal finance.

LANGUAGES

- *Italian:* *Mothertongue*
- *English:* *Fluent*
- *Chinese:* *Basic spoken*

SKILLS

TECH SKILLS

8+ years experience with **C++**
It is my go-to language. I have an in-depth 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 non-performance-critical applications.
Worked on small projects using **Bash**, **C**, **Java**, **JavaScript**, **Matlab**.
Daily user of **Docker**, **Git**, **LaTeX**.

SOFT SKILLS

As a **technical leader**, *I excel in organizing and executing large, complex projects for development teams using* **Agile methodologies**. *I keep management and other stakeholders informed through* **concise, informative reports** *on project progress. I place a high value on* **writing clean, well-documented, and thoroughly tested code**. *With a deep understanding of business priorities, I am always ready to* **move with urgency** *to deliver successful solutions.*

EXPERIENCE

Sr. Robotics Software Engineer | iRobot

August 2018 – Present — Pasadena, CA, USA

Working on Software Architecture and Robotics Algorithms. Technical lead of 5 people team that integrated ROS 2 on Roomba™ robots. Developing robotics applications, estimation algorithms and behaviors.

Data Scientist | MusixMatch

January 2018 – July 2018 — Bologna, Italy

Developed Machine Learning, Statistics and Neural Network techniques for Natural Language Processing. Implemented pipelines for lyrics processing. Dataset collection and features engineering.

Software Developer | KUKA Robotics

July 2017 – January 2018 — Augsburg, Germany

Master Thesis student in the Mobile Robotics Navigation team. Developed algorithms for the exploration of industrial environments and active SLAM. Published the work as multiple patents and a paper.

EDUCATION

MSc. Artificial Intelligence and Robotics | La Sapienza

September 2015 – January 2018 — Rome, Italy

Final Grade: 110/110 With Honors | Dissertation: "Active SLAM using Connectivity Graphs as Prior" Advisor: Prof. Giorgio Grisetti
Study Emphases: Mobile Robotics, Computer Vision, Machine Learning

BSc. Automation Engineering | University of Bologna

September 2012 – June 2015 — Bologna, Italy

Final Grade: 109/110 | Dissertation: "Design and Implementation of the Guidance Law for a Quadrotor Aerial Vehicle" Advisor: Prof. Lorenzo Marconi
Study Emphases: Mathematics, Physics, Control Theory

AWARDS AND CERTIFICATES

- *2022* *iRobot STEM Star*
- *2017* *Sapienza University Excellence Path*
- *2013* *AlmaTong Double-Degree Scholarship*

PUBLICATIONS

- *2019* ***Active SLAM using Connectivity Graphs as Priors.*** *Soragna A., Baldini M., Joho D., Kuemmerle R., and Grisetti G. IROS.*
- *2019* ***ROS 2 for Consumer Robotics.*** *Soragna A., Oxoby J., and Goel D. ROSCon.*
- *2018* ***Optimal graph exploration with active loop closure.*** *Soragna A., Baldini 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.*