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Alberto Soragna

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ABOUT ME

I am a proficient 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 financial education.

LANGUAGES

- *Italian:* *Mothertongue*
- *English:* *Professional proficiency*
- *Chinese:* *Basic spoken*

SKILLS

TECH SKILLS

8+ years experience with **C++**
Libraries: Eigen, OpenCV, ROS
5+ years experience with **Python**
Libraries: Numpy, Scikit-learn, Tensorflow
Worked on several projects using **Bash**, **C**, **Java**, **JavaScript**, **Matlab**.
Daily user of **Docker**, **Git**, **LaTeX**.

SOFT SKILLS

Fast Learner
I am always curious and eager to learn new concepts in any subject I encounter.
Problem Solver
My objective-driven mindset allows me to quickly find scalable solutions to everyday issues.
Independent
I am capable of working and of organizing duties with small or no supervision.
Communicator
I have done several publich speeches and created effective presentations.

EXPERIENCE

Sr. Robotics Software Engineer | iRobot

August 2018 – Present | Pasadena, CA

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, Machine Learning & AI | MusixMatch

January 2018 – July 2018 | Bologna, Italy

Implemented and deployed Machine Learning, Statistics and Deep Neural Network techniques for NLP. Created NLP 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 multiple patents and a paper from this work.

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, Neural Networks*

BSc. Automation Engineering | ALMA MATER STUDIORUM

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, Control Theory, Control System Technologies, Electric Drives*

AWARDS AND CERTIFICATES

- *2017* *Sapienza University Excellence Path*
- *2013* *AlmaTong Double-Degree Scholarship*

PUBLICATIONS

- *2019* *A. Soragna, J. Oxoby, and D. Goel. Ros 2 for consumer robotics. ROSCon, 2019.*
- *2019* *A. Soragna, Baldini M., Joho D., Kuemmerle R., and Grisetti G. Active slam using connectivity graphs as priors. IROS, 2019.*
- *2018* *A. Soragna, Baldini M., and Kuemmerle R. Optimal graph exploration with active loop closure. European patent, 2018.*
- *2018* *A. Soragna, Baldini M., and Joho D. Online adaptation of a prior topology graph to the observed environment during autonomous exploration. European patent, 2018.*