Alberto **Soragna**

alberto.soragna@gmail.com | Hartington Road, London UK | alsora.github.io

ABOUT ME

I'm a robotics engineer working on mobile robotics and SLAM. I have a deep passion for programming and an industrial expertise with many different languages. I'm an active contributor to many well-known open source projects, such as ROS 2. I enjoy practicing sports and working on CS hobby projects involving machine learning and front-end development.

LANGUAGES

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

SKILLS

TECH SKILLS

3+ years experience with **C++**
Libraries: Eigen, OpenCV, ROS
3+ 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'm 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'm capable of working and of organizing duties with small or no supervision.
Communicator
I have done several public speeches and created effective presentation slides.

EXPERIENCE

iRobot | Sr. Software Robotics Engineer

August 2018 – Present | Pasadena, CA

Design of the software architecture for floorcare consumer mobile robots. C++ implementation of sensor processing and navigation algorithms. Profiling and optimization of pub-sub communication mechanisms.

MusixMatch | Data Scientist, Machine Learning & AI

January 2018 – July 2018 | Bologna, Italy

Implementation and deployment of Machine Learning, statistics and deep neural network techniques for NLP. Creation of NLP pipeline for lyrics processing. Dataset collection and features engineering.

KUKA Robotics | Software Developer

July 2017 – January 2018 | Augsburg, Germany

Master Thesis student in the Mobile Robotics Navigation team. Development of algorithms for the exploration of industrial environments, active Simultaneous Localization And Mapping, map representation.

EDUCATION

LA SAPIENZA | MSc. Artificial Intelligence and Robotics

September 2015 – January 2018 | Rome, Italy

Final Grade: 110/110 Summa cum Laude | Dissertation: "Active SLAM using Connectivity Graphs as Prior" Advisor: Prof. Giorgio Grisetti
Study Emphases: Computer Vision, Machine Learning, Mobile Robotics, Neural Networks, Probabilistic Robotics

ALMA MATER STUDIORUM | BSc. Automation Engineering

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: Automatic Controls, Computer Science, Control System Technologies, Control Theory, Electric Drives, Mathematics

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