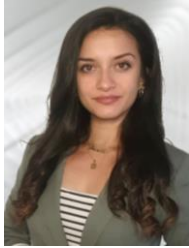


## PERSONAL INFORMATION

## Fiorella Sibona



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🌐 <https://www.linkedin.com/in/fiorella-sibona>

Sex She/Her | Date of birth 21/12/1992 | Nationality Italian

## WORK EXPERIENCE

Nov 2019–present

**Ph.D. Student**

Politecnico di Torino, Torino (Italy)

Ph.D. student at the Electrical, Electronics and Communications Engineering (EECE) Doctorate, of which I am the representative of Ph.D. students in office for the DET (Dipartimento di Elettronica e Telecomunicazioni) department - Politecnico di Torino.

**Institutional roles:**

- (Sep 2021 – present) Ph.D. students' Representative at Gruppo di Lavoro Osservatorio di Genere (Gender Observatory), an advisory body of the University that supervises and puts in place initiatives aimed at monitoring and governing equal opportunities in relation to the various aspects in which diversity is declined, starting with gender.
- (Jun 2021 – present) Ph.D. students' Representative @ ScuDo (Scuola di Dottorato - Doctoral School) 2021-2023. Elected and representing PhD Students within the Doctoral School body together with other two students. Closely working as a team with PhD representatives elected in the other University bodies and with the Head of the School and the School Board, composed of coordinators of each PhD programme.

*Supervisor:* Prof. Marina Indri. *Area of interest:* **Robotics.**

My current research focus is on robotics within industrial scenarios compliant with the Industry 4.0 and Smart Factory requirements, involving cooperation and collaboration with human operators. My research interest is on the use of artificial intelligence algorithms to enable the robotic system to learn from the human counterpart, with the aim of improving their interaction.

Dec 2021  
Dec 2020

**Teaching Activity**

Politecnico di Torino, Torino (Italy)

**ROS mini-course** (7.5 hours) within the M.Sc. “Sistemi Robotici” course by Prof. Marina Indri.

Autonomously created the mini-course material (slides in English) and presented it in Italian. The students have been introduced to the main concepts of ROS, along with some practical advices while exploiting available open-source tutorials. The course has been held completely online due to COVID-19 restrictions. For this reason, students have been provided with an ad-hoc created virtual machine to allow local autonomous practicing and avoid lag problems.

May 2019 – Oct 2019

**Pre-Ph.D. Scholarship**

Politecnico di Torino, Torino (Italy)

“Pre-Ph.D. scholarship” winner after admission as a Ph.D. student with scholarship, allocated within the spring session of the call for admission.

Mar 2018–Apr 2019

**Research Assistant**

Politecnico di Torino, Torino (Italy)

Research assistant at DET (Dipartimento di Elettronica e Telecomunicazioni) - Politecnico di Torino. Area of interest: robotics.

I have worked within the HuManS (Human centered Manufacturing Systems) project coordinated by COMAU S.p.a., with the aim of designing a network of **AMRs** (Autonomous Mobile Robots) able to integrate the role of a well-established system of **AGVs** (Automated Guided Vehicles) within an industrial scenario. The purpose was to design system specifications so to provide support to

preexisting mobile platforms and to ease human-machine **cooperation**. The HuManS project, related to the improvement of **smart factories**, was funded by Regione Piemonte.

Sep 2018–Nov 2018

**Training Course Instructor**

O.L.Tr.E. Formazione, Torino (Italy)

Robotics course, introducing basic robotics concepts and ROS (Robot Operating System) programming, exploiting my Master Thesis project as a learning example (featuring Arduino and Raspberry Pi platforms).

Jan 2018–Feb 2018

**Developer/Content Creator & Courses Assistant**

HotBlack Robotics (HBR) startup, Torino (Italy)

HBR tech blog collaborator and assistant for the Cloud Robotics HBR Platform courses at ITIS (industrial and technical secondary school) Pininfarina and ITIS Avogadro, in Torino. The students worked with ROS and open source HW platforms.

Sep 2016–Mar 2017

**Student Collaboration Scholarship**

Politecnico di Torino, Torino (Italy)

Collaboration in La.Di.Spe. experimental lab (<http://www.ladispe.polito.it/news/>): prepare, maintain and organize documentation and instruments needed during laboratory sessions, laboratory support (supervision of the lab equipment proper usage, users' assistance, minor maintenance, etc.), laboratory supervision.

Sep 2016–Mar 2017

**Student Collaboration Scholarship**

Politecnico di Torino, Torino (Italy)

I have worked with Professors and other students on the preparation of introductory material/slides to fill in the gaps that students enrolling at the M.Sc. in Mechatronic Engineering course may have.

Mar 2016–Sep 2016

**Student Collaboration Scholarship**

Politecnico di Torino, Torino (Italy)

Collaboration in La.Di.Spe. experimental lab (<http://www.ladispe.polito.it/news/>).

Apr 2015–Sep 2015

**Bachelor's Degree Internship**

Feedback Italia srl, Moncalieri (TO) (Italy)

Analysis and testing of server/client applications: together with other internship students I've tested a proprietary application developed by Feedback Italia. Checks on the server correct operation have been performed along with multi-platform tests, to guarantee the user experience to be as standard as possible, avoiding unexpected behaviour.

**EDUCATION AND TRAINING**

Jul 2021

**ETH Robotics Summer School****ETH Zürich** - Zürich (Switzerland)

Participation in the ETH Robotics Summer School 2021, subject to acceptance at the school (selection of maximum 50 participants among all applicants). The school included the participation in the ETH Robotics Symposium. ETH RSS website: <https://robotics-summerschool.ethz.ch>

Feb 2020 – Jun 2020

**Innovation4Change program participant**

Fondazione Agnelli, Torino (Italy)

"Developed by **Collège des Ingénieurs Italia**, **Politecnico di Torino** and **CERN Ideasquare** in 2016, Innovation 4 Change has become one of the major Italian innovation projects based on the collaboration with companies, institutions and non-profit organizations. During this intensive, 5-month programme, the participants develop innovative and scalable business ideas and practical solutions to respond to the important challenges presented by the partners, that are always related to social, economic and environmental problems of today." <https://www.innovation4change.eu/farmture/>

- Oct 2015–Dec 2017 **Master of Science in Mechatronics Engineering** 110/110  
 Politecnico di Torino, Torino (Italy)  
 Thesis Work (Mar 2017–Dec 2017)  
 ▪ Thesis Title: *Development of a Standard Architecture to enable Fast Software Prototyping for Robot Arms*. Thesis Supervisor: Prof. Marina Indri. Thesis Defense Date: December 15<sup>th</sup>, 2017  
 This thesis work has been developed at the Robotics Research Group laboratory at Politecnico di Torino, in collaboration with the HotBlack Robotics startup (Torino), using **3D printing** technology and **Open Source** frameworks and tools such as ROS (Robot Operating System) and Docker containerization. The whole system of ROS nodes is containerized, and the developed Docker Images let P&P be deployed both to Intel processor based systems and to ARM processor based ones (e.g. Raspberry Pi). The architecture has been finally tested by developing two applications using an Open-Source 3D-printed simple robot arm.
- Sep 2011–Oct 2015 **Bachelor's Degree in Computer Engineering** 91/110  
 Politecnico di Torino, Torino (Italy)
- 2011 **High School Degree (P.N.I., Piano Nazionale Informatica)** 90/100  
 Liceo Scientifico Statale Marie Curie, Pinerolo (TO) (Italy)

**PERSONAL SKILLS AND COMPETENCES**

Mother tongue(s) Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	B2	B2	C1
<b>CAE</b> (Certificate in Advanced English, 2011, C1 Level)					

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user  
[Common European Framework of Reference for Languages](#)

- Programming** Advanced knowledge of **C** and **Matlab scripting** • Good knowledge of **Python** • Basic knowledge of **Java**, **C++**, **Bash scripting**, **HTML** and **Javascript**
- Programs** Advanced knowledge of **ROS** (Robot Operating System - ROS1) • Advanced knowledge of **Matlab/Simulink** • **Docker** and **VMs** • **NI Labview** • **nginx** (basic)
- Computer** **Linux Ubuntu** and Windows OS • **Microsoft Office**, Open Office • **LaTeX**
- 3D printing** CAM software: **Cura** • 3D Printer: **Crealty3D Ender-3**: DeltaWASP
- Hardware** **Arduino** • **Raspberry Pi**
- Communication skills**
- My experience as an instructor has helped me, apart from (hopefully) others, specifically to become aware of my capability of clearly explaining concepts, also to a not necessarily expert public.
  - Communication skills with children gained through my experience of babysitting (July-August 2010) with a family in Abruzzo (Italy) and a week of voluntary work at O.A.S.I. centre in Maen (AO).

## Organisational / managerial skills

- **Team leading skills and team dynamics enthusiast.** I have gathered team skills during the Innovation4Change experience, where I also deepened my entrepreneurial capabilities and innovation-oriented thinking.
- Founder and former administrator of the most used Mechatronic Engineering course Facebook group which has the aim of helping each other, provide useful information about courses/professors and solve logistical issues related to lectures.
- Worked with other students, in Politecnico di Torino Students Team D.I.A.N.A., on an Inverse Kinematics library (Matlab/C) for the control of the robotic arm of the team rover.
- Worked in team for weekly technical reports for academic courses.

## Other skills

**Artistic Skills:**

- Musical education:
  - Chorister at "PoliEtnico" (Politecnico di Torino Choir) (2015 - now).
  - Esame di Armonia complementare (Conservatorio di Musica "G.F. Ghedini" di Cuneo, 2010).
  - Esame di Storia della Musica (Conservatorio di Musica "G.F. Ghedini" di Cuneo, 2010).
  - Compimento inferiore di violino (Conservatorio di Musica "G.F. Ghedini" di Cuneo, 2008).
  - Esame complementare di pianoforte (Conservatorio di Musica "G.F. Ghedini" di Cuneo, 2007).
  - Licenza di solfeggio (Conservatorio Statale di Musica "G.Verdi" di Torino, 2006).
- Participant and winner of the poetry contest "Le scuole ci scrivono" organized by the local newspaper "L'Eco del Chisone" in high school (2005-2010).

## ADDITIONAL INFORMATION

## Publications

- SIBONA, Fiorella; INDRI, Marina.  
*"Data-driven framework to improve collaborative human-robot flexible manufacturing applications"*  
In: IECON 2021 - 47th Annual Conference of the IEEE Industrial Electronics Society, 2021, pp. 1-6.
- SIBONA, Fiorella; CEN CHENG, Pangcheng David; INDRI, Marina; DI PRIMA, Danilo.  
*"PoinTap system: a human-robot interface to enable remotely controlled tasks"*  
In: 2021 26th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA). IEEE 2021.
- BONCI, Andrea; CEN CHENG, Pangcheng David; INDRI, Marina; NABISSI, Giacomo; SIBONA, Fiorella.  
*"Human-Robot Perception in Industrial Environments: A Survey"*  
In: Sensors 2021, 21(5), 1571.
- INDRI, Marina; SIBONA, Fiorella; CEN CHENG, Pangcheng David.  
*"Sen3Bot Net: a meta-sensors network to enable smart factories implementation"*  
In: 2020 25th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA). IEEE 2020, pp. 719-726.
- INDRI, Marina; SIBONA, Fiorella; CEN CHENG, Pangcheng David; POSSIERI, Corrado.  
*"Online supervised global path planning for AMRs with human-obstacle avoidance"*  
In: 2020 25th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA). IEEE 2020, pp. 1473-1479.
- SIBONA, Fiorella; CHIAVARINI, Lorenzo; BORTOLETTO, Alessandro; MAINIERO, Sara.  
*"Innovation in farming: an engaging and rewarding business model to foster digitalization"*  
In: CIJ 2020, 4(1), pp. 9-15.
- INDRI, Marina; SIBONA, Fiorella; CEN CHENG, Pangcheng David.  
*"Sensor data fusion for smart AMRs in human-shared industrial workspaces"*  
In: IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society. IEEE 2019, pp. 738-743.
- INDRI, Marina; POSSIERI, Corrado; SIBONA, Fiorella; CEN CHENG, Pangcheng David; DUONG HOANG, Vinh.  
*"Supervised global path planning for mobile robots with obstacle avoidance"*  
In: 2019 24th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA). IEEE 2019, pp. 601-608.

- INDRI, Marina; LACHELLO, Luca; LAZZERO, Ivan; SIBONA, Fiorella; TRAPANI, Stefano.  
*“Smart Sensors Applications for a New Paradigm of a Production Line”*  
In: Sensors 2019, 19(3), 650.
- INDRI, Marina; SIBONA, Fiorella; RUSSO, Ludovico Orlando.  
*“P&P-Standard architecture to enable fast software prototyping for robot arms”*  
In: 2018 IEEE 23rd International Conference on Emerging Technologies and Factory Automation (ETFA). IEEE 2018, pp. 721-728.