



# Valerio Antonio Arcobelli

---

**Date of birth:** 03/02/1994 | **Nationality:** Italian | **Gender:** Male | (+39) 3892998233 |

[valerioarcobelli@gmail.com](mailto:valerioarcobelli@gmail.com) | [www.linkedin.com/in/valerioarcobelli](http://www.linkedin.com/in/valerioarcobelli) |

via Bossolasco, 12, 10141, Torino, Italy

About me: I'm a Biomedical Engineering graduated @ PoliTo looking for a challenging environment allowing me to improve my skills. I love working in team and exchanging experience and knowledge. I've worked with various types of projects and have mastered multiple programming languages and coding as well as simulation SW, CAD development and debugging. I am currently in Data Analysis using Python programming.

## ● WORK EXPERIENCE

---

01/11/2021 – Bologna, Italy

**PHD STUDENT** – UNIVERSITÀ "ALMA MATER" DI BOLOGNA

---

Modeling the dynamics of a rehabilitative exoskeleton enhanced with instrumented crutches: system design and clinical validation

01/01/2021 – CURRENT – Torino, Italy

**FELLOW** – CNR - IEIIT

---

Research fellowship in the research program Project "ReHome" ICT solutions for the tele-rehabilitation of cognitive and motor disabilities caused by neurological diseases. More information: <https://www.ieiit.cnr.it/it/ricerca/progetti/rehome>

My main contribution will be in the automated analysis of sleep wake rhythm with non invasive measurement of physiological signals through the **integration and interfacing of sensors** such as EEG, ECG, respiratory impedance, IMU (Inertial Measurement Unit), environmental sensors.

The sensors integration, platform communication, data analysis, algorithms development are carried out using **Python programming** language (numpy, scipy, scikitlearn, matplotlib, bleak, asyncio etc.)

27/07/2020 – 22/12/2020 – Ivrea, Italy

**TECHNICAL CONSULTANT** – AYES

---

The client I assisted deals with developing bank recyclers. I have dealt with stepper motors, photodiodes, electromagnets and many other sensors in Mechatronic Team. My main activity was the automation of bank tests using LabVIEW and NI hardware. During this time, I also took **LabVIEW Core I and II** courses which allowed me to become a good LabVIEW developer.

01/10/2019 – 20/07/2020 – London, United Kingdom

**MASTER THESIS STUDENT** – IMPERIAL COLLEGE LONDON

---

Project Title: *Instrumented Flexible Glove and Stochastic Filtering Method for Pathological Tremor Recording*. This project aimed to develop a device able to record Kinematic measurement using 3 **IMUs** (inertial measurements unit). **Madgwick algorithm** has been used to estimate motion. **Beta Finding Method** has been introduced as novel method to choose the best parametrization for the aforementioned algorithm using a rotatory encoder to compose the training - set.

Tools Used: Solidwork, 3D Printers, Micromolding, Arduino, Programming, MATLAB, LabVIEW, Visual Studio Code.

## ● EDUCATION AND TRAINING

---

01/10/2017 – 20/07/2020

**MSENG IN BIOMEDICAL ENGINEERING** – Politecnico di Torino

---

- Biomedical Sensors
- Device Development: both of HW and FW part
- CAD model development and analysis
- Biomedical Signals and Image Processing and Interpretation using Machine Learning algorithms
- Electronic project
- Biomechanics in fluids and solids

### Field(s) of study

- Biomedical Engineering

105/110 | <https://www.polito.it/>

15/10/2013 – 26/07/2017

**BACHELOR DEGREE IN COMPUTER AND BIOMEDICAL ENGINEERING** – Università degli Studi "Magna Graecia" di Catanzaro

---

- Programming
- Bioimages
- Biomedical Instrumentation
- Electronic
- Associations Activities and Students Represent

<http://web.unicz.it/it/>

## ● LANGUAGE SKILLS

---

**Mother tongue(s):** ITALIAN

**Other language(s):**

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ENGLISH</b>	C1	C1	C1	B2	C1
<b>SPANISH</b>	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

## ● DIGITAL SKILLS

---

### Technical Skills

CAD (SolidWorks, Inventor, Solid Edge) | MATLAB&Simulink | Prototyping | Assembly | C++ | MSC Patran/Nastran | Mimics | C | Microcontroller Arduino Raspberry Pi | Image Processing | Signal Processing | NI LABVIEW | Python | Java | Machine Learning