



# Alberto Rota

## Biomedical Engineer

Milan, Italy

*Born: 1st July 1998*

+39 3462142633

✉ alberto\_rota@outlook.com

in linkedin.com/in/alberto-rota-8b78301a5/

github.com/alberto-rota

## ABOUT ME

I'm a passionate and enthusiastic biomedical engineering student currently working on assistive strategies for surgical robots. Driven by a learning-prone attitude, I successfully contributed to and led a number of team projects on robotics, artificial intelligence and embedded devices.

Looking towards committing to a relevant project in the healthcare industry.

## EDUCATION

### MSc in Biomedical Engineering, Avg. 27.8/30

> September 2020 - expected December 2022

Politecnico di Milano, IT

Thesis: *Active Constraints in Robot-Assisted Minimally Invasive Surgery* at NEARLab. Supervisor: Prof. Elena de Momi, PhD



### Erasmus Exchange Program

> February 2022 - June 2022

University of Liege, BE

Joint thesis with Politecnico di Milano, visiting fellow at Multibody and mechatronics systems LAB

### BSc in Biomedical Engineering, 104/110

> September 2017 - July 2020

Politecnico di Milano, IT

Thesis: *Analysis on the 3D variability of in-vitro microvascular networks*. Supervisors: Prof. Maria Laura Costantino, PhD; Prof. Luca Possenti, PhD



### High School Scientific Diploma, 83/100

> 2012-2017

Lorenzo Mascheroni High School, Bergamo IT

## PERSONAL INTERESTS

Amateur cook and enogastronomic enthusiast

Blues guitar player

Private tutor for university students

Waiter & Barista apprentice

Certified UAS operator, OPEN category (2022)

*I authorize the processing of personal data according to EU Regulation 679/2016 or according to the reader's local regulations if not in the EU*

## RELEVANT WORK

### μVES

> February 2020 - July 2022

A fully automated algorithm for the topo-morphological analysis of 3D microvascular networks images from confocal microscopy

*Mastered problem-solving and teamworking skills*

### ECC Pump conformity test

> September 2021 - March 2022

An IR-based embedded device for testing the industrial/commercial conformity of centrifugal pumps for extra-corporeal circulation. *Best Development* awardee at the 2022 Capstone Project event - In collaboration with Qura s.r.l.

*Mastered time management and leadership skills*

### Deep Learning for SuperResolution of CT scans

> November 2021 - December 2022

A CNN for data-driven upscale and noise reduction of CT scans of the abdomen and pelvis

## RESEARCH

*A three-dimensional method for morphological analysis and flow velocity estimation in microvasculature on-a-chip*

**Rota A.**, Possenti L., Offeddu G.S., Senesi M., Stucchi A., Venturelli I., Rancati T., Zunino P., Costantino M.L., Kamm R.D. - IEEE Transaction on Biomedical Engineering [Submitted]

*A Unity-based Da Vinci Robot Simulator for Surgical Training*

Fan K., Marzullo A., Pasini N., **Rota A.**, Pecorella M., Ferrigno G., De Momi E. - IEEE BioRob2022 [Submitted]

*Improving Surgical Robotics Training with Haptic Virtual Fixtures: An Experimental Study*

**Rota A.**, Fan K., De Momi E. - I-RIM3D 2022 [Submitted]

## SKILLS

### Language

*Italian:* Native speaker

*English:* TOEIC Level C1, 2020

*French:* Level A2+

### Technical

*Programming/IT:* Python, C++, C, MATLAB, C#, Git, Docker

*AI:* TensorFlow+Keras framework

*CAD:* AutoDesk Inventor, Blender

*Engineering:* ROS, OpenFOAM, ImageJ, Unity

*Hardware:* Microcontrollers, 3Dprinting, KiCAD

*Office:* Microsoft Office Package, LaTeX