Alberto Rota

Biomedical Engineer

Milan, Italy

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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. 27.75/30
> 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
> November2021 - 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. - Microvascular Research [Review Pending]

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 [Review Pending]

SKILLS

Language
Italian: Native speaker
English: TOEIC Level C1, 2020
French: Level A2+ 7

Technical
Programming: Python, C++, C, MATLAB, C#, Git
AI: Tensorflow+Keras framework
CAD: AutoDesk Inventor, Blender
Engineering: ROS, OpenFOAM, ImageJ, Unity
Hardware: Microcontollers, 3Dprinting, KiCAD
Office: Microsoft Office Package, LaTeX