Alberto Rota

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Born: 1st July 1998 in Bergamo, Italy

EDUCATION

- **MSc in Biomedical Engineering - *Ongoing***
  Politecnico di Milano, IT
  Thesis: *Active Constraints in Robot-Assisted Minimally Invasive Surgery* at *NEARLab*. Supervisor: Prof. Elena de Momi, *PhD*
  September 2020 - expected December 2022
- **Erasmus Exchange Program**
  University of Liège, BE
  Joint thesis with Politecnico di Milano, visiting fellow at *Multibody and mechatronics systems LAB*
  February 2022 - June 2022
- **BSc in Biomedical Engineering, 104/110**
  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*
  2017-2020
- **High School Scientific Diploma**
  Lorenzo Mascheroni High School, Bergamo IT
  2012-2017

SKILLS

- **Language**
  Italian: *Native speaker*
  English: Fluent - *TOEIC Level C1*, 2020
  French: Elementary - *Level A2+*
- **Technical**
  Programming: *Python, C++, C, MATLAB, C#*
  AI: *Tensorflow+Keras framework*
  CAD: *AD Inventor, Blender*
  Engineering: *ROS, OpenFOAM, ImageJ, Unity*
  Hardware: *Microcontollers, 3Dprinting, KiCAD*
- **Soft Skills**
  Problem-solving skills – Organizational and leadership skills – Ability and propensity to work in a team – Time-management skills

MAJOR PROJECTS

- **μVES**
  A fully automated algorithm for the topo-morphological analysis of 3D microvascular networks images from confocal microscopy.
  (Research paper pending for review)
- **ECC Pump conformity test**
  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.*
- References for Minor projects are available at *this GitHub page*

RESEARCH PUBLICATIONS

- *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 [*Pending*]
- *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. - [*Pending*]

CERTIFICATIONS

- TOEIC certification for the english language, level C1
- MATLAB Fundamentals, MATLAB Programming Techniques, MATLAB for Data Processing and Visualization from *MathWorks Training*
- AutoCAD Essential Training, AutoCAD Surface Model Design from *LinkedIn Learning*

PERSONAL INTERESTS

Cooking | Music | Gardening | IoT