europass

Vera Maioli

Nationality: Italian **Date of birth:** 22/12/1997 **Phone number:** (+39) 3342721550

Email address: veramaioli22@gmail.com

Home: Parco Abate 9, 83100 Avellino (Italy)

WORK EXPERIENCE

PhD Student in Health & Technologies

Department of Industrial Engineering - University of Bologna [11/2022 – Current]

City: Bologna | **Country:** Italy

Biomechanical evaluation of knee mechanical behaviour and interface stresses with a new concept of alignment for total knee arthroplasty

University research assistant

Laboratory for Orthopaedic Technologies - ETH Zurich [07/2022 – 11/2022]

City: Zurich | **Country:** Switzerland

Development of a Python code for the automated CT scan analysis

University research support worker

Politecnico di Milano -NECSTcamp [08/2020 – 08/2021]

City: Milano | **Country:** Italy

NECSTcamp is a research project with the aim of increasing students' self-awareness and abilities through sports, research activities, and seminars with lifestyle, communication, and self-improvement experts.
My Research Project:
Sex Differences in the ECG Interpretation: A Functional Data Analysis perspective
The project was followed by a conference paper.

EDUCATION AND TRAINING

Master Thesis project

ETH - Institute for Biomechanics [09/2021 – 06/2022]

City: Zurich | **Country:** Switzerland | **Website:** https://ethz.ch/de.html | **Final grade:** 110/110 | **Thesis:** Investigation of muscle co-contraction in hip fracture risk using a finite element sideways fall model

The aim was to develop an algorithm to predict muscle insertion points based on bone geometry. The muscles were then implemented in a finite element model of sideways fall for fracture risk prediction.

M.Sc Biomedical Engineering – Biomechanics and Biomaterials

Politecnico di Milano [08/2019 – 07/2022]

City: Milano | **Country:** Italy | **Website:** https://www.polimi.it/

During my studies, I mainly focused on computational studies in the field of orthopedics and prosthetics, but I also took courses on cardiac devices, life-support devices, sensors, fluid dynamics...
Main projects:
Finite element analysis of Knee Femoral component
CFD analysis of the aspiration procedure for thrombectomy

B.Sc Biomedical Engineering

Politecnico di Milnao [08/2016 – 09/2019]

City: Milano | **Country:** Italy | **Website:** https://www.polimi.it/ | **Final grade:** 99/110 | **Thesis:** INVECCHIAMENTO DEI VASI ARTERIOSI: Analisi critica del fenomeno fisiologico per una nuova prospettiva di ricerca

Fundamentals of Bioengineering
Analysis and resolution of problems of medical-biological interest

COMMUNICATION AND INTERPERSONAL SKILLS

Communication, organization and management skills

Great interpersonal and communication skills, ability to adapt, and confidence in team working. Great sense of responsibility and optimism, as well as a spirit of initiative and collaboration, were some of the feedback given by team and project mates.

Excellent organizational and time management skills. Very good ability in facing challenges, adapting to changes and new environments.

DIGITAL SKILLS

Microsoft Windows / Python / Mimics Materialise / Linux CentOS / Paraview / MATLAB / AutoCAD / RStudio / C++ / LS-DYNA / SolidWorks / Ansys Fluent / LaTeX / Abaqus (FEM) / Geomagic Studio

CONFERENCES AND SEMINARS

[25/06/2022 – 28/06/2022] Porto - Portugal

ESBiomech 2022

IMPLEMENTATION OF AN AUTOMATED METHOD FOR THE SELECTION OF SUBJECT-SPECIFIC MUSCLE INSERTION POINTS

Link: https://esbiomech.org/conference/archive/2022porto/papers/porto_2489.pdf

[30/06/2024 – 03/07/2024] Edinburgh - Scotland

ESBiomech 2024

Kinematics of Patellofemoral Joint: A Cadaveric Study on Quadriceps Loading and Directional Effects

[03/10/2024 – 04/10/2024] Pescara - Italy

ESB-ITA 2024

The influence of the quadriceps muscle on knee joint kinematic: an in vitro study

PUBLICATIONS

[2024]

Force sensor for instrumented patellar prostheses: development and characterization

Under review

Maioli V., Zauli M., Cappello A., Cristofolini L.

[2021]

Sex Differences in the ECG Interpretation: a Functional Data Analysis perspective

Conference paper

Maioli V., Clementi L., Santambrogio M.D.

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English

LISTENING C1 **READING** C1 **WRITING** C1

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

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