



Lorenzo Capetta

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📍 **Work:** Viale del Risorgimento, 2, 40136, Bologna, Italy

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Passport: YC3610855 **ID:** CA43618DP **Work permit:** Italy **Gender:** Male **Date of birth:** 22/03/1999 **Place of birth:** Este, Italy **Nationality:** Italian

ABOUT ME

Biomedical engineer, currently PhD student at the University of Bologna, with experience in projects in collaboration with universities and external companies.

I am an imaginative and creative person, dedicated to listening and proactive collaboration within a team. I am very curious, with broad interests that extend beyond my field of study; open to new challenges, with a strong passion for learning new things.

EDUCATION & TRAINING

[01/10/2018 - 24/09/2021]

Bachelor's Degree

Università degli Studi di Padova

City: Padova | **Country:** Italy | **Level in EQF:** 6

- Fundamentals of mathematics
- Fundamentals of chemistry
- Fundamentals of physics
- Fundamentals of biology
- Fundamentals of physiology
- Fundamentals of anatomy
- Programming
- Circuit analysis
- Biomaterials
- Fluid dynamics
- Mechanics of machines
- Mechanics of biological structures

[28/09/2021 - 10/10/2024]

Master's Degree

Università degli Studi di Padova

City: Padova | **Country:** Italy | **Level in EQF:** 7

- Musculoskeletal modeling
- Musculoskeletal analysis
- Patient interaction
- Segmentation of biological structures
- Biomedical image processing
- Mechanics of biological tissues
- Anatomy
- Control of automatic systems
- Programming
- Human-Machine Interfaces

- Study and design of biomedical machines and devices
- Study and design of orthoses and prostheses
- Biomaterials
- Manipulator simulation
- Analysis and processing of electrophysiological signals (EEG, EMG)

[01/11/2024 - Current]

Doctor of Philosophy (PhD) in Mechanics and Advanced Engineering Sciences

Alma Mater Studiorum - Università di Bologna

City: Bologna | **Country:** Italy | **Level in EQF:** 8

- Musculoskeletal modeling
- Definition of joint mechanisms
- Musculoskeletal analysis
- Design and execution of experimental procedures
- Segmentation of biological structures
- Biomedical image processing
- Mechanics of biological tissues
- Programming
- Analysis and writing of scientific papers
- Scientific dissemination

WORK EXPERIENCE

Alma Mater Studiorum - Università di Bologna

City: Bologna | **Country:** Italy | **Name of unit or department:** Department of Industrial Engineering (DIN) | **Business/sector:** Education

[17/03/2025 - 30/09/2025]

Tutor

Tutor for the course: Fundamentals of Mechanics

- Master's Degree course
- 30 hours
- Frontal lessons
- Out of classroom assistance

Alma Mater Studiorum - Università di Bologna

City: Bologna | **Country:** Italy | **Name of unit or department:** Department of Industrial Engineering (DIN) | **Business/sector:** Education

[08/10/2025 - 19/03/2026]

Classroom tutor

Tutor for the course: Fundamentals of Mechanics Applied to Machines

- Bachelor's Degree course
- 30 hours
- Frontal lessons
- Out of classroom assistance

Alma Mater Studiorum - Università di Bologna

City: Bologna | **Country:** Italy | **Name of unit or department:** Department of Industrial Engineering (DIN) | **Business/sector:** Education

[08/10/2025 - 19/03/2026]

Classroom tutor

Tutor for the course: Analysis and Synthesis of Biomechanical Systems

- Master's Degree course

- 30 hours
- Frontal lessons
- IT assistance
- Out of classroom assistance
- Evaluator during final exams

Country: Italy

[2018 - Current]

Private tutor

- Private tutoring
- One-to-one teaching
- Variable time-schedule and working time
- Tutoring for subjects like: Mathematics, Physics, English, Programming

SKILLS

Social Skills and Competences

Leadership | Planning | Time management | Versatility | Problem solving | Interaction with companies and commercial activities | Resource management | Active listening | Teamwork | Adaptability | Interaction with patients | Transversality | Deal with the unexpected | Responsibility | Empathy | Communication | Ability to Work Under Pressure | Patience

Technical Skills and Competences

IT skills | Microsoft Office - [Excellent] | MATLAB - [Excellent] | VsCode - [Good] | Abaqus - [Basic] | 3DSlicer - [Basic] | OpenSim - [Excellent] | Bonemat - [Basic] | Meshlab - [Basic] | Video Editing (Filmora, DaVinci, Adobe Premiere) - [Basic] | Photo Editing (GIMP, Photoshop, Canva) - [Good] | C++ - [Good] | Java - [Basic] | Stereophotogrammetric system (Vicon, fixed and mobile) | HTML - [Basic] | Dart (Flutter) - [Good] | Python - [Basic] | Force Platforms

Artistic Skills and Competences

Creative writing | Acting | Improvisation | Creativity

Other Skills and Competences

Manual skills | Attention to detail | Critical thinking

Academical and Research Skills and Competences

Tutoring | Musculoskeletal Modelling | Definition of joint mechanisms | Design and execution of experimental procedures | Musculoskeletal Analysis | Segmentation of biological structures | Mechanics of biological tissues | Analysis and writing of scientific papers | Paper review | Control of automatic systems | Study and design of biomedical machines and devices | Study and design of orthoses and prostheses | Manipulator simulation | Analysis and processing of electrophysiological signals (EMG, EEG) | Biomaterials | Human-Machine Interfaces | Researcher-to-Patient interaction | Anatomy | Scientific dissemination | Biomedical image processing | Programming | Frontal teaching | Students Examination

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English

LISTENING: B2 **READING:** C1 **WRITING:** B2

SPOKEN PRODUCTION: B2 **SPOKEN INTERACTION:** B2

DRIVING LICENCE

Cars: B 27/09/2017

CONFERENCES & SEMINARS

[06/07/2025 - 09/07/2025]

ESBiomech 2025 Zürich, Switzerland

Oral presentation:

Impact Of Minimization Of Muscle Activation On Joint Mechanics

by: Capetta, Lorenzo (1); Rigoni, Giulio (2); Sancisi, Nicola (1); Sawacha, Zimi (2); Conconi, Michele (1)

1: Dept. of Industrial Engineering, University of Bologna, Italy;

2: Dept. of Information Engineering, University of Padua, Italy

Link: <https://esbiomech.org/conference/archive/2025zurich/>

[18/07/2025 - 18/07/2025]

GEF 2025 - Diciassettesima Giornata di Studio Ettore Funaioli Reggio Emilia, Italy

Oral presentation:

Beyond The Limits Of Minimization Of Muscle Activation In Joint Mechanics

by: Capetta, Lorenzo (1); Rigoni, Giulio (2); Sancisi, Nicola (1); Sawacha, Zimi (2); Conconi, Michele (1)

1: Dept. of Industrial Engineering, University of Bologna, Italy;

2: Dept. of Information Engineering, University of Padua, Italy

[11/07/2026 - 15/07/2026]

World Congress of Biomechanics 2026 Vancouver, Canada

Oral presentation:

An Anatomy Based Technique For Predicting Knee Natural Motion

by: Capetta, Lorenzo (1); Sancisi, Nicola (1); Conconi, Michele (1)

1: Dept. of Industrial Engineering, University of Bologna, Italy;

Link: <https://wcb2026.com/>

HOBBIES AND INTERESTS

Football

Helped develop teamwork, adaptability, discipline, leadership, quick thinking and the ability to handle unexpected situations

Roleplaying games

Encouraged creativity, improvisation, collaboration, communication, flexibility, but also leadership, teamwork and storytelling ability. Improved confidence, communication, expressiveness, and the ability to relate to others and helped develop quick thinking and adaptability

Social deduction games

Helped improve critical thinking, observation, attention to details, active listening, quick thinking, communication, and interpretation of group dynamics

Cooperative and competitive videogames

Supported teamwork, strategic thinking, adaptability, and coordination toward shared goals. Helped develop quick thinking, communication, dedication

Photo editing

Improved attention to detail, creativity, visual communication, and technical digital skills

Video editing

Developed creativity, technical skills, patience, attention to detail, and the ability to structure content effectively

Creative writing

Strengthened imagination, written communication, clarity of expression, and storytelling ability

VOLUNTEERING

Volunteering at local events

Improved teamwork, leadership, planning, resource management, and interaction with different people in practical settings

Environmental clean-up volunteering

Reinforced civic responsibility, collaboration, adaptability

Cultural events

Contributed to organisational skills, teamwork, communication, and openness to different contexts and people.

Sports event volunteering

Helped build planning skills, problem solving, quick thinking, teamwork, and the ability to work under dynamic conditions

PUBLICATIONS

[2025]

[Impact of Minimization of Muscle Activation on Joint Mechanics](#)

Reference: Capetta, L., Rigoni, G., Sancisi, N., Sawacha, Z., Conconi, M. (2025). Impact of Minimization of Muscle Activation on Joint Mechanics.

Oral presentation:

Impact Of Minimization Of Muscle Activation On Joint Mechanics

by: Capetta, Lorenzo (1); Rigoni, Giulio (2); Sancisi, Nicola (1); Sawacha, Zimi (2); Conconi, Michele (1)

1: Dept. of Industrial Engineering, University of Bologna, Italy;

2: Dept. of Information Engineering, University of Padua, Italy

Authors: Capetta Lorenzo; Rigoni Giulio; Sancisi Nicola; Sawacha Zimi; Conconi Michele

| **Journal Name:** 30th Congress of the European Society of Biomechanics

[2025]

[Beyond the Limits of Minimization of Muscle Activation in Joint Mechanics](#)

Reference: Capetta, L., Rigoni, G., Sancisi, N., Sawacha, Z., Conconi, M. (2025). Beyond the Limits of Minimization of Muscle Activation in Joint Mechanics.

Oral presentation:

Beyond The Limits Of Minimization Of Muscle Activation In Joint Mechanics

by: Capetta, Lorenzo (1); Rigoni, Giulio (2); Sancisi, Nicola (1); Sawacha, Zimi (2); Conconi, Michele (1)

1: Dept. of Industrial Engineering, University of Bologna, Italy;

2: Dept. of Information Engineering, University of Padua, Italy

Authors: Capetta Lorenzo; Rigoni Giulio; Sancisi Nicola; Sawacha Zimi; Conconi Michele

[2026] [**An Anatomy Based Technique For Predicting Knee Natural Motion**](#)

Reference: Capetta, L., Sancisi, N., Conconi, M. (2026). An Anatomy Based Technique For Predicting Knee Natural Motion.

Oral presentation:

An Anatomy Based Technique For Predicting Knee Natural Motion

by: Capetta, Lorenzo (1); Sancisi, Nicola (1); Conconi, Michele (1)

1: Dept. of Industrial Engineering, University of Bologna, Italy;

Authors: Capetta Lorenzo; Nicola Sancisi; Michele Conconi | **Journal Name:** 10th World Congress of Biomechanics | **Volume, Issue and Pages:** 515-516

[2026] [**A CT-Based Anatomy-Driven Technique for Predicting Subject-Specific Knee NaturalMotion**](#)

Reference: Capetta, L., Sancisi, N., Conconi, M. (2026). A CT-Based Anatomy-Driven Technique for Predicting Subject-Specific Knee Natural Motion.

Authors: Capetta Lorenzo; Nicola Sancisi; Michele Conconi | **Journal Name:** Diciottesima Giornata di Studio Ettore Funaioli

[2026] [**Method for identifying individual joint kinematic signature from images**](#)

Reference: Sancisi, N., Conconi, M., Capetta, L. (2026). Method for identifying individual joint kinematic signature from images.

National patent; id number: 102026000017203

Authors: Sancisi Nicola; Conconi Michele; Capetta Lorenzo