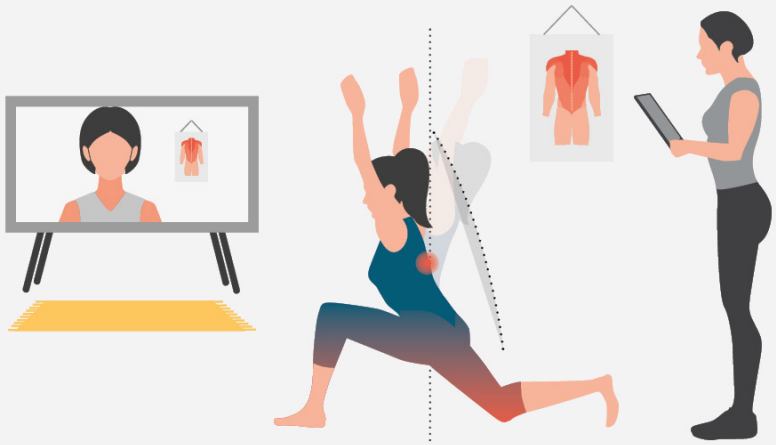
veiio

Digitising the
Power of TOUCH.



Diploma thesis: Motion Capturing & Data Analysis in Physiotherapy

Especially since the outbreak of Covid, digital and remote sports activities are highly popular. However, one fundamental element is missing: The haptic guidance of a trainer or therapist. Not only in fitness, but also in physiotherapy, this haptic feedback is essential for the correct execution and essential for a sustainable healing of patients.

veiio fills this gap with intelligent clothing that uses vibrotactile feedback to guide patients performing physiotherapy exercises at home. Our aim is not only to increase the success of therapy (especially of back pain), but also to make it accessible to patients at any location. The vision is to develop an intelligent suit with fully integrated sensors and actuators that uses motion capture to provide real-time vibrotactile feedback to the wearer.

We offer a diploma thesis project in Motion Capture (MoCap) Data Analysis based on Inertial measurement unit (IMU) sensors. In this project, the aim is to:
— develop a prototypical system that recognizes selected movement exercises
— and that evaluates the movement execution in real-time.

Included tasks are also: acquiring the data with provided hardware, testing
— comparing different approaches for motion classification
— evaluation, providing a simple interface for examining the algorithms.

Your profile

— Profound knowledge in Python programming
— Experience with approaches from machine learning (e.g., scikit-learn, PyTorch)

We provide:

— Application-oriented project that is intended to be used
— You will collaborate with an interdiscpliary team incl. sports medicine and physiotherapeutic experts as well as humane-machine-interaction engineers.
— Close connection to huge research projects 6G-life hub and cluster of excellence CeTI

That sounds exciting? We are lookig forward to your application: **info@veiio.de**

Empowered by:

6G-life

CeTI Centre for Tactile Internet with Human-in-the-Loop