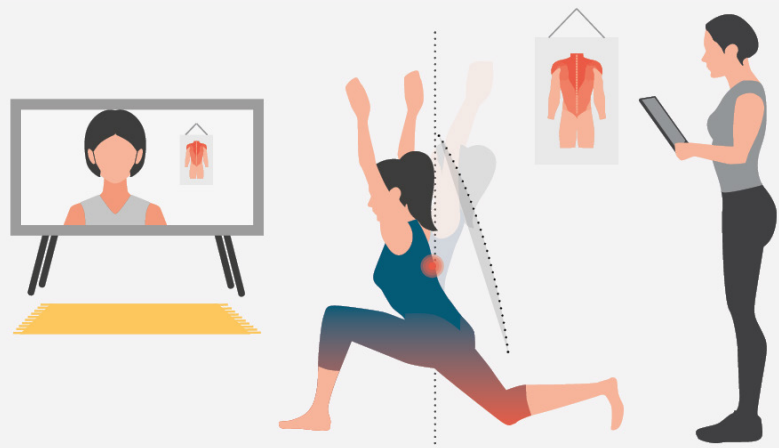


veio

Digitising the
Power of TOUCH.



Student project / Diploma thesis: IMU-based Motion 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.

veio 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.

In the field of motion analysis, this project would include following tasks:

- Research on the state of the art and research on motion tracking & motion models in physiotherapy
- Analysis of the use case to develop a catalog of requirements
- Selection of evaluation criteria for an appropriate measurement system (in cooperation with physiotherapists and sports scientists)
- Comparison of technologies for suitable measuring systems
- Development of a test setup for the applied comparison of favored systems,
- Execution of tests for the evaluation of the measuring systems

Depending of your level of studies, the topic can be adapted to a student project or a diploma thesis.

Your profile

- Degree in biomedical engineering, computer science, electrical engineering, or equivalent
- Previous experience in motion tracking desirable, but not a must
- Commitment, reliability and ability to work independently

We provide:

- Application-oriented project that is intended to be used
- You will collaborate with an interdisciplinary 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 looking forward to your application: shorturl.at/bquV6

Empowered by:



6G-life



CeTI

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