

Internship/Master Thesis: Physical Rehabilitation in Virtual Reality

Job description

For a new research project in the field of physical rehabilitation, VECURY-Digital Motor Rehabilitation Project, supported by the Ministry of Economic Affairs, Innovation, Digitalization and Energy of the State NRW, Germany.

We investigate how virtual reality (VR), in combination with 3D motion tracking, can support patients and therapists during physical rehabilitation. The approach focuses on providing patients with individualized guidance during exercise routines while allowing therapists to design customizable training plans and receive objective data on the recovery progress. We develop an innovative VR platform designed for the use of patients with musculoskeletal disorders of the upper-limbs. The project will be carried out in close cooperation of major medical institutes in the area.

You are expected to evaluate state-of-the-art technologies and build a novel visualization framework to guide users in an engaging and natural-to-use manner. This involves the design of novel VR environments and the implementation of movement and physical interactions within the VR world. The project will provide insight into the performance behaviour of users interacting in HMD environments. Focusing on the Unity game engine, scenes for benchmarking the performance will be implemented. The benchmarks will be the measures for a setup based on the HTC VIVE PRO at Bielefeld University. The project is carried out part-time with flexible weekly working hours.

Profile

- Interest and first experience in VR development and game design
- Basic understanding in computer graphics and familiarity with VR fundamentals.
- Experience with C++ and/or C#, experience with VR headsets and creating VR environments is a plus.
- Prior experience with Unity or Unreal Engine platforms is a plus as well.

Research Group

Neurocognition and Action – Biomechanics

For more information about VECURY

https://www.uni-bielefeld.de/sport/arbeitsbereiche/ab_ii/research/vecury.html

<https://vecury.com/>

Place

Bielefeld, Germany

Starting date

To be agreed

Duration

According to study regulations, interns are encouraged to stay with us for at least 3 months. Flexible working time. Internship + Master Thesis is possible and preferred.

Application

Please send an email (including CV) to alessio.daquino@uni-bielefeld.de