

The Institute of Applied Dynamics (LTD) together with Department of Internal Medicine 3 – Rheumatology and Immunology and the Chair of Digital Health (CDH) of Friedrich-Alexander-Universität Erlangen-Nürnberg, are offering at the earliest possible time a

## Master Thesis

with the topic

### **Assessment of spine flexibility in patients with inflammatory backpain using marker and sensor-based motion capture methods**

Spine flexibility is impaired in patients with inflammatory backpain and measured using manual tests in the clinical context. The goal of this project is to assess the possibility to measure joint flexibility with marker and sensor-based technologies with the goal to identify an objective method for spine flexibility assessment.

#### **The thesis involves**

- Data collection using marker-based motion capture and inertial sensors in patients with inflammatory back pain
- Processing of the collected data sets to identify e.g. joint flexibility
- Assess options of sensor reduction

#### **Qualifications**

- Technology/pure sciences studies (engineering, medical technology, physics and other related fields)
- Programming skills, e.g. in Matlab
- Courses in mechanics/dynamics (e.g. multibody dynamics and biomechanics)

If interested, please E-mail to:

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