INSTITUTE OF SIGNAL PROCESSING
AND SYSTEM THEORY
Prof. Dr.-Ing. Bin Yang

UNIVERSITY OF
STUTTGART

Open PhD position

"Deep learning based MR imaging biomarkers for human muscle assessment"

Start: Begin 2023

Area
Recently, intelligent machine learning methods, in particular deep learning methods, have been successfully applied to medical imaging (e.g. CT, MRT, PET) based assessment and diagnosis. The DFG Priority Program Radiomics is designed to advance the diagnostic and prognostic value of medical imaging by implementing "Radiomics" and advanced image interpretation approaches such as artificial intelligence and deep-learning algorithms in different clinical scenarios.

Topic
This open PhD position is located in Phase 2 of this DFG research program. It will start at beginning of 2023 and has a duration of 3 years. It will continue the successful project "Imaging Biomarkers of Human Skeletal Muscle" in Phase 1. The main topics are semantic segmentation of human muscle in MR images for a large cohort of subjects, extraction of relevant muscle features called biomarkers and investigation of their relationship to muscular changes and diseases.

Requirements:
- High interest on this topic
- High-performance Master degree in related areas (e.g. EE, Medizintechnik, CS, ..)
- Solid knowledge in deep learning and experience in Python programming
- Basic knowledge on MRT imaging recommended
- Interest on teamwork

In case of interest, please contact Prof. Bin Yang (bin.yang@iss.uni-stuttgart.de) by sending complete CV and transcripts of Bachelor and Master.