



Topic: Gait Analyze with Large-Scale Textile Pressure Sensor Array

Goal: This project aims at unobtrusively analyzing normal gait and gait disorders using large-scale textile pressure sensor array, that has been the kernel outcome of EU project SimpleSkin (<http://www.simpleskin.org/?videos>).

Workflow:

Month 1: get familiar with gait analyze, the pressure sensor array and corresponding data recording/processing framework

Month 2: ethics control, data recording (with normal people)

Month 3: data mining algorithms development

Month 4: build live demonstrator

Month 5: second round data recording (with patients) and data mining

Month 6: documentation, paper and thesis writing

Advantages:

1) You'll have an easy start: the work will be based on the advanced hardware platform developed within EU project; and ready-to-use framework for data recording and processing (used already in lecture, more details: <http://www.wearcomlab.de/teaching.html>, under tab: Winter Semester-> Ubiquitous Computing Lab)

2) you'll experience cooperation between 2 groups and gain real-life experience in Pervasive Healthcare (together with Hannover Medical School)

3) possibility of writing a paper based on the thesis

Requirements:

- . Experience in or lectures on Data Mining (better including deep-learning)
- . Good programming skills with Matlab or Python or C++(Qt)
- . Experience in or lectures on image/video processing
- . Willing and good at communication
- . Good written and oral English