Development of Wearable Technologies for Outcome Evaluation of Clinical Treatments

PROJECT DESCRIPTION

Human motion measurement during daily activities (such as walking) is like a fingerprint and can distinguish patients with neurological or musculoskeletal conditions from able-bodied individuals. Although human motion can be measured in motion measurement labs, patients may not act as naturally as in their home. Wearable sensor technology is an ideal alternative to for human motion measurement out of laboratories. The objective of this project is to develop wearable technologies using off-the-shelf sensors such as inertial sensors and force sensors to precisely assess clinically relevant parameters describing typical activities during daily life. Examples of to-be-measured parameters are ankle, knee, and hip joint angles during walking, standing up or sitting down. The motion data will be collected and analyzed from both patients and able-bodied individual groups. Then the measurements will be compared between the two groups to investigate the efficiency of the developed wearable technology.

FACULTY-DEPARTMENT

Engineering- Mechanical Engineering

DESIRED FIELD OF (STUDENT) STUDY

Electrical Engineering, Mechanical Engineering, Biomedical Engineering, Computer Engineering

INTERNSHIP LOCATION

University of Alberta Main Campus - Edmonton

NUMBER OF INTERNSHIP POSITIONS

2

INTERNSHIP START DATE

January 2, 2018

INTERNSHIP END DATE

March 27, 2018
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