

Development of Wearable Technologies for Outcome Evaluation of Clinical Treatments and Daily Activity Monitoring

PROJECT DESCRIPTION

Human motion measurement during daily activities (such as walking) is like a fingerprint and can distinguish patients with neurological, psychological, 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 the ankle and knee joint angles during walking, standing up or sitting down. The motion data may 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

Mechanical Engineering, Electrical Engineering, Biomedical Engineering, Computer Engineering

INTERNSHIP LOCATION

University of Alberta Main Campus - Edmonton

NUMBER OF INTERNSHIP POSITIONS

3

INTERNSHIP START DATE

July 4, 2018

Contact: Brendan Cavanagh, Internship Coordinator (Inbound)
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INTERNSHIP END DATE

October 4, 2018

ARE THE DATES FLEXIBLE?

Yes, I am flexible regarding the internship dates. Selected students can contact me to request a date change.