

# Novel wearable technologies for sportive performance assessment

## PROJECT DESCRIPTION

Sportive activities play a significant role in improving our physical and mental health and thus our quality of life. In addition, professional sports, sportive equipment design, protective equipment design, etc. create a major market and potential for R&D activities. Sportive performance evaluation for improving the athletic performance and injury prevention is usually performed based on the coach's observation. However, the coach's observation is frequently subjective and cannot capture slight motion pattern changes. On the other hand, a majority of sportive activities cannot be performed in standard motion capture labs. Wearable technologies create a significant opportunity for sportive performance evaluation in the field and recording the actual and natural performance of the athletes.

The objective of this project is to develop wearable technologies for sportive performance assessment in sportive fields such as soccer, volleyball, tennis, and trace and field activities. These technologies will enable the coach and the athletes to better assess the performance of the athletes and reduce the risk of injuries. This project will be completed in collaboration with physical education scientists and athletic teams at the University of Alberta. In our general plan, the developed wearable technology will be designed, evaluated in the lab, tested in the field, and delivered towards technology transfer.

## FACULTY-DEPARTMENT

Engineering - Mechanical Engineering

## OPEN TO STUDENTS FROM THE FOLLOWING INSTITUTIONS

Chinese universities participating in the [\*Double First-Class Initiative\*](#).

## DESIRED FIELD OF STUDENT STUDY

Mechanical Engineering, Electrical Eng., Computer Eng., Computer Sciences, Biomedical Eng.

## INTERNSHIP LOCATION

Edmonton Campus

## NUMBER OF INTERNSHIP POSITIONS

2

## INTERNSHIP DATES

Start: July 2, 2019

End: October 2, 2019

## ARE THE DATES FLEXIBLE?

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