Problem Statement: Increased interest in recreational running has resulted in increased incidence rate of overuse injuries associated with fatigue related form decline

- Being able to detect fatigue would improve sport and recreational outcomes by reducing injuries
- Data collection outside of lab – portable inertial measurement units (IMUs)

Previous study
Using supervised machine learning (leave one subject out cross validation)
On data collected from track running

Proposed Study
Using a long short-term memory (LSTM) neural network
On data collected from treadmill running

Potential Impact
- Clinical translation and rehabilitation applications
- Basic science - analyze biomechanical differences in fatigue onset between track and treadmill