FACULTY MENTOR
Dey, Sujit

PROJECT TITLE
Towards On-demand Virtual Physical Therapist: Patient Performance Evaluation and Balance Ability Quantification using Multiple Sensors
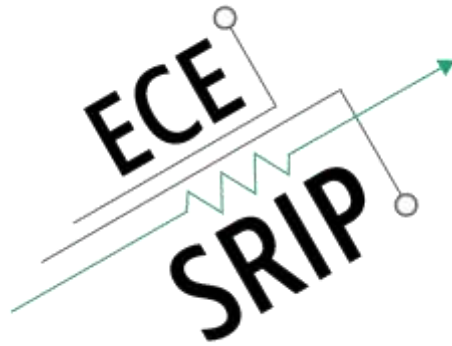
PROJECT DESCRIPTION
The aim of the project is to develop a virtual physical therapist (PT) tool to help remote patients who need physical therapy. Currently this project is aimed at patients with balance problems. We will use multiple sensors (including motion capture sensors and pressure sensors) and machine learning to quantify patient's balance ability. Qualification of the balance ability can improve PT assessment and intervention, and also improve the measure of effectiveness of medication, training tasks, and assistive tools for the patients.

INTERNS NEEDED
1 MS Student

PREREQUISITES
The interns are expected to be skilled in Python/C++/Matlab. Candidates who have experience with connected health and machine learning are preferred.

FACULTY MENTOR
Dey, Sujit

PROJECT TITLE
Personalized Effect of Health Behavior on Blood Pressure: Machine Learning Based Prediction and Recommendation

PROJECT DESCRIPTION
The aim of project is to investigate the relationship between blood pressure and health behavior (e.g. sleep and exercise) and to develop personalized health analytics and recommendation. Using the data collected from off-the-shelf wearable devices (providing detailed health behavior like walking, exercise, stress, heart rate and sleep) and wireless blood pressure monitors, we will collect data from volunteers and use machine learning models (e.g. linear regression, ensemble models, neural networks) to tackle the problems.

INTERNS NEEDED
1 MS Student

PREREQUISITES
The interns are expected to be skilled in Python/C++/Matlab. Candidates who have experience with machine learning projects are preferred.