Project number: CS3

Project Source: Discipline of Physiotherapy/ Sydney School of Health Sciences

Project Title: Use of machine learning to predict the foot progression angle during gait in people with knee osteoarthritis

Project Description and Scope: We have collected 2D video data and simultaneously 3D motion analysis data for 70 participants with knee osteoarthritis on 3 occasions, with 10 trials available. This project will use computer vision/image analysis to process video data, and use powerful machine learning/AI algorithms to train the computer to predict foot progression angle. Ground truth data are available as gold standard 3D motion analysis.

Expected outcomes/deliverables: AI/machine learning algorithm from a training sample
Report on methodology
Metrics of accuracy evaluated on a test sample
Report of outcomes ready to submit to a publication
The algorithm ready to be executable on computer PC/Mac

Specific required knowledge, skills, and/or technology: Machine learning, data analytics, image analysis, coding, excellent communication skills

Fields that this project may involve: Algorithms;Data Science/Analytics;Artificial Intelligence;Bioinformatics/Biomedical;Software Development;

Dataset provided by the client: Yes, the project client will provide dataset.

Resources provided by the client: Vicon Nexus use if required