

Faculty of Engineering

Summer Research Program 2022-2023

Project Title: Socially Assistive Robots for Promoting Musculoskeletal Health

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Objective

Support and facilitate participatory design sessions for the development of a SAR (socially assistive robot) prototype for preventative health applications

Project Details

In Australia, approximately 1 in 3 people suffered from musculoskeletal conditions (MSDs) in 2017-18. MSDs can be preventable through education and preventative programs that reduce sedentary behaviour and facilitate symptom self-management. However, poor user adherence, exacerbated by a lack of individualisation, is an issue. As part of a seed research grant, we are currently working on the design and development of a socially assistive robotic system that provides individualised interventions for MSDs prevention in sedentary workers. One main component of this system is the active involvement of stakeholders (e.g., end-users and health practitioners) in the design process through multiple participatory design (PD) sessions.

We are recruiting one student to help with the varied tasks required to plan and conduct these PD sessions planned to start in early 2023. Specifically, the student will:

- Test and finalise, if required, the different robot functionalities participants can use to create prototypes of robot behaviours
- Test and finalise, if required, the end-user programming interface to be used by participants
- Help with the technical setup and support prior to and during the sessions
- Assist with the post-processing and preliminary analysis of the quantitative and qualitative data collected during the design sessions.

Prerequisites

Good programming skills; experience with Python and Node js; good communication skills; experience with computer vision and deep learning; familiarity with analysis and processing of qualitative data

Additional Information

Applicants may be required to attend an interview