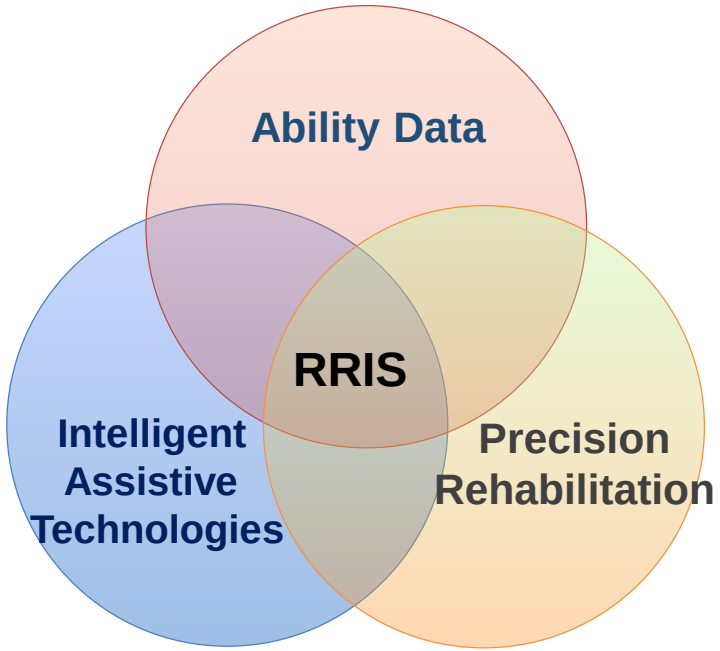
Vision:

A world-class **Asian-centric** research institute with focus on interdisciplinary research and innovation in rehabilitation science and technology for quality healthcare delivery

Data-driven Human Ability



- Establishment of world's largest physical ability database
- Integrated human movement analysis and optimisation
- Data-driven assistive robotics to augment human ability
- Collaboration between NTU, A*STAR and NHG

Man-with-Machine:
Mobile Robot Balance Assistant (MRBA)

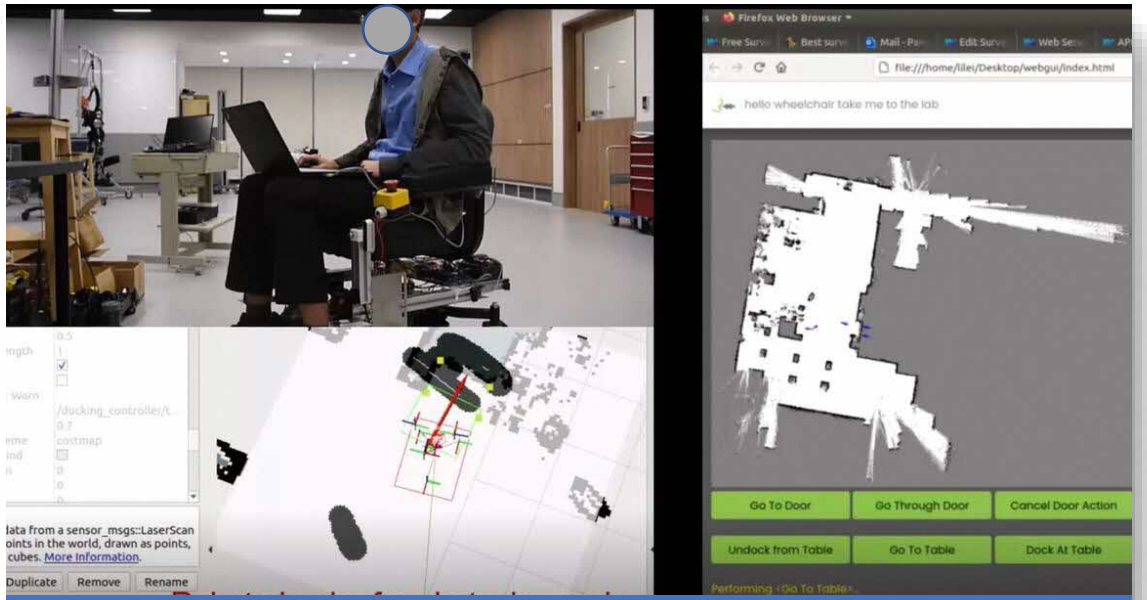
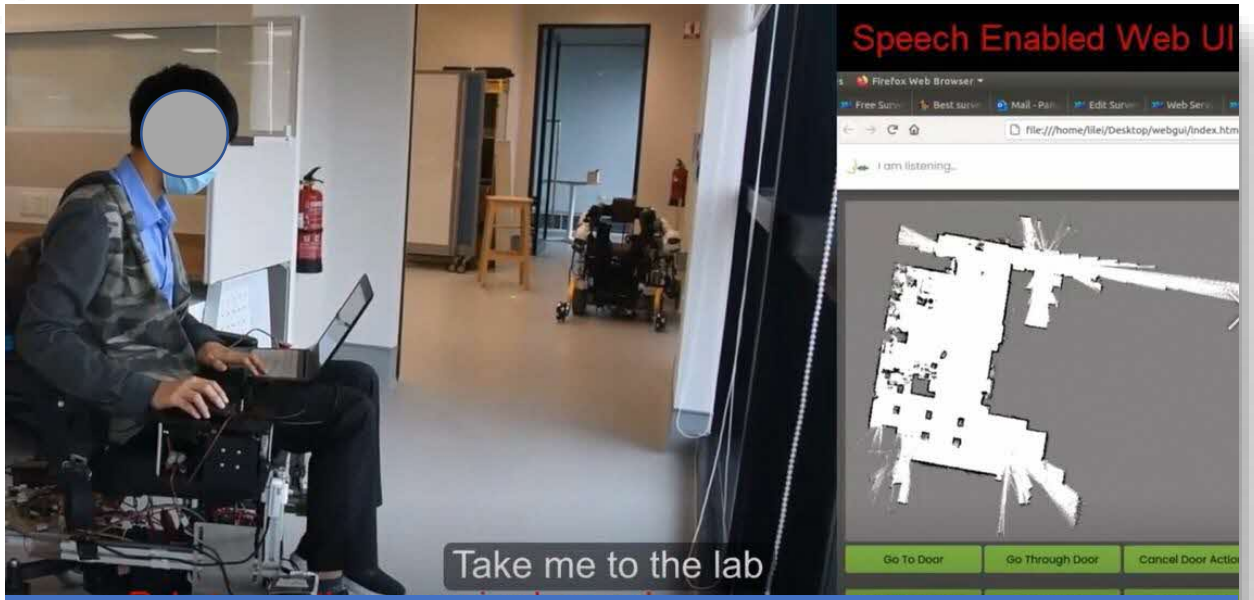


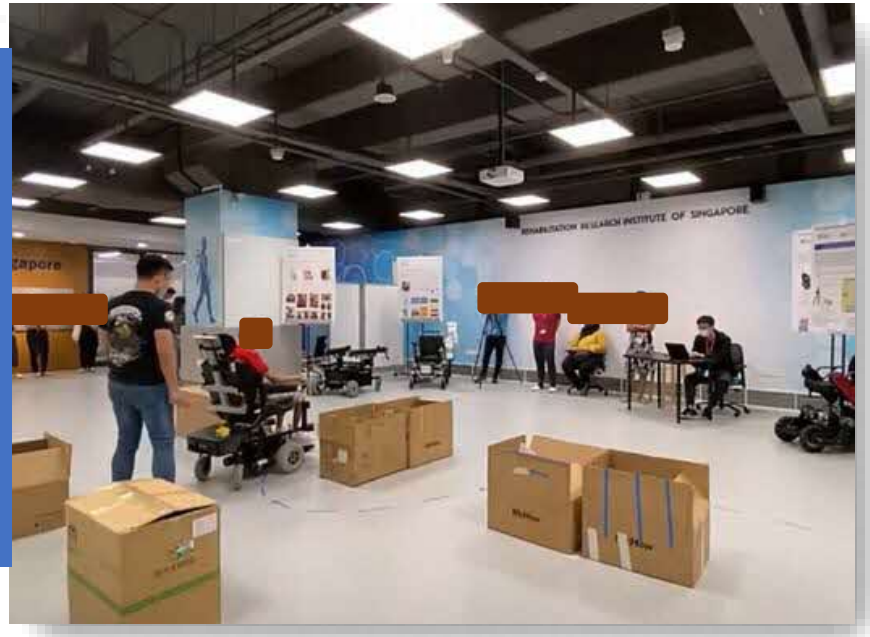
Table Docking & Capabilities:
Robot parks a user at desired locations



Robot uses speech recognition to define a goal waypoint

Man-in-Machine:
Shared Control Wheelchair

Safe navigation with robotic shared-control assistance



Machine-on-Man:
Lower Limb Exoskeleton

Human-Robot Interface (HRI) software to enable better personalization and useability

- Suitable for use by hemiplegics (eg: stroke patients)
- Works in different scenarios - Compliant surfaces (soft carpet), Slope, Step-over (gaps and objects)
- Supports smooth transition from sit to stand and vice versa
- Suitable for personal use as an assistive device in indoor environments without requiring assistance from another person in order to put on the device

The intelligent shared control software is flexible for deployment across various exoskeleton platforms.

Stair Climbing

Obstacle Crossing