

The Future of **Artificial Intelligence** In Improving Life, Health and Wellbeing

“If developed boldly and responsibly, AI stands to be a powerful force for health equity, improving outcomes for everyone, everywhere.”

- Dr. Karen DeSalvo (Chief Health Officer, Google)

HEALTH

ANALYSING DNA FOR GENETIC MARKERS OF DISEASE:

- Developing targeted therapies/preventative measures
- Personalise treatment based on genetic + clinical data to predict how patients will respond to specific treatments
- **EXAMPLE IN AUSTRALIA: CSIRO'S DATA61 (COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION)**

MEDICAL IMAGING

- Analyse MRI and CT scans
- Improve speed and accuracy of diagnosis
- **EXAMPLE IN AUSTRALIA = SNAC (SYDNEY NEUROIMAGING ANALYSIS CENTRE)**
 - Detects tumours, lesions + brain atrophy, etc

LIFE

ASSISTIVE TECHNOLOGIES (AT)

- More than 2.3 million individuals require support from AT (Melbourne Disability Institute)
 - Speech-to-text
 - Prosthetics
 - Generative AI which can respond to human conversation

AI-POWERED APPS

- Analyse data in order to provide individuals with an overview of their lifestyle
- **EXAMPLES COMMONLY USED IN AUSTRALIA:**
 - **FITBIT: MONITORS AND ANALYSES PHYSICAL ACTIVITY, SLEEP PATTERNS, AND HEALTH METRICS**
 - **WAZE: PROVIDES REAL-TIME TRAFFIC UPDATES, ROUTE OPTIMISATION, AND INCIDENT REPORTS FOR EFFICIENT TRAVEL PLANNING.**

WELLBEING

WEARABLE AI

- Can be used to provide warnings or predict to certain negative behaviours

DIAGNOSING PATIENT OUTCOMES

- Can analyse a wide array of data incredibly quickly to potentially detect warning signs of mental health conditions before they become serious
- **EXAMPLE IN AUSTRALIA: WOEBOT: AN AI CHATBOT THAT USES COGNITIVE-BEHAVIORAL THERAPY (CBT) TECHNIQUES TO HELP USERS MANAGE THEIR MENTAL HEALTH THROUGH CONVERSATIONS AND MOOD TRACKING.**

MEDICAL PROFESSIONALS

- reduce workload of medical professionals by generating automated reports and analyse significant amounts of data

