PRESS RELEASE
"Rise of the Machines" Supports People Living with Dementia

Sydney, 19 February 2020

UNSW Sydney biomedical engineering researchers and aged care technology developer Vitalcare have partnered to apply low power radar, artificial intelligence and machine learning technology to dementia support systems in aged care nurse call systems.

With an ageing population and the incidence of cognitive impairment (dementia) rising rapidly, it's anticipated that more than 1.15 million Australians will be living with this condition by 2050. This initiative by UNSW and Vitalcare will see postgraduate students from UNSW work with Vitalcare's R&D team to research and apply a range of emerging technology, including machine learning and mmWave radar, into Vitalcare's aged care system infrastructure.

Professor Nigel Lovell, Head of the Graduate School of Biomedical Engineering at UNSW, said: "The University is delighted to be working with Vitalcare providing an opportunity for its students to apply their research to address real-world challenges."

Vitalcare CEO, Logan Ross said, "We're committed to leading technology projects aimed at improving the health of older Australians. We want to help older Australians live independently, longer in their homes and have better care throughout their journey."

"We're developing millimetre wave (mmWave) technology analysed by machine learning routines to unobtrusively and non-invasively monitor activities of aged care residents with a range of conditions, including dementia. This technology can identify abnormal behaviour, including aspects such as falls, poor sleep, activity levels, and then flag concerns to carers should intervention be required," Ross explained.

"The technology is very impressive," Ross added. "As it does not use the visible spectrum, mmWave preserves the client's privacy while being able to detect objects and people within a room. It can even be used to measure heart and respiratory rates."

Ross explains that once commercialised, the technology will be integrated into the Vitalcare's nurse call system which is used widely in aged care institutions across Australia. It will also be applied to products suitable for home use to assist residents in maintaining independent living.

Ross was enthusiastic about the project and complimentary of the quality of student and professional support received in the collaboration with UNSW, commenting, "It is very rewarding to be investing in both new technology and the next generation of engineers who will solve many of the challenges of today."

The partnership between UNSW and Vitalcare was made possible through the NSW Government's Boosting Business Innovation Program, designed to bring together university researchers and small-to-medium sized businesses to embark on innovative joint research projects.

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About Vitalcare

Vitalcare has pioneered nurse call and critical messaging systems for over 30 years. The company designs, manufactures, installs and services the most innovative systems available through a national network of company owned branches and authorised distributors in Australia and New Zealand. Vitalcare is the first manufacturer to integrate IoT (internet of things) technology in its two-way waterproof pendants and call points along with cloud integration for advance reporting, supervised maintenance and data analysis. Vitalcare is the industries most trusted brand with over 1,000 sites nationally (50,000 beds) across aged care and hospital markets.

About UNSW Biomedical Engineering

The UNSW Graduate School of Biomedical Engineering offers high-quality, sought-after education programs and Biomedical engineering research contributions that continue to change the lives of people around the world.