112 年高等教育深耕計畫 演講公告

演講題目： Harnessing the Artificial Intelligence Technologies Like ChatGPT to Advancing Nursing and Person-centred Consumer Care

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演講分類：	『經營實務講座』系列演講 邀請老師：康家榮

日期：2023/11/27	時間：19:00~21:00	地點：尚志大樓六樓 610 教室

演講者簡介：

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演講摘要(或大綱)：

Since its inception on 30 November 2022, ChatGPT, an Artificial Intelligence (AI), large language model (LLM) developed by OpenAI, has taken over the world. Even ordinary people can foresee the profound influence and revolution that ChatGPT will bring to every corner of society in the coming days. As the leaders in health innovation and advocacy for person-centred consumer care, the nursing profession must embrace and engage with these advanced AI technologies to facilitate patient care, nursing professional development and person-centred care. language model (LLM) developed by OpenAI, has

taken over the world. Even ordinary people can foresee the profound influence and revolution that ChatGPT will bring to every corner of society in the coming days. As the leaders in health innovation and advocacy for person-centred consumer care, the nursing profession must embrace and engage with these advanced AI technologies to facilitate patient care, nursing professional development and person-centred care.

This talk will first outline the value of AI technologies like ChatGPT for nursing practice and research, nursing and patient education. It will reveal the AI technologies, research methods and processes that empower ChatGPT to realise its value. We will discuss with the audience the roles nurses may play in driving the design, development, implementation and evaluation of AI tools and methods.

The value of AI technologies like ChatGPT for nursing practice and research, nursing and patient education includes charting and documentation, medication management, research assistance, identifying trends and patterns, education and training, supporting personalised consumer care, and improving healthcare research.

The associated AI technologies that work together with ChatGPT-like large language models to better understand the nuances of nursing language and lead to the realisation of the above value include named entity recognition (NER), part-of-speech tagging (POS tagging), sentiment analysis, word embedding, topic modelling and dependency parsing. The following processes need to be followed to build machine learning models with the above functionalities: 1) collect data; 2) pre-process the data; 3) choose an appropriate modelling algorithm; 4) train the model; 5) evaluate the model; 6) tune the model; 7) use the model for inference, and 8) evaluate the outcomes.

The speaker will share with the audience the Natural Language Processing (NLP) projects the researchers in the Centre for Digital Transformation at the University of Wollongong have undertaken. After ethics approval, we acquired structured and unstructured nursing notes and records from a large aged care organisation in New South Wales, Australia. We conducted machine learning and NLP for various tasks:

- Predicting malnutrition half-year ahead of the onset of the adverse event
- Understanding agitation prevalence in older people with dementia
- Predicting outcomes of nursing intervention on agitation occurrence for people with dementia
- Uncovering frailty prevalence in residential aged care

The above use cases will exemplify the value of AI technologies for nursing, the method and approach to building these useful AI technologies, and the roles that nursing practitioners, researchers and students can play in driving the design, implementation and evaluation of these AI technologies to revolutionise nursing care and patient outcomes, and nursing and consumer education. The talk will serve as a springboard to expedite the adoption and benefits realisation of contemporary AI technologies to advance nursing care, practice and research in Taiwan.