



Taipei Municipal Gan-Dau Hospital
(Managed by Taipei Veterans General Hospital)

e-Newsletter

May 2024

Taipei Municipal Gan-Dau Hospital

Unveiling the Future of Dementia Care:

Facial Expression Recognition System

Enhancing Dementia Care Through Facial Expression Recognition Technology

Introducing the Taipei Municipal Gan-Dau Hospital, a pioneering institution at the intersection of healthcare and technology. Our transformation into a "Smart Community Hospital" signifies a paradigm shift in healthcare delivery. By harnessing the power of Artificial Intelligence, Big Data, Robotic Technology, Telehealth and the Internet of Things, we have optimized our operations and elevated the standard of patient care and community health.

Our mission transcends the conventional boundaries of healthcare. We are committed to promoting 'Healthy Longevity' within our community. This involves a proactive approach to health, emphasizing preventive care, and fostering a culture of wellness. Our smart technologies facilitate personalized care plans, real-time health monitoring, and telemedicine services, thereby enhancing healthcare accessibility and enabling early detection and management of health conditions.

We are dedicated to cultivating a health-conscious community. Through regular health education seminars, fitness programs, and wellness activities, we engage individuals of all ages, integrating healthcare into everyday life. Our goal is not just to treat illness but to inspire a lifestyle that values health and longevity using integrate biomedical and digital technology.

Join us at Taipei Municipal Gan-Dau Hospital as we redefine healthcare and pave the way for a healthier, longer-lived future.

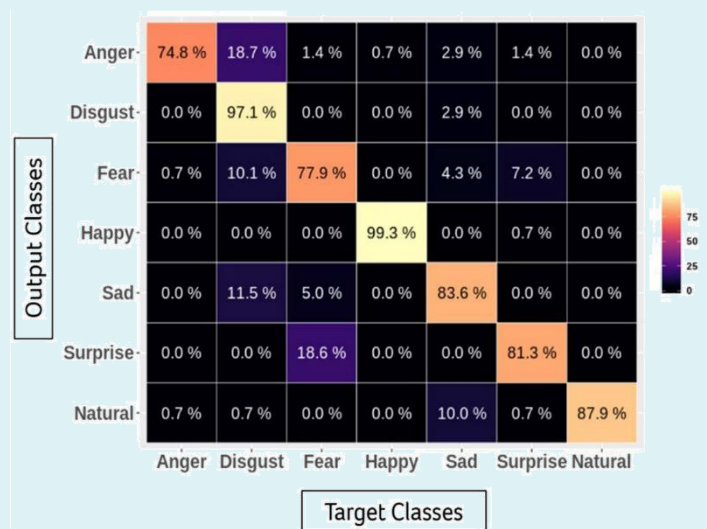
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<https://www.gandau.gov.tw/englishweb/>

We are excited to share with you a groundbreaking research study conducted by a team of experts from Taipei Veterans General Hospital and National Yang-Ming Chiao-Tung University, in collaboration with Taipei Municipal Gan-Dau Hospital. The study focuses on predicting neuropsychiatric symptoms of persons with dementia in a day care center using a facial expression recognition system (FERS). The potential of artificial intelligence-based FERS in predicting neuropsychiatric symptoms of persons with dementia in day care centers was explored.

Dementia is a complex and challenging condition that affects millions of individuals worldwide, with behavioral and psychological symptoms presenting a significant burden on both patients and caregivers. Behavioral and Psychological Symptoms of Dementia (BPSDs) impact 90% of persons with dementia, leading to greater morbidity, mortality, and distress among caregivers and family members. Agitation, psychosis, depression, and apathy were identified as dominant clusters of BPSDs, emphasizing the urgent need for effective management strategies. Traditional methods of evaluating BPSDs, such as informant-based interviews, are often time-consuming and subject to reliability and bias issues. The integration of customized FERS and AI analytics algorithms offers a promising solution to predict and manage BPSDs more efficiently and accurately.

By leveraging facial expression recognition technology, caregivers can now gain valuable insights into the emotional states and nonverbal cues of individuals with dementia. This non-invasive and cost-effective approach provides a more holistic understanding of patients' needs and enables caregivers to tailor care plans accordingly. The study demonstrated that by predicting neuropsychiatric symptoms using FERS, negative emotions were identified as key indicators, allowing for timely interventions and personalized care strategies.



The implications of this research extend beyond the academic realm and have the potential to revolutionize dementia care in real-world settings, particularly in day care centers. By implementing FERS and AI-based algorithms, caregivers can enhance the quality of care and support provided to persons with dementia in day care settings. The ability to accurately predict and manage BPSDs enables caregivers to intervene proactively, prevent escalation of symptoms, and improve the overall well-being of individuals with dementia.

In day care centers, where individuals with dementia spend their days engaging in various activities and interactions, the integration of facial expression recognition technology can offer valuable insights into their emotional and psychological states. Caregivers can use this information to adjust activities, provide appropriate support, and create a more comfortable and stimulating environment for individuals with dementia. By leveraging advanced technologies, day care centers can enhance their care practices, promote individualized care plans, and improve the overall quality of life for their participants.

As we look towards the future of dementia care, the integration of facial expression recognition technology holds great promise in transforming how we understand and support individuals with dementia. By embracing innovative technologies and compassionate care practices, we can create a more inclusive and supportive environment for persons with dementia in day care centers, ultimately enhancing their quality of life and well-being.

This article discusses the key findings of the research paper on predicting neuropsychiatric symptoms of persons with dementia using facial expression recognition technology and explores how insights from the study can be applied in real-world settings to enhance care and support for individuals with dementia in day care centers.