Introduction

Health computing for Intelligence of Things

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Welcome to this special section in *Technology and Health Care*. This section contains a collection of the best papers from various authors submitted in areas of Health Computing for Intelligence of Things. The development of Internet of Things technology has facilitated a healthcare paradigm conversion from adult diseases, like high blood pressure, myocardial infarction, increased neutral fats in the blood, diabetes, and hardening of the arteries. The development of intelligent health computing makes it possible to develop personalized healthcare, and to change to preventive healthcare based on wellness and well-being in leisure activities, medical services, and culture. The main issue is to be a timely vehicle for publishing the highest quality papers on this health computing topic from both academia and industry. This covers some of the hottest topics in *Technology and Health Care*, including: medical data mining; health applications; medical health learning; artificial immune systems; intelligent system for health; digital management for health industry; medical information system; health computing; health for IoT convergence; healthcare system; medical big-data analysis.

The paper by Byeon [1] develops a random forest classifier for predicting depression and managing the health of caregivers supporting patients with Alzheimer's disease. This study analyzes 2,592 adults who were family members and caregivers of demented elderly over 60 years old using the Center for Epidemiological Studies Depression Scale (CES-D) and correcting errors through the self-learning process. In addition, training courses were used to carry out the bootstrap aggregation and Iterative Dichotomizer 3 (ID3) algorithms. The paper by Moon [2] develops a nursing resources management information system (NRMIS) for managing healthcare resources. This study focuses on an efficient model for the management of nursing resources, and focuses on optimal resources according to nursing intensity. The composition of five stages covers collecting, analyzing, designing, implementing, and evaluating systems. It guarantees high quality of service as well as nursing resource management using a personnel management system and an optimal nursing power estimating system.

The paper by Na et al. [3] introduces anti-inflammatory and anti-obesity studies in healthcare technology. This study focuses on investigating research trends related to inducing anti-inflammatory response and increasing anti-obesity enzyme activity. It considers a technical study that classifies natural and traditional components using obesity management effects based on experimental techniques, such as body fat reduction, blood cholesterol reduction, and weight control. In addition, the authors focus on lipid

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metabolism – related enzyme activity, and examined the effects of selected species of natural raw materials, found in naturally derived ingredients. The paper by Chun and Kim [4] develops an activity-based nutrition management model for healthcare using similar-group analysis. The proposed method aims to cluster a similar group for nutritional management using a real-time activity and nutritional information. It guarantees improvement to high-quality healthcare as well as to medical management using cluster analysis for similar groups. In addition, it helps solve obesity problems, helps solve national health problems, and saves healthcare costs.

The paper by Lee and Park [5] suggests antibacterial effects on Helicobacter pylori of traditional food ingredients for healthcare. The study focuses on investigating the antibacterial effects on H. pylori of 20 vegetables and herbs using traditional food ingredients. Annona muricata and Agrimonia pilosa had antibacterial effects on H. pylori, and all four herbs were safe in the cell toxicity plane examined for the antibacterial activity of 20 vegetables and herbs. The paper by Yoon et al. [6] presents the effects of antioxidants and whitening action on Plantago asiatica L. leaf ethanol extract for healthcare. The study focuses on investigating the effects of P. asiatica L. leaf ethanol extract containing various active ingredients in antioxidants, anti-inflammatory response, and whitening actions for healthcare materials. This is the P. asiatica L. leaf ethanol extraction using lipopolysaccharide (LPS) induced RAW 264.7 cells and raw material for whitening cosmetics with antioxidants and anti-inflammatory properties.

The paper by Kwon [7] introduces recognition of flexible work systems, organizational commitment, and quality of life on turnover intentions of healthcare nurses. This study aims to identify the effects of a flexible work system, tissue immersion, and awareness of quality of life among medical nurses on turnover intentions. The difference in the rotation rate, according to the characteristics, is analyzed using frequency, means, percentages, and standard deviations. This is used to analyze the intent of the participant rotation rate, and the relationship between the perception of a flexible in-work system, tissue immersion, and quality of life. The paper by Lee et al. [8] suggests the anticariogenic activity of Nelumbo nucifera leaf extract in oral healthcare, and flexibly develops its antibacterial effects. The study aims to construct the inhibitory effect of glucose metastasis enzyme (GTase) activation and acid production using anti-color lysogenic activity. Nelumbo nucifera leaf extract represents anti-carry Gen activity for oral disease microorganisms.

The paper by Lee and Park [9] presents the effects of diabetes on mental health based on raw data from the Korea National Health and Nutrition Examination Survey (KNHANES) VII-1 published by Korea Centers for Disease (KCD) and Ministry of Health and Welfare (MOHW). This study focuses on the effects of diabetes on mental health through diabetes diagnosis status, daily stress awareness, suicide plan status in Patient Health Questionnaire-9 (PHQ-9), and mental disability counseling. In addition, this study focuses on the objective of preventing depressive disorders from being caused by diabetes. The paper by Baek et al. [10] proposes hybrid clustering – based health decision-making to improve dietary habits. The proposed method is flexible and meaningful diet and nutrition recommendations using chronic disease-based clustering, a diet and nutrition ontology, and a diet and nutrition knowledge base. This study focuses on hybrid clustering to recommend food products in consideration of the patient's health conditions and their food preferences in the era of disease-controlled longevity.

In total we have received 46 manuscripts. After two rounds of academia reviewing by worldwide experts, the highest quality manuscripts were accepted for this special section. We really appreciate the cooperative reviewers for their valuable contributions. We would also like to express thanks to Professor Emeritus P.F. Niederer who is the Editor-in-Chief of the international journal *Technology and Health Care*.

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Biography

Michael Joseph Diño is the Director for Research Development and Innovation Center of the Our Lady of Fatima University in Valenzuela City, Philippines. Due to his advocacy for quality-of-life through his telehealth project for the ageing population, he became the first Asian recipient of the Nurse in the Limelight Award conferred by the Connecting Nurses Program in partnership with the International Council of Nurses. He was a former member of the Advisory Board of Apple Distinguished Educators. He has been a recognized speaker in the field of Nursing, Health, Education, Informatics, Knowledge Translation, Intellectual Property, Ethics and Research. He proactively participates in publication and leadership in various local and international professional organizations and honor societies. His research work primarily focuses on technology use in Nursing, Health, Education, and Research gearing towards the Fourth Industrial Revolution (4IR).

Jung-Soo Han is a Professor in the Division of Information and Communication, Baekseok University, Cheonan City, Chungnam, South Korea. In 2014, he researched Convergence IT and Creative Education Methodology at California State University Fullerton as an Exchange Professor. His research topics include data mining, contents planning, telemedicine, knowledge-based decision support systems, intelligent systems, convergence P2P, HCI, hybrid P2P, and telecommunication systems. He has edited books on computer science and convergence technology. He serves as Executive Editing Director of the International Conference on Convergence Content (ICCC), as General Co-Chair of the International Conference on Digital Policy and Management (ICPDM), as General Co-Chair for steering committees of the International Conference on Convergence Technology (ICCT), as Vice President of the Korea convergence society, as Vice President and a member of the Editorial Committee of the Society of Digital Policy and Management.