

# Asia-pacific Journal of Convergent Research Interchange

ISSN : 2508-9080

Vol.9, No.10, October 31, 2023

---

## Table of Contents

### Emerging Computing and Engineering

- Account Relocation for Optimization Load Balancing in Ethereum Sharding ..... 1  
Yeon Joo Lee, Ik Rae Jeong, Geontae Noh
- Considerations on the Smart Factory and the Use of TRIZ 40 Inventive Principles: Focusing on Site Improvements in the Field of Semiconductor Industry ..... 15  
Wan Bok Park, Yong Won Song, Sung Bok Kim, Kwang Ho Lee, Jea Hyun Hu
- Research and Case Study for Feature Transfer of TRIZ ..... 27  
Jung-Hyeon Kim
- Using Cache Locality for Cache Memory System Design ..... 41  
Bo-Sung Jung, Hye-Rin Kim, Jung-Hoon Lee
- Enhancing Convolutional Neural Network Performance through Optimized Sigmoid Activation Function Modeling ..... 51  
Ye-Rim Youn, Jin-Keun Hong
- Analysis of Electromagnetic Shielding Effects Utilizing Water-Based Electromagnetic Shielding Paints in Residential Environments ..... 61  
Kyong Pil Jang, Ji Sun Park
- A 3D Model Saving Method in Interior Design using Augmented Reality ..... 71  
Sanghyun Park
- Development of Steady State Visual Evoked Potential Classification Model based on CNN-LSTM ..... 85

Bong Hyun Kim

Enhancing Legal AI Research: Automatic Labeling for Legal Precedents Datasets and Evaluating Case Similarity Using BERT .....95

Hui-jin Jo, Yuncheol Kang

Analysis of Continuous Authentication Technique Involving Combined Iris and Periocular Biometrics in A Metaverse Environment ..... 111

JaeYeol Jeong, Geontae Noh

**Artificial Intelligence Applications**

Development and Evaluation of Artificial Intelligence Solutions to Improve Fetal Stability.....  
..... 121

Ha Suk Jung, Hwa Sun Kim

**Big Data Applications**

Predicting Commercial Land Requirements in New Cities using Big Data Analysis of Expenditure and Traffic Data ..... 133

Si Yeol Kim, Yong Jin Kim

**Digital Business and Economics**

Effects of Information Factors and Emotion Factors on Online Shopping Malls' Reviews through Star Ratings ..... 143

Sang-Mok Kim, Chang-Gyu Yang

The Effects of Coaching Competency on Organizational Commitment, Job Satisfaction and Customer Orientation ..... 155

Mun-Jeong Jin, Chae-Kwan Lim

Import Behavior Analysis of Household Goods: Footwear, Bags, Stationery and Toys ..... 169

Yun Ha Jeong, Soo Won Mo, Kwang Bae Lee

Climate Change Impact on Solar Power Generation: A Sustainable Energy Planning Perspective for Kenya ..... 181

Chisika Sylvester Ngome, Chunho Yeom

Unveiling the Interplay of Okun's Law and Gender Dynamics in the Middle East and North Africa Region ..... 197

Bashair Alabdulwahab, Hannah Jun

A Study on the Effects of Perceived Characteristics of Live Commerce Platform on Intention to Continuous Use: Mediating Effect of Customer Trust and Customer Satisfaction ..... 209

Mi Sook Han, Jeon Jin Lee, Dong Hyuk Jo

An Investigation into the Impact of Pretrained Language Models on Online News Sentiment and its Influence on Investor-Specific Trading Intensity ..... 225

Sungho Park, Heewon Lee, Youngbuk Jo, Kangbae Lee

### **Welfare and Silver Technology**

Understanding the Working Status of Optometry Personnel in Ophthalmology Examination Rooms: A Prospective Cross-Sectional Study ..... 237

Sun Jung Lee, Jae Kyung Kim

Effects of Cultural Values, Social Activities, and Media use of the Elderly on Psychological Stability and Depression ..... 247

ZhiLan Yue, Jong Woo Jun

A Study on the Factors Affecting the Perception of Equality among Young People: Focusing on Ideological Orientation and Relative Deprivation ..... 263

E Kyung Koh, Sang Jun Kang

Search for Ways to Link Accounting Administration of Social Welfare Facilities with Practical Education ..... 279

Seon-ah Park, Gu-won Lim

Research Trend of Adverse Childhood Experiences(ACE) in Korea ..... 291

Hee-Young Kim

The Mediation Effect of Resilience in the Relationship between Supportive Supervision and Burnout: Focused on Social Workers ..... 307

In Bong Son

The Effects of Strength-Based Self-Awareness Employment Competency Building Program on Depression Sensitivity, Resilience and Job-Seeking Readiness in Middle-aged People..... 321

Kyung Hwa Kim, Jung-Hyun Kim

A Study on the Experience of Tea Culture Therapy Program by the Elderly Using the Day Care Center..... 337

Sun Hee Park

### **Health Economics, Science and Technology**

The Effectiveness of Digital Horticultural Therapy Using Plantpot IoT Device and Chatbot System for Sentiment Analysis ..... 347

Hee Yeong Kim, Jun Young Bok

Relevance of High-caffeine Energy Drink Intake and Self-rated Health Status of the Adolescents ..... 359

Yun Jeong Kim, Ryoung Choi

A Study of the Intermediary Platform for the Use of Healthcare Big Data ..... 371

Daegwan Kim, Young Jae Woo

The Effects of COVID-19 Risk Perception on Occupational Stress and Depression of Hotel Workers..... 383

Jung-Min Lee, Min-Hee Hong

A Study on the Local Environment and the Usage of Healthcare Platform in China ..... 397

Xingyu Wu, Jungmin Son

### **Nursing Science and Technology**

The Effect of Nonviolent Communication and Nonverbal Communication on Global Interpersonal Communication Competence of Nursing Students ..... 413

Jung Ha Park

The Development and Evaluation of Safety Education Program on Coping of Accidents for the Aged ..... 425

Na Young Choi

Influence of Teamwork, and Communication on Patient Safety Management Activities among Nurses and Doctors in Operating Room ..... 435

Min Jeong Kang, Nam Young Yang

The Effect of Fall Prevention Education on Knowledge about Fall and Preventive Behavior about Fall in Stroke Patients ..... 447

Byoung-hyoun Moon, Ji-Won Kim

A Study on Flipped Learning Experience of Nursing Students in Adult Nursing: by Contents Analysis of the Reflection Journals ..... 457

Mi Suk Song, Jung Suk Lee

### **Humanities and Sociology based Technology**

Topic Analysis of Newspaper Articles on Nuclear Power ..... 469

Tae-Woong Kim, Ji-Hyeon Kim, Ji-Yeon Yang

A Study on Narratives of North Korea Nuclear Issues on the Film “Steel Rain” ..... 479

Yong Sung Kim

A Study of Personal Mobility Devices and Duty of Disclosure ‘Material Facts’ -Focusing on Cases of Conflict Mediation- ..... 493

Yun Suk Lee

### **Education Science and Technology**

The Effect of Play Teaching Efficacy on Play Support Competency according to Major Satisfaction of Pre-serviced Early Childhood Teachers Based on the 2019 Revised Nuri Curriculum: Mediating Effect of Grit ..... 509

Hyelin Jeong

Perception Factors of Usefulness and Limitation of ChatGPT that Affect University Students' Intention to Use ChatGPT ..... 523

Mina Choi, Hye-Lan Roh

Dual Mediation Model of Major Awareness and Hope Between Learning Motive and Academic Achievement in College Students ..... 533

Meiping Wu, Chang Seek Lee

A Study on the Changing Aspect in Elementary School Hallway Space as a Functional Space for Living and Interaction - Focusing on the fact finding Survey of the Case of Chungcheongbuk-do - ..... 543

Geon Ho Shin, Jin Ju Jung

A Qualitative Case Study on Multimedia Utilization in ‘Global Airport Services’ Course: Applying the ARCS Learning Motivation Model ..... 559

Yoo-Na Lee, Ho-Hyun Lee

Elementary Pre-service Teachers’ Perceptions of Exposure to Internet Pornography ..... 577

Yong-Bae Lee

Achievement Conditions for Positive Self-efficacy Using Peer Feedback ..... 591

Myoung-hee Yi

The Effect of Virtual Reality-based Psychological Stability Intervention Program on the Respiration Rate and Heart Rate Stability Students with Developmental Disabilities ..... 599

Sung Hyun So, Tae Su Lee

Relationship between College Students' Grit and Online Learning Satisfaction: Dual Mediating Role of Learning Motivation and Engagement ..... 611

Zong Zhe Wang, Chang Seek Lee

### **Emotional and Art Technology**

A Study on the Sustainable City where Nature Coexists ..... 623

Yoon Seo Lee

An Analysis of Public Welfare Poster Design Cases Based on Peirce Semiotics Type Classification -Focusing on Public Welfare Posters on Violence Against Children- ..... 633

Luting Yang, Seokwon Han

Effects of Empathy and Visual Expression Elements of KakaoTalk Emoticons on Users' Flow and Reuse Intention ..... 649

Seung-Min Lee

A Perception of Arirang, a Popular Song, as Appearing on Social Media: Application of Sentiment Analysis ..... 661

Jung Pyo Lee

Visual Element Analysis and Design Research on PET Bottle Coffee Label Design-A Case Study of the Label Design of Domestic PET Bottle Coffee During COVID-19- ..... 671

Jing Ren, Changwook Lee

Analysis of the Visual Expression Trend of Mobile MMORPG Game Application Icon in 2019-2023 Google Play Store Games ..... 687

Shaojun Wang, Seokwon Han

A Study on the Influence of Corporate Logo Redesign on Brand Image - Focusing on Automotive Brands ..... 703

HaoRan Wang

A Study on the Theory of Rite(禮) and Music(樂) Appeared in Korean Munmyo Cheryeak(文廟祭禮樂)..... 719

Lihua Peng, Daimyung Cho

A Study of Debussy's Impressionism Music: Focusing on Première Rhapsodie for Alto Saxophone and Orches-tra (1910- 1911) ..... 735

Meng Li, Daimyung Cho