# The 1st International Conference on Metaverse

# (META 2023)

# January 15 - 18, 2023

Berkeley Hotel Pratunam, in Bangkok, Thailand

# PROGRAM

## Day 1 – December 15

## **Category: Advanced Engineering, Part 1**

Time Slot: 09:00 – 12:00

#### Seminar Room #1

#### Session Chair: Prof. Sabah Mohammed, Lakehead U., Canada

Paper Title	Author(s)
Review on Computer Painting Based on Artificial Intelligence	Yu Haihao and Liu Liang
Author Profiling in Arabic Tweets based on BERT	Yutong Sun, Leilei Kong,
Model	Yong Han and Hui Ning
Image Description Generation Model based on	Xu Sun, Kaicheng Huang,
Attention Mechanism	Han Xiao, Haihao Yu and
	Leilei Kong
A Novel Image Segmentation Method Based on	Guilin Yao,Huimin Li,
Random Walk Combined with Robust Sampling	Huixin Yang and Shizhou
Prior	Li
Research on the influence of modified activation	Yaoqun Xu and Yuhang
function on the graph classification model	Zhang
Image text generation based on multimodal fusion	Zhang Yanrong and Zhu
	Chengxiang
Detection and Tracking Moving Targets for Martial Arts Arena Video Using Reinforcement Learning	Hongfeng Wei

## Seminar Room #2

## Session Chair: Prof. Jinan Fiaidhi, Lakehead U., Canada

Paper Title	Author(s)
The impact of digital finance on China's regional innovation capabilities - a spatial autoregressive model	Jianrui Zhang and Yi Qu
Knowledge Analysis and Semantic Recognition for Multimedia Technology Courses Using Knowledge Graph	Jing Fan
Timing and Scoring System for Basketball Game Using Deep Learning	Qingwei Wang

The measurement of the total factor productivity of China's electronic commerce industry — Based on global Malmquist index method	Yi Qu, Aizhi Li and Tingting Xu
Evaluation of International Competitiveness of Patent-intensive Industries Based on AHP - FCE Model	Xiaojia Wang, ZeLong Ti, and Yin Zhao
Optimization of Genetic K-means Algorithm Based on Greed	Yuhan Zhu, Shiyong Ning and Qianhao Ye
Biomedical Named Entity Recognition Model Based on Knowledge Distillation	Rong Han, Dequan Zheng, Feng Yu, Yannan Li and Jia Hu

#### Seminar Room #3

## Session Chair: Prof. Yang-sun Lee, Seokyeong U., Korea

Paper Title	Author(s)
Coupling and Coordination Analysis of Big Data	Zhang Xiaofeng and Lu
and Financial Data in E-commerce Industry	Shiyu
Research on the Purchase Intention of New Generation Farmers' Internet Financial Products	Zhang De-hua , Wang Dong-jie , Zhou Ling-yu and Lou Sha
Analysis of The Economic Effects of China-Russia Co-Construction of the "Polar Silk Road" Based on The GTAP Mode	Yan-hua Li and Wen-jing Liu and Li Dai
Recognition of epilepsy in GTCs based on wrist signals	Jin-tao Yu, Wen-hui Lu, Jing Wang, Yin Zhou and Ting-wei Liang
A Study on The Hedging Effect of Compound Index Weather Futures on Yield Fluctuations of Agricultural Products Based on Machine Learning - - A Case Study of Soybeans in Harbin	Fengge Yao, Liqing Xue and Jiayuan Liang
Research on Cloud Computing Task Scheduling Based on Swarm Intelligence Algorithm	Biying Zhang, Lei Zhang and Bowen Zhang
WOA-LSTM CSI 500 Forecast Model Based on Baidu Index	HaiTao Xin and Hao Yu

## LUNCH BREAK

## Time Slot: 12:00 – 14:00

## **Category: Advanced Engineering, Part 2**

## Time Slot: 14:00 – 17:00

#### Seminar Room #1

#### Session Chair: Prof. Sabah Mohammed, Lakehead U., Canada

D	<b>A</b> (1)
Paper Title	Author(s)
Research on Multimodal Retrieval Method of	Xinghai Zhang, Junling Li,
Commodity Images Based on Image-text Feature	Mingyang Jiao and Zhijie
Fusion	zhao
The Influence of Digital Technology Development	
Level on Employment Scale: A Case Study of	Ping Han and Jiayu Shi
Heilongjiang Province	
Extraction of Small Resonance Signals in Strong	Xuena Han, Hui Li and
Same-frequency Background	Qitao Zhang
Research on The Synchronous Decision-making of	Nin Vicern Li Hui and
E-commerce Marketing under The Influence of	Niu Xiaoyu, Li Hui and
Various Factors	Zheng Dequan
Coverage optimization of WSN based on improved salp swarm algorithm	Jin-tao Yu, He Tong, Xiao- wei Lu, Zhen-hua Gao and
	Dai-zhi Jin
Research on the Influence Mechanism of Digital Technology on the Integration of Culture and Tourism Based on the Perspective of Bootstrap Mediating Effect Test	Ping Han and Zhihua Zhao
Research on fusion algorithm of tourist user	Zhang Jialin,Zhang
location trajectory based on multi-feature space	Yueyang,Wu Tong,Li Lei
location trajectory based on multi-reature space	and Qu Xingke

#### Seminar Room #2

#### Session Chair: Prof. Jinan Fiaidhi, Lakehead U., Canada

Paper Title	Author(s)
Improved Algorithm of FP-Growth Based on Strong	Qianhao YE, Wenhui Lu
Data Correlation	and Shiyong Ning
Research on the high-quality development of my country's power industry under the digital economy	Yin Long and Lin Shenao
Multimodal Vehicle Trajectory Prediction with Stacked Attention	Jintao Yu, Zhenhua Gao, Xiaowei Lu, Mingli Ding and Xinghai Zhang
Research on the Spatial Spillover Effect of Digital Economy on Science and Technology Innovation	Zengfan Liu and Meng Li

A Fast Algorithm for Coding Depth Decision for	Tiantian Wang, Yansong
VVC Intra Prediction	Chai and XueSong Jin
A Novel Bit Allocation Scheme of Rate Control	Yansong Chai, Tiantian
Based on Video Saliency in HEVC	Wang and XueSong Jin
Optimal Mobile Node Path Optimization Based on	Zhao Qian, Ma Mingyu,
Ant Colony Algorithm	Han Ke and Qiu Zeguo

#### Seminar Room #3

#### Session Chair: Prof. Yang-sun Lee, Seokyeong U., Korea

Paper Title	Author(s)
A review of zero-shot image classification	Hua-Dong Sun, Zhi-Bin Zhen, Peng-Fei Zhao and Ying-Jing Zhang
A Study on Antitrust Regulation of Platform	Han Ping and Zhang
Economy Based on Evolutionary Game	Meijiao
Study on Reactive Power Optimization of Distribution Network Considering the Constraint of the Number of Capacitor Actions	CHEN Deyu
Kinect-Based Dual-Stream Spatiotemporal Convolution Human Behavior Recognition Technology	Xinyan Xiong and Tong Zhang
Research on Attitude Control Algorithm of Flexible Free Floating Space Robot System	Xu Zhang, Xiangxin Zeng and Bo Lang

## Day 2 – December 16

## **Category: Advanced Technology, Part 1**

## Time Slot: 09:00 – 12:00

#### Seminar Room #1

#### Session Chair: Prof. Bong-hyun Kim, Seowon U., Korea

Paper Title	Author(s)
Relay Using Phase Rotation in Wideband Systems	Eui-Rim Jeong
CNN-based MCS Selection Technique Using Received SNRs	Eui-Rim Jeong

Biometric Authentication Using PPG and 1D CNN	Eui-Chul Lee
Collision avoidance technology(CAT) in industrial collaborative(IC) robots based on EEG platform	Ssang Hee Seo
Emotion classification using CNN model	Ssang Hee Seo
Inferring body mass index through single face image	Eui-Chul Lee
Metaverse-based field evidence analysis integrated management system	Hee-Chul Kim
Diagonal Tension Test on Panels Thickness of Engineered Cementitious Composite	Seong-Uk Hong

#### Seminar Room #2

## Session Chair: Prof. Jinan Fiaidhi, Lakehead U., Canada

Paper Title	Author(s)
Certificate extension method for adding a location information	Eungi Kim
Real-Time Processing Algorithm for Recognition of Multiple QR Codes Using Vision Sensors	Eun Young Park
Wideband Signal relay using phase dithering in SC- FDE environment	Eui-Rim Jeong
Future SNR prediction based MCS selection using CNN in wireless communication environments	Eui-Rim Jeong
Deep Learning and Edge Computing-based Classification Model for Emotions and Desires of Baby	YeunWoong Kyung
Changes in Industry Solutions based on Digital Twin in 5G Edge Computing Networks	YeunWoong Kyung
Influence of body shape on health-related quality of life in adults: the mediating effect of self-rated health	Yunkyoung Oh
Study on Efficient Utilization of Information Security Management System(ISMS-P) Certification System through Selective Application	Eongon Kim
CNN-based Braille Transformation and Speech Recognition Design for the Blind	Bonghyun Kim
A Study on safety consideration of DC-DC converter in BIPV system	Lim Hyun Sung

#### Seminar Room #3

## Session Chair: Prof. Luis Javier García Villalba, U. de Málaga, Spain

Paper Title	Author(s)
-------------	-----------

Development and Application of Computer Science Textbooks: Focusing on Digital Therapeutics	Namje Park
CLC Insulation and Strength Properties Based on Mixing Ratio of Silica Sand	Kim Yong-Gu
VOCs Adsorption Properties of Functional Heating Paint Based on Ratio of Activated Clay	Lee, Sang-Soo
Development of Buried Side-Form for Precise FCP Side Geometry	Lee, Donghoon
A Proposal for Improvement of safety Management in Construction Sites through Analysis of Heat Wave-Related Disaster Status	Lee, Donghoon
A Strategy of Managing BIM-based Project Submittals and Deliverables for Promoting Construction Project Digitalization	Sungjin Kim
X-ray classification model research using Machine Learning	Sung-Jun Kim
A study on the optimization of semiconductor operating conditions and yield improvement using data mining techniques	Sung-Jun Kim
A study on real estate consumption trend analysis and market price prediction through the use of neural network algorithms and text mining	Sung-Jun Kim
Distance Based Cluster Group Homogenization in Wireless Sensor Network	JoongHo Lee

#### Seminar Room #4

## Session Chair: Prof. Carlos Ramos, IPP, Portugal

Paper Title	Author(s)
A Study of Reactive Power Cooperative Control for Securing the Reserve power	Hyun-Chul Lee
5G-assisted Software-Defined Wireless Mesh Network using 3GPP Service Enabler Architecture	Tae-Kook Kim
A Study on Modeling Voxelization for Tower Restoration Learning	Byong-Kwon Lee
Changes in Toothbrush Bristle Forms According to Oral Care Behaviors	Hyejin Kim
Study of Halitosis and Dry Mouth according to the Use of Natural Mouthwash	Hyejin Kim
A Study on Lifelog-Based Healthcare Big Data Analysis Platform	Jai-woo Oh
A Predictive Model for Clinical Pathology Test Results: The use of Machine Learning Technology	Jai-woo Oh

#### Seminar Room #5

Session Chair: Prof. Naseer Al-Jawad, U. of Buckingham, United Kindom

Paper Title	Author(s)
Application of Value-based Adoption Model to Real-time Untact Tourism : Comparison between	Jung-heui Oh
Generation MZ and Baby Boomers	
Design of Exercise Diary Application based on 3D Avatar Body Change According to Exercise Logs	Jung-heui Oh
A Study on the Production of VR Webtoon Using 360 Degree	Sang Hwa Lee
A Conceptual Study of Simulation Model for Business Meme Viability Analysis	Yang Ha Chun
The Effect of Group Program on Disabled Mothers' Emotion expression and Self-esteem	Kim Minkyeong
A Study on User Satisfaction and Intention to Continue Use of OTT Platform Digital Content Provision Service	Yang Ha Chun

## LUNCH BREAK

Time Slot: 12:00 – 13:00

## **Category: Advanced Science, Part 1**

## Time Slot: 13:00 – 15:00

#### Seminar Room #1

#### Session Chair: Prof. Ok-Hue Cho, Sangmyung U., Korea

Paper Title	Author(s)
Building Metaverse History Museum Using 3D Open Data	Hyeyoung Yoo
Study about Exploring 3D Shortest Distance using A* algorithm in VR	Ok-Hue Cho
A Metaverse Exhibition Space Production Using Object Adaptive Photogrammetry	Won-Hyung Lee
XR content can be implemented XRCAVE construction	Hye-Kyung Kim

Research on the development of extended reality (XR) contents using virtual studios	Hae-Hyun Jung
Realization of cultural tourism contents using realistic multi-display	Ina Shin
Corrosion Behavior and Ferrite Control of Heat Affected Zone on the TIG Welded 24.8 Cr-6.9 Ni- 3.9 Mo-0.7 Mn-0.3 Si-0.3Cu Alloy Steels	Jeong-Min Lee, Bo-An Kang, Seung-Dai Kim
Analysis of the Relationship between the Solenoid Pressure Control and the Performance Pattern in the Torque Converter Clutch to Demonstrate the Performance of the Remanufactured Continuously Variable Transmission	Sung-Yong Hong, Sang-Jin Yoon, Bo-An Kang, Dong- Hyun Seog

#### Seminar Room #2

## Session Chair: Prof. Dae-gun Kim, Dongseo U., Korea

Paper Title	Author(s)
Research on the Incentive Mechanism of Publishing Editors Based on Psychological Contract	Julia Jung
Evaluation of China's digital agriculture development level under entropy method	EL JIREH BIBANGCO
Research on Patent Cooperation Network of Patent- intensive Industries in Heilongjiang Province from the Perspective of Complex Network	Beryl John Conejar
Study of Egg Product Supply Chain Benefit Allocation Based on Fuzzy Shapley Value	Jennefer Monteliza
Trilateral Evolutionary Game Analysis of Personal Information Use and Protection in The Digital Economy	Shiying Zhang and Yao Tian
Research on the evaluation of tourism digital content marketing based on PCA-AHP	Kewen Liu and Hui Xian
Research on the Performance Evaluation of Digital Trade Based on the "VHSD-EM" Model under Dual Circulation	Yijun Xiang and Jiayi Yuan
Research on the distribution of income from agricultural supply chains under the integration of agriculture based on the revised Shapley Method	Sun Li Xuan , Xu Nan

#### Seminar Room #3

## Session Chair: Prof. Se-jung Lim, Honam U., Korea

Paper Title	Author(s)
An Emoticon based Sentiment Aggregation on	Mousumi Bhattacharyya,
metaverse Related Tweets	Asmita Roy, Sadip Midya,

	Anirban MitraAnupam,
	Ghosh, and Sudipta Roy
Color Image Cryptography Using Block and Pixel-	Renjith V Ravi, Pushan
wise Permutations with 3D Chaotic Diffusion in	Kumar Dutta and Sudipta
Metaverse	Roy
Enhancement of security in GFDM using Ebola	Irfan Ahmad Rather,
optimized joint secure compressive sensing	Gulshan Kumar, Rahul
encryption and symbol scrambling model	Saha
Autonomous Vehicle Algorithm decision-making	Ishan Tyagi, Subramaniam
con-sidering other road users	Ganesan
	B. Dinesh Reddy,
IOT For Smart Electricity Using MEFN Full Stack	Thirupathi Rao N,
	Debnath Bhattacharyya
Lung Concer Classification Using Deen Learning	Debdatta Bhattacharyya,
Lung Cancer Classification Using Deep Learning Approaches	N. Thirupathi Rao, Eali
Approaches	Stephen Neal Joshua
	S.NagaMallik Raj1, N.
Breast Cancer Classification using Deep Learning	Thirupathi Rao, Eali
Algorithms	Stephen Neal Joshua,
	Debnath Bhattacharyya
Mental disorder detection in social networks using	N. Thirupathi Rao, Debnath
SVM classification	Bhattacharyya
	Thirupathi Rao N, K.
Blockchain Effects on Energy Consumption	Swathi, Debnath
	Bhattacharyya

#### Seminar Room #4

## Session Chair: Prof. Yang-sun Lee, Seokyeong U., Korea

Paper Title	Author(s)
A Fast Algorithm for Coding Depth Decision for	Tiantian Wang, Yansong
VVC Intra Prediction	Chai and XueSong Jin
A Novel Bit Allocation Scheme of Rate Control	Yansong Chai, Tiantian
Based on Video Saliency in HEVC	Wang and XueSong Jin
Optimal Mobile Node Path Optimization Based on	Zhao Qian, Ma Mingyu,
Ant Colony Algorithm	Han Ke and Qiu Zeguo
	Hua-Dong Sun, Zhi-Bin
A review of zero-shot image classification	Zhen, Peng-Fei Zhao and
	Ying-Jing Zhang
A Study on Antitrust Regulation of Platform	Han Ping and Zhang
Economy Based on Evolutionary Game	Meijiao
Study on Reactive Power Optimization of	
Distribution Network Considering the Constraint of	CHEN Deyu
the Number of Capacitor Actions	
Kinect-Based Dual-Stream Spatiotemporal	Xinyan Xiong and Tong

META 2023 2023 The 1st International Conference on Metaverse January 15~ 18, 2023, at The Berkeley Hotel Pratunam,	Bangkok
Convolution Human Behavior Recognition	Zhang
Technology	
Research on Attitude Control Algorithm of Flexible	Xu Zhang, Xiangxin Zeng
Free Floating Space Robot System	and Bo Lang

## **COFFEE BREAK**

## Time Slot: 15:00 – 15:30

## Category: Advanced Science, Part 2

Time Slot: 15:30 – 17:30

## Seminar Room #1

## Session Chair: Prof. Gwang-jun Kim, Chonnam U., Korea

Paper Title	Author(s)
The application of eco-feminism in ecological democracy to overcome the climate crisis and respond to the growthism of capitalism	Hyung-sil Choi
Effects of gamification-based lower extremity exercise on muscle strength, muscular endurance, agility, cardiopulmonary function, and satisfaction	Jae-Ho Yu
An Analysis of Affordance Elements for Online Math Learning Platforms	Yeseon Kim, Nan Huh, Jihwa Noh
Changes in Dementia Perception and Attitudes of Residents in Rural Vulnerable Areas; Performance of a Pilot Project to Improve Dementia Perception to Strengthen Accessibility	Hyun Li Kim
A Study on the Operational Status and Productivity Improvement Plans of Construction Companies in Korea - Proptech Forum for construction companies -	Tae Geun Kim, Seo Hee Kim, Hee Cheol Shim, Jae Hwan Kim
A Study on the Living Lab Utilization Plan for the Creation of a Smart City in Naepo New Town in Korea	Seo Hee Kim, Tae Geun Kim, Hee Cheol Shim, Jae Hwan Kim
What kind of labor do Korean filmmakers experience?	Kyuha Ryoo
Factors Affecting Nursing Performance for the	Inok Kim, Hyunli Kim

Elderly in Tertiary Hospital Nurses

#### Seminar Room #2

#### Session Chair: Prof. Se-jung Lim, Honam U., Korea

Paper Title	Author(s)
A Study on the Characteristics of EEG through Fragrance Stimulus Learning	Taeyoung Kim, Yongha Kim, Kyung-Yae Hyun, Hae-Gyung Yoon
A Study on the Adaptation Process of Multicultural Married Migrant Women's University Life Culture Based on Grounded Theory	Chungyun Kim
Influence of the characteristics of renewable energy on the background of carbon neutrality, government policies, corporate development, and consumer purchase intentions - Focusing on electric vehicles in China	Shuli Wang, Ha-Kyun Kim
The Influence of Political Risk and Cross-national Distance on Overseas Enterprise Performance	WEI CHANG, Hyung Rok Yim
Professionalism of teachers who practice social responsibility in education - Focusing on the research on the life history of Lee Jong-ho, a professional marine garbage teacher	Mi Young ji, Sang Soo Lee, Jinling Wang, ChangUn Park
Evolution of innovation clusters from park-type to network-type: Cluster analysis of R&D special zone and establishment of strategic direction	Gee Jung Kwon, Won-il Lee
Interactive Advertisement with Bidirectional Video	Guang-Ho Cha
Changes in the evacuation characteristics of agents due to the installation of sale stands in underground shopping malls	Ji Hun Kim, Kyung Hee Lee, Jun Gi Lee

#### Seminar Room #3

#### Session Chair: Prof. Yang-sun Lee, Seokyeong U., Korea

Paper Title	Author(s)
Research on The Synchronous Decision-making of E-commerce Marketing under The Influence of Various Factors	Niu Xiaoyu, Li Hui and Zheng Dequan
Coverage optimization of WSN based on improved salp swarm algorithm	Jin-tao Yu, He Tong, Xiao- wei Lu, Zhen-hua Gao and Dai-zhi Jin
Research on the Influence Mechanism of Digital Technology on the Integration of Culture and	Ping Han and Zhihua Zhao

META 2023 2023 The 1st International Conference on Metaverse January 15~ 18, 2023, at The Berkeley Hotel Pratunam,	Bangkok
Tourism Based on the Perspective of Bootstrap Mediating Effect Test	
Research on fusion algorithm of tourist user location trajectory based on multi-feature space	Zhang Jialin,Zhang Yueyang, Wu Tong, Li Lei and Qu Xingke
Improved Algorithm of FP-Growth Based on Strong Data Correlation	Qianhao YE, Wenhui Lu and Shiyong Ning
Research on the high-quality development of my country's power industry under the digital economy	Yin Long and Lin Shenao
Multimodal Vehicle Trajectory Prediction with Stacked Attention	Jintao Yu, Zhenhua Gao, Xiaowei Lu, Mingli Ding and Xinghai Zhang
Research on the Spatial Spillover Effect of Digital Economy on Science and Technology Innovation	Zengfan Liu and Meng Li

## **CONFERENCE DINNER**

Time Slot: 18:00 – 21:00

# Day 3 – December 17

## Category: Advanced Technology, Part 2

Time Slot: 09:00 – 12:00

## Seminar Room #1

## Session Chair: Prof. Gwang-jun Kim, Chonnam U., Korea

Paper Title	Author(s)
Review on Computer Painting Based on Artificial Intelligence	Yu Haihao and Liu Liang
Author Profiling in Arabic Tweets based on BERT Model	Yutong Sun, Leilei Kong, Yong Han and Hui Ning
Image Description Generation Model based on Attention Mechanism	Xu Sun, Kaicheng Huang, Han Xiao, Haihao Yu and Leilei Kong
A Novel Image Segmentation Method Based on	Guilin Yao,Huimin Li,

META 2023 2023 The 1st International Conference on Metaverse January 15~ 18, 2023, at The Berkeley Hotel Pratunam, Bangkok		
Randor	n Walk Combined with Robust Sampling	Huixin Yang and Shizhou
Prior		Li
Researc	h on the influence of modified activation	Yaoqun Xu and Yuhang
function	n on the graph classification model	Zhang
Image t	ext generation based on multimodal fusion	Zhang Yanrong and Zhu Chengxiang
	on and Tracking Moving Targets for Martial ena Video Using Reinforcement Learning	Hongfeng Wei
-	pact of digital finance on China's regional ion capabilities - a spatial autoregressive	Jianrui Zhang and Yi Qu

## LUNCH BREAK

## Time Slot: 12:00 – 14:00

## Category: Advanced Technology, Part 3

## Time Slot: 14:00 – 17:00

## Seminar Room #1

## Session Chair: Se-jung Lim, Honam U., Korea

Paper Title	Author(s)
Knowledge Analysis and Semantic Recognition for Multimedia Technology Courses Using Knowledge Graph	Jing Fan
Timing and Scoring System for Basketball Game Using Deep Learning	Qingwei Wang
The measurement of the total factor productivity of China's electronic commerce industry — Based on global Malmquist index method	Yi Qu, Aizhi Li and Tingting Xu
Evaluation of International Competitiveness of Patent-intensive Industries Based on AHP - FCE Model	Xiaojia Wang, ZeLong Ti, and Yin Zhao
Optimization of Genetic K-means Algorithm Based on Greed	Yuhan Zhu, Shiyong Ning and Qianhao Ye
Biomedical Named Entity Recognition Model Based on Knowledge Distillation	Rong Han, Dequan Zheng, Feng Yu, Yannan Li and Jia

	Hu
Coupling and Coordination Analysis of Big Data and Financial Data in E-commerce Industry	Zhang Xiaofeng and Lu Shiyu
Research on the Purchase Intention of New Generation Farmers' Internet Financial Products	Zhang De-hua , Wang Dong-jie , Zhou Ling-yu and Lou Sha

## Day 4 – December 18

## **Category: Advanced Technology, Part 4**

## Time Slot: 09:00 – 12:00

## Seminar Room #1

## Session Chair: Gwang-jun Kim, Chonnam U., Korea

Paper Title	Author(s)
Analysis of The Economic Effects of China-Russia Co-Construction of the "Polar Silk Road" Based on The GTAP Mode	Yan-hua Li and Wen-jing Liu and Li Dai
Recognition of epilepsy in GTCs based on wrist signals	Jin-tao Yu, Wen-hui Lu, Jing Wang, Yin Zhou and Ting-wei Liang
A Study on The Hedging Effect of Compound	
Index Weather Futures on Yield Fluctuations of	Fengge Yao, Liqing Xue
Agricultural Products Based on Machine Learning -	and Jiayuan Liang
- A Case Study of Soybeans in Harbin	Diving Thong I of Thong
Research on Cloud Computing Task Scheduling	Biying Zhang, Lei Zhang
Based on Swarm Intelligence Algorithm	and Bowen Zhang
WOA-LSTM CSI 500 Forecast Model Based on Baidu Index	HaiTao Xin and Hao Yu
Research on Multimodal Retrieval Method of	Xinghai Zhang, Junling Li,
Commodity Images Based on Image-text Feature	Mingyang Jiao and Zhijie
Fusion	zhao
The Influence of Digital Technology Development	
Level on Employment Scale: A Case Study of	Ping Han and Jiayu Shi
Heilongjiang Province	
Extraction of Small Resonance Signals in Strong	Xuena Han, Hui Li and
Same-frequency Background	Qitao Zhang