2017 International Conference on Applied System Innovation (ICASI 2017)

Sapporo, Japan 13-17 May 2017

Pages 1-660



IEEE Catalog Number: ISBN: CFP17E74-POD 978-1-5090-4898-4

Copyright © 2017 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

IEEE Catalog Number:	CFP17E74-POD
ISBN (Print-On-Demand):	978-1-5090-4898-4
ISBN (Online):	978-1-5090-4897-7

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400 Fax: (845) 758-2633 E-mail: curran@proceedings.com Web: www.proceedings.com



Table of Contents

Editorial	iii
Table of Contents	v
Influence of BES System on Local and Inter-Area Oscillation of Power System with High Penetration of PV Plants Herlambang Setiadi, Awan Uji Krismanto, N. Mithulananthan	1
The Possibility of Creating a Color Image Yu-Wen Lu	5
A Study on the Narrative Benefit of Video, Voice, and Text Used in Digital Media <i>Yang Sung Cheng</i>	9
Auditory Brain Computer Interface Design K. L. Hsieh, K. T. Sun	11
Designing for the Experience of a Craft Kuo-Che Hung, Ming-Chyuan Ho	15
Over-the-Air Manipulation: An Intuitive Control System for Smart Home <i>Xin-Mao Huang, Can-Rong Zhang</i>	18
Development of a Reconfigurable FPGA-Based Partial Discharge Detection Device Hong-Chan Chang, Yu-Ming Jheng, Cheng-Chien Kuo, Yu-Min Hsueh, Yu-Jhen Cheng	22
Failure Mode Analysis of Induction Motor Model Cheng-Hsuan Hsiao, Meng-Kun Liu	25
The Conceptual Design Research of Integrating the Current Electric Vehicles' Public Charging Service by Applications <i>Ying Zhou, Chun-Ching Chen</i>	29
Roller Bearing Fault Diagnosis Based on Wavelet Packet Decomposition and Support Vector Machine Peng-Yi Weng, Meng-Kun Liu	33
Dynamic Power Management for Wearable Devices with Non-volatile Memory Chi-Yuan Ha, Yo-Xian Wang, Che-Wei Chang	37

Eco-Innovation by TRIZ and Biomimetics Design Jahau Lewis Chen, Shih-Chieh Hung	40
A Micro-Location Based Dynamic Device-Oriented Control System for IOT Applications Rung-Shiang Cheng, Kawuu W. Lin, Wei-Jun Hong, Yu-Jen Pan, Chia-Wen Yang	44
Domestication of Smartphone on a Senior Community: A Case Study <i>You-Te Lu, Yi-Hsing Chang, Tien-Wen Sung</i>	48
The Output Characteristics of a Semiconductor Circular Ring Laser Diode with Soliton Wave Ming Chang Shih, Ming Hao Wang, Li Heng Chen, Wen How Lan	52
Real Time Angular Velocity and Vibration Monitoring Using Fiber Bragg Grating Interrogation System Yan-Ting Shen, Wei-Chin Lin, Ming Chang Shih	55
Analysis on Signals Characteristics for Machining Condition Monitoring in High Speed Milling Process of Inconel 718 Youngjun Kim, Joonyoung Koo, Kanghwi Park, Jeongsuk Kim	58
Analysis on the Correlation between Cutting Signals and Surface Quality in Milling Process of Ti-6Al-4V <i>Kanghwi Park, Joonyoung Koo, Youngjun Kim, Jeongsuk Kim</i>	62
NVMLearn: A Simulation Platform for Non-Volatile-Memory-Based Deep Learning Hardware Darsen D. Lu, Fu-Xiang Liang, Yi-Ci Wang, Huai-Kuan Zeng	66
Development of a Supply Chain Integration Process in China Ping-Kuo Chen, Liang Li, Yong Ye	70
Research of Cultural Creativity and City Branding Flip-up Chiayi City with Features Experience Li -Hsun Peng, Yen-Kai Huang	73
Effects of Age and Different Road Workload on Driver's Situation Awareness Yang-Kun Ou, Yung-Ching Liu	76
A Resource Allocation Scheme for Device-to-Device Communication over Ultra-Dense 5G Cellular Networks Hsueh-Wen Tseng, Ya-Ju Yu, Bing-Syue Wu, Chin-Fu Kuo, Pei-Shan Chen	80
Development of an IoT-based Bridge Safety Monitoring System Jin-Lian Lee, Yaw-Yauan Tyan, Ming-Hui Wen, Yun-Wu Wu	84
Prediction of Real Estate Price Variation Based on Economic Parameters Li Li, Kai-Hsuan Chu	87

An Opposition-Based Simulated Kalman Filter Algorithm for Adaptive Beamforming Kelvin Lazarus, Nurul H. Noordin, Zuwairie Ibrahim, Mohd. Falfazli Mat Jusof, Ahmad Afif Mohd Faudzi, Norazian Subari, Kamil Z. Mohd. Azmi	91
An Industrial Perspective on Technological Bricolage: When Innovation Technology Meet Service Fields Shao-Ning Chang, Kai-Tang Fan, Shih-Hao Wu	95
Implementation of SVM Broken Prediction Notification System with Park Sport Equipment Wei-Chen Sun, Jui-Chung Hung, Chih-Peng Huang	99
Spatial Modulation based Location Aware Beam-forming in GFDM modulated Cognitive Radio systems Jayanta Datta, Hsin-Piao Lin, Ding-Bing Lin	103
The Green Fleet Optimization Model for A Low-Carbon Economy: A Prescriptive Analytics <i>Pei-Ju Wu, Chun-Kai Yang</i>	107
An Architectural Design Teaching Strategy Based on Online-to-Offline (O2O) Integration and Blended Learning Yun-Wu Wu, Ming-Hui Wen, Ci-Rong Sun	111
A Strain Sensing Bolt for Lathe Cutting Tool Monitoring Hung-Tsai Wu, Chun-Chieh Wang, Hui-Chun Tseng	114
Light Trapping of Plasmonics Textured Silicon Solar Cells Based on Broadband Light Scattering and Wide Acceptance Angle of Indium Nanoparticles Jian-Cheng Lin, Wen-Jeng Ho, Chien-Wu Yeh, Jheng-Jie Liu, Hong-Jhang Syu, Ching-Fuh Lin	118
Open Innovation: An Analysis of the Business Model of Digital Cable Television <i>Kuan-Ling Lai, Huann-Ming Chou</i>	122
The ROI of Rice Planthopper by Image Processing Tsung-Han Tsai, Ting-Yu Lee, Po-Hsun Chen	126
Mechanical Efficiency of Epicyclic Gear Transmission with Split Power Artde Donald Kin-Tak Lam	130
A Study of the Innovation and Protection Mechanisms for the Cultural and Creative Industries <i>Qing Lin, Zheng Lian</i>	133
Queue Behaviors of Accessible Elevators in Metro Stations Yin-Yu Chen, Meng-Cong Zheng	136
Observation of Behavior of waiting lines at Bus Station Mi-Cian Huang, Meng-Cong Zheng	140

Workspace Digitization for Five-Axis Machining Wei-chen Lee, Ching-chih Wei	144
Application of Patent Map in Elderly Medical Products - A Case Study of HRV Wearable Devices Ping-Hong Kuo, Po-Feng Wang, Chi-Hung Lo	147
Meeting Point Design in the International Airport based on Travelers' Meeting Behavior <i>Yu-Sheng Chen, Meng-Cong Zheng</i>	150
Arrangements of the Congregate Meal Site based on Elderly Interactive Behavior <i>Ming-Han Cheng, Meng-Cong Zheng</i>	154
Photo-Electro-Thermal Model for Commercial Photovoltaic Modules Yu-Hui Lian, Yu-Po Kao, Huan-Liang Tsai	158
Behavior Observations and Recording of Taipei City Traffic Officers within Conducting Sobriety Tests <i>Chen-Yu Hsu, Meng-Cong Zheng</i>	162
Analysis of Ideology of Taiwanese New Wave Cinema Posters Man-Ting Ku, Hsin-Te Chan	166
Trip Overturns the Tribal's Culture and Economy Li -Hsun Peng, Chih-Hao Chang	169
ProgEdu - An Automatic Assessment Platform for Programming Courses Hsi-Min Chen, Wei-Han Chen, Nien-Lin Hsueh, Chi-Chen Lee, Chia-Hsiu Li	173
A Study on Information Seeking Behaviors of Differing Age Groups Using E-book Walls in a Library Yi-Hsieh Huang, Ko-Chiu Wu, Saiau-Yue Tsau	177
Using Decision Tree to Predict the Occupational Hazards and the Return-to-work Labors Ya-Chin Kang, Yun-Fu Liao	181
Automatically Locating Unnamed Windows and Inner Frames for Web Regression Testing Shin-Jie Lee, Jie-Lin You, Sun-Yuan Hsieh	184
Bed-Exit Prediction Based on Convolutional Neural Networks Tian-Xiang Chen, Rong-Shue Hsiao, Chun-Hao Kao, Wen-Hui Liao, Ding-Bing Lin	188
Study of the Locals Innovative Costume Design in Hsiang-Bi Tribe Li -Hsun Peng, Chen-Fei Dong	192
Pricing and Marketing Strategy for Scooters Based on Matrix Data Analysis System Chen-Chiou Chiu, Lai-Chung Lee	195

Cost-Benefit Evaluation on Parallel Execution for Improving Test Efficiency over Cloud Chien-Hung Liu, Shu-Ling Chen, Woie-Kae Chen	199
A Conversion-Gain Enhanced Ultra-wideband Mixer with Cross-Coupled Pair Architecture Wei-Han Yen, Hsin-Yu Chang, Sen Wang	203
Analysis of the Key Factors of Intellectual Property Management at Art Institutions <i>Jian Lin, Qing Lin</i>	206
A Study of the Reform and Innovation of Ideological and Political Education at Higher-Education Institutions Based on the Cooperative Education Concept <i>Zhenxing Chen</i>	209
Enhancing Sea Wave Potential Energy with Under-sea Periodic Arrays of Cylinders Shuo-Feng Chiua, Jyun-Jie Wang, Ssu-Che Wang, Sheng Der Chao	213
Game-based Idioms Learning System Implementation Research Yu-Chen Liang, Yong-Ming Huang, Ya-Ming Shiue, Meng-Huei Sheng	217
Dynamic Analysis of Planetary Gears with Gear Crack of Semi-direct Drive Wind Turbine Zheng-Ming Xiao, Li-Rong Huan	221
Study on the Workshop of Experience Designs of Laiji Village from the Perspective of the Local Knowledge <i>Shyh-Huei Hwang, Hsiu-Mei Huang</i>	224
A Phase-Locked-Loop Optimal Parameter Design by Improved Discrete Particle Swarm Optimization Yuan-Fu Cheng, Chun-Yen Wu, Chi-Nan Chuang, Ying-Chung Wang	227
Development of a BIM Green Building Evaluation Software Hsi-Chi Yang, Yan-Chyuan Shiau, Yung-Hsin Lo	231
Battery-less Pork Freshness Real-Time Monitoring System with High Efficient RF Energy Scavenging Nam Hoang Nguyen, Wan-Young Chung	235
Maker and Internet of Things Application In The Intelligent Security By Example Of Power Extension Cord <i>Kuo-Ming Cheng, Chi-En Tseng, Chu-Han Tseng</i>	239
Foreign tourists' Wayfinding and Circuitous Behavior in LongShan Temple of Manka <i>Tzu-Chun Tsai, Meng-Cong Zheng</i>	242
Human Motion Identification for Rehabilitation Exercise Assessment of Knee Osteoarthritis Po-Chun Huang, Kai-Chun Liu, Chia-Yeh Hsieh, Chia-Tai Chan	246

Selection of Light Source to Improvement Fruit Satisfaction Heng-Hui Shih, Chih-Fu Wu, Shih-Bin Wang	250
An Investigation of RWD Web Site Design for First Aid and Postoperative Care Education Meng-Huei Sheng, Ya-Wen Lu, Ssu-Ting Liu, Mi-I Chou, Wen-Lu Wang, You-Jia Lai, Yu-Chen Liang	254
On the Design of Cross-Platform Social Robots: A Multi-Purpose Reminder Robot as an Example Kuo-Hsun Hsu, Wei-Shan Tsai, Hsuan-Fu Yang, Li-Yung Huang, Wen-Hong Zhuang	256
A New Readout Circuit for a High Resolution Portable Blood Pressure Sensing System <i>Tse-Yi Tu, Paul CP. Chao, Chih Wei Lee</i>	260
Big Data Analytics for Transport Systems to Achieve Environmental Sustainability <i>Pei-Ju Wu, Yi-Ching Chen</i>	264
Supporting Software-Defined HA Clusters on Open Stack Platform Chun-Yu Cheng, Zheng-jia Su, Chia-Ching Chen, Shao-Jui Chen, Wei-Jen Wang	268
Using Area Judgment to Adjust Indoor Positioning Hsuan Shen, Po-Hsun Cheng	272
3D Model Retrieval Using 2D Cepstral Descriptor of Overlapping Subbands Chang-Hsing Lee, Jau-Ling Shih, Chin-Chuan Han, Kai-Yang Chang	276
Visible Light Communication System with ARQ Applied to Smart Mobile Device <i>Chang-Ming Lee, Po-Han Chen, Ze-An Chen</i>	280
Color Balancing Aware Double Patterning Meng-Yi Lin, Yih-Lang Li, Kuen-Wey Lin	284
Adaptive Band-based Super-resolution Reconstruction of Video Sequence Chang-Ming Lee, Hsu-Feng Yeh	288
Freshman Project Launches the Cultivation of Future Engineering Talent <i>Chun-Wen Teng</i>	292
Using Graphic Digital Materials in Language Learning Liang-Yi Chung, Sheng-Min Hsieh	295
Drinking Gesture Spotting and Identification Using Single Wrist-Worn Inertial Sensor Liu-Hsuan Chen, Kai-Chun Liu, Chia-Yeh Hsieh, Chia-Tai Chan	299
Social Network Visualization for Interest in Music Dong Liang Lee, Lawrence Y. Deng	303
Combine BIM-Based and Mobile Technologies to Design On-Site Support System for the Communication and Management of Architectural Heritage Conservation Works <i>Yu-Pin Ma, Cheng Chieh Hsu, Mei-Chun Lin</i>	307

Theoretical Development with Proper Approximation and the Corresponding Clinical Experiments for PPG Sensor Monitoring Blood Flow Volume of Hemodialysis Patients with Arteriovenous Fistula <i>Paul CP. Chao, Pei-Yu Chiang</i>	311
Visual Object Tracking via LDA Chih-Ching Lin, Shwu-Huey Yen, Ching-Ting Tu	315
Smartphone-based Pedestrian Localization Algorithm Using Inertial and Light Sensors Hui-Chun Cheng, Kai-Chun Liu, Chia-Yeh Hsieh, Chia-Tai Chan	319
A Cascade Architecture of Fuzzy Controllers for Nonlinear Inverted Pendulum Chien-Chun Kung	323
Investigation on the Correlation between Micro Burrs and AE Signal Characteristics in Micro-Scale Milling Process JoonYoung Koo, KangHwi Park, YoungJun Kim, JeongSuk Kim	327
i-Logistics: An Intelligent Logistics System Based on Internet of Things Jian-Ping Su, Cheng-An Wang, Yu-Ching Mo, Yu-Xiang Zeng, Wan-Jung Chang, Liang-Bi Chen, Da-Huei Lee	331
Analyses of Secure Authentication Scheme for Smart Home System based on Internet on Things <i>Jung Tae Kim</i>	335
The Design of a Motor Drive Based on Neural Network Tze-Yee Ho, Yuan-Joan Chen, Po-Hung Chen, Po-Chun Hu	337
The Driving Forces Dominating Energy Efficiency of Industrial Sectors in China <i>Sheng-Wen Tseng</i>	341
A Study of an Segmenting Learning Video Technique to Improve Learning Achievement for Elementary School Students <i>Chien-I Lee, Chang-Lin Tsai</i>	345
Electrochromic Device with Functions of Rapid Switching Duty Cycle and Infrared Suppression Chien-Hsun Chu, Hung-Wei Wu, Jow-Lay Huang, Chen-Te Chiu	349
A Metal-oxide Doped SnO2-based Microsensor for Measuring H2S Concentration Hsing-Cheng Chang, Yu-Liang Hsu, Shyan-Lung Lin, Ya-Hui Chen, Tai-Jiun Guo	353
A PPG Sensor for Continuous Cuffless Blood Pressure Monitoring with Self-Adaptive Signal Processing Yung-Hua Kao, Paul CP. Chao, Chin-Long Wey	357
Communication in Craft Experience Design Kuo-Che Hung, Ming-Chyuan Ho	361
Power Analysis Attack for a Fast Authenticated Encryption MORUS Yusuke Nozaki, Masaya Yoshikawa	365

Children's Understanding of the Graphs of Pain Frequency Fang-Suey Lin, Ching-Yi Lin, Chun-Yi Lee	369
Kinect Augmented Reality Gear Game Design Jen-Yang Chen, Chuan-Hsi Liu, Chaur-Heh Hsieh, Shih-Yu Huang, Wen-Kai Wang, Bo-Hong Nien	373
An Improved Direct Acquisition Scheme for Rapid P code Acquisition <i>Keunhong Chae, Seokho Yoon</i>	376
A Precision Air Floating Table with the Miniature Holes with Loop Channels Type Chih-Chieh Chang, Cheng-Yi Lin, Zheng-Wei Yang, Chi-Hsiang Lien, Yunn-Horng Guu	380
Does Visualize Industries Matter? A Technology Foresight of Global Virtual Reality and Augmented Reality Industry <i>Shao-Ning Chang, Wei-Lun Chen</i>	382
Hand Gesture Recognition for Post-stroke Rehabilitation Using Leap Motion Wen-Jeng Li, Chia-Yeh Hsieh, Li-Fong Lin, Woei-Chyn Chu	386
An Efficient Approach based on Polygon Approximation to Query Spatial Data on Digital Archiving System Wei-Tsung Su, Hsiang-Yu Wei, Jian-Hua Yeh, Wei-Cheng Chen	389
An Image-based Application for Crowdsourcer to Locate Object Automatically Yen-Jung Chen, Ruo-Mian Wen, Pei-Hsuan Tsai	393
A Study of Forming Taiwanese Aborigines' Totem and Conversional Products <i>Li -Hsun Peng, Li-Chun Chung</i>	397
Exploration of Illustration Designing Advertising and Marketing Application for Community Platform– Using MaoUP as Examples <i>Chu-Sin Chan</i>	401
Blind Residual CFO Estimation with Computational Efficiency for Interleaved OFDMA Uplink Systems <i>Chih-Chang Shen, Hao-Ren Wen</i>	404
A Markerless Augmented Reality Mobile Navigation System with Multiple Targets Display Function Ching-Sheng Wang, Shih-Hui Hung, Ding-Jung Chiang	408
Study of the Drug Fiber for Wound Healing by Direct-writing Near Field Electrospinning with Subdivision Control <i>L.C. Tsai, C.T. Pan, C.K. Yen, S.Y. Wang, A.Y Yang, S.W. Kuo, S.Y. Wu, Z.H. Wen</i>	412
Mining Tweets for Education Reforms Mwana Said Omar, Alexander Njeru, Samiullah Paracha, Muhammad Wannous, Sun Yi	416
Effect of Au Nanoparticles/Deformed TiO2 Aggregated Photoanode with Various Amounts of Au Nanoparticles for Dye Sensitized Solar Cells Hsueh-Tao Chou, Ho-Chun Hsu, Pei-Chun Li, Kuo-Che Tseng, Chung-Tai Sung, Wei-Hao Huang	420

Fully Automatic Fluid Flow Control System for Smart Vertical Aquarium Kyoo Jae Shin, Amarnath Varma Angani, Muhammad Akbar	424
Development of Water Control System with Electrical Valve for Smart Aquarium <i>Kyoo Jae Shin, Amarnath Varma Angani</i>	428
Development of Heat Storage and Delivery System Using Wasted Hot Water Amarnath Varma Angani, Kim Byeong Jun, Yogendra Rao Musunuri, Muhammad Akbar, Kyoo Jae Shin	432
GA-SVM Applied to the Fall Detection System Hsi-Chun Kao, Jui-Chung Hung, Chih-Pang Huang	436
A Real-Time Visual Tracking Technique for Mobile Display Stabilization <i>Hsu-Fu Hsiao, Jyh-Da Wei</i>	440
The Study of Consumer Involvement for Green Design Messaging via the Internet of Things with Interactive Marketing <i>Jui-che Tu, Yu-Yin Chen, Shih-Chung Chen</i>	443
Forecasting MLB Playoff Teams Using GA-SVM Ting-Chun Yu, Jui-Chung Hung	446
Development of Electronic Locks Using Gesture Password of Smartphone Base on RSA Algorithm <i>Chin-Tan Lee, Yi-Chin Chung, Tung-Chun Shen, Ko-Wei Weng</i>	449
Chaotic Synchronizing Systems via Iterative Learning Control <i>Chun-Kai Cheng, Paul CP. Chao</i>	453
ERTDS: A Dynamic CPU Scheduler for Xen Virtualization Systems Jun Wu, Jian-Fu Li	457
MCRTsim: A Simulation Tool for Multi-Core Real-Time Systems <i>Jun Wu, Yu-Cheng Huang</i>	461
The Creative Art Instruction Enhances the Humanistic Spirit of Communities <i>Yun-Ching Huang, Li -Hsun Peng</i>	465
Network-Coded Storages for Cloud Computing Chun-Hsin Wu, Sheng-Yen Lo	469
An Ultra-wide Angle Module for Optical Performance Enhancement of Fixed-type Photovoltaic Systems <i>C.T. Pan, S.Y. Huang, Z.H. Liu, C.K. Yen</i>	473
Analysis of a Flux-Switching Permanent Magnet Generator for Small-Scale Water Power Systems Cheng-Tang Pan, Yu-Lung Lin, Shao-Yu Wang, Chung-Kun Yen, Zong-Hsin Liu	477
Preparation of Biodegradable Polymer Microcarriers by Ultrasonic Emulsification C.T. Pan, S.W. Kuo, J.S. Yi, C.K. Yen, R.C. Lin, Z.H. Liu, Z.H. Hong, Y.C. Lin	481

Investigation Into the Relationship Between Cup Shape and the Taste of Tea <i>Li-Hsun Peng, Su-Chiu Yang</i>	485
Taguchi Analysis for Quality Stabilization of Coffee Roast Wen-Keng Tseng, King-Chu Hung, Frank Yih-Fong Tzeng, Tsung-Ching Wu	488
Study on the Delamination of Composite Materials and Metals in PBGA and LFBGA C.T. Pan, C.K. Ho, S.W. Chen, J.F. Yan, F.R. Fu, Y.T. Lin, C.H. Lin	492
A Framework for Proactive Resource Allocation in IaaS Clouds Cheng-Hsien Wu, Yi-Hsuan Lee, Kuo-Chan Huang, Kuan-Chou Lai	496
High Efficiency Transparent Digital Television Antenna Based on Nano-Structured Thin Film Coating Technology Shiue-Chen Chiou, Yu-Ming Lin, Tzu-Chun Tai, Yung-Wei Chen, Cheng-Yuan Hung, Hung-Wei Wu, Shoou-Jinn Chang, Yeong-Her Wang, Yan-Kuin Su	500
Smart Home Control for the People with Severe Disabilities Shih-Chung Chen, Chung-Min Wu, Yeou-Jiunn Chen, Jung-Ting Chin, Yu-Yin Chen	503
Application of Gallium Doped Zinc Oxide in Dye Sensitized Solar Cells Shiu Ming Yang, Jenn-Kai Tsai, Teen-Hang Meen, Tian-Chiuan Wu, Chi-Ting Ho	507
Reduction of Silicon Surface Reflection with Micro-Sphere Texturing Jian-Yang Lin, Qian Zheng, Cheng-Siang Hu, Yi-An Lin	509
A 1.2-V 14-bit 300-MHz Current-Steering DAC with Transimpedance Output <i>Shiuan-Tse Chiou</i>	512
Using IoT Technology to Improve Online Education Through Data Mining Alexander Muriuki Njeru, Mwana Said Omar, Sun Yi, Samiullah Paracha, Muhammad Wannous	515
Development of Bidirectional Charger/Discharger Based on T-S Fuzzy Models Yuan-Chih Chang, Yi-Wen Huang, Lyu-Wei Huang, Chien-Yu Huang	519
Study on the Strength of Composite Material for CNC Grinder Base Structure Jui-Chang Lin, Cheng-Jen Lin	523
Home Care by Auditory Brain Computer Interface for the Blind with Severe Physical Disabilities K. L. Hsieh, K. T. Sun, J. K. Yeh, Y. U. Pan	527
Applying Gamification and Social Network Techniques to Promote Health Activities <i>Ming-Hui Wen</i>	531
Effective Speed Tracking of Induction Motors Using Microcontroller-Based Intelligent Control <i>Tan-Jan Ho, Chun-Hao Chang</i>	535
An Innovation Design of Healthy Social Interaction for Elders <i>Hung-Pin Hsu</i>	539

In-Vehicle Human Interface Design for Side Collision Avoidance System Yang-Kun Ou, Chien-Wei Fu, Ya-Lin Chen	542
Study of CAE Predictive Analytics on Structure Design, Molding and Improved Strength of Plastic Injection Molded Parts Hsin-Shu Peng, Po-Wei Huang, Kai-Fu Liew, Pai-Cheng Chien, Wei-Jie Su	546
How Can a Rural Grocery Store Survive Ching-Te Hsu, Wei-Ken Hung	550
A Constructive Factor Analysis of Innovation Competency - Taking Taiwan Students Enrolled in Design Programs as an Example Weiting Hsiao, Changfrant Lee, Wenlung Chang	554
An Efficient RGB-D Camera Based Point Cloud Registration Algorithm Chih-Hung Huang, Shang-Jhih Jhang, Chi-Yi Tsai	558
Design and Implement of the Recurrent Radial Basis Function Neural Network Control for Brushless DC Motor <i>Seng-Chi Chen, Chun-Yi Kuo</i>	562
Applying EEG in Criminal Identification Research Hsin-Te Chan, Koun-Tem Sun, Man-Ting Ku, Tzu-Wei Huang, Min-Chiv Chen	566
Failure Detection through Monitoring of the Scientific Distributed System <i>Khanasin Yamnual, Phond Phunchongharn, Tiranee Achalakul</i>	568
Design and Measurement of Long-wavelength Infrared Antireflection Coating Multi-layers of SiO2 and Si3N4 on Silicon Window by Macleod Software and FTIR Technique <i>Hong-Yuan Zeng, Shiang-Feng Tang, Tzu-Chiang Chen</i>	572
Utilize SCAMPER to Design a Navigation System for Dental Implant <i>Tun-Hsueh Chan</i>	574
A Study on the Music Co-Creation Event Based on Activity theory – with an Example of Wedding Cultural Industry <i>Yu-An Chen, Lai-Chung Lee, Chi-Hao Lung</i>	578
Subspace Learning for Face Verification Ching-Ting Tu, Meng-Ying Lin, Shih-Hsun Hsiao	582
Fabrication of the Remote-controlled Electrospinning Machine for Tissue Regeneration Applications <i>Ting Shen Wang, I Ting Yeh, Pei Hsuan Hung, Wei Chih Lin</i>	586
Evaluation of the Maximum Allowed Capacity of Offshore Wind Power in Taiwan Based on the Existing Transmission Capacity Limits <i>Yuan-Kang Wu, Xiu-Chang Lee, Che-Yi Hu, Wu-Han Yang</i>	590

Effects of Touchscreen Mobile Devices and E-book Systems for Mobile Users <i>Yang-Cheng Lin, Chun-Chun Wei</i>	594
A Fuzzy TOPSIS Expert System Based on Neural Networks for New Product Design <i>Feng Zheng, Yang-Cheng Lin</i>	598
Thermal Pedestrian Detection Using Block LBP with Multi-Level Classifier You-Chen Liu, Shih-Shinh Huang, Ching-Hu Lu, Feng-Chia Chang, Pei-Yu Lin	602
Analysis of Various Body Bias under Near-Threshold-Voltage CMOS Circuits <i>I-Chyn Wey, Jing-Yi Huang</i>	606
CarView: A Live Media Streaming Platform among Neighbor Vehicles on Roads Chih-Lin Hu, Pin-Chun Chiu, Sheng-Chih Huang	610
A Software Technique to Enhance Register Utilization of Convolutional Neural Networks on GPGPUs <i>Che-Huai Lin, An-Ting Cheng, Bo-Cheng Lai</i>	614
1.35 GHz Programmable Gain Amplifier for 5G Mobile Communication <i>Yu-Lun Wei, Hsiao-Chin Chen, Chi-Yin Chung</i>	618
Exploring the Most Decisive Determinants of MOOCs to Discover Sustainable Development Operation for Taiwanese Higher Education Institutes under the Fewer Newborns Condition <i>Jiin-Chyuan Lai, Ming-Yuan Hsieh</i>	622
An Implementation of a Distributed Sound Sensing System to Visualize the Noise Pollution Yung-Chung Tsao, Bo-Rui Su, Chin-Tan Lee, Chia-Chun Wu	625
Mitral Valve Rigid Registration using 2D Echocardiography and Cardiac Computed Tomography Azira Khalil, Amir Faisal, Siew-Cheok Ng, Yih Miin Liew, Khin Wee Lai	629
Research and Development of Cloud Manufacturing Process System Chin Jung Huang, Fa Ta Tsai	633
Cloud-Fog Computing for Information-Centric Internet-of-Things Applications Yung-Chiao Chen, Yao-Chung Chang, Chang-Hsu Chen, Yu-Shan Lin, Jiann-Liang Chen, Yu-Yao Chang	637
A Study of Chain Hotel Service Factors and Market Segmentation for Mobile Commerce Customers: Using Mobile Application Services as an Example <i>Chao-Yi Hsueh, Pei-Ming Chen, Kaung-Hwa Chen</i>	641
A Study on the Integration of Local Culture into Design Aesthetics Education - An Example of Shalu Papora Community Hsiu Ching Laura Hsieh, Chun Yu Huang, Yun Ci Zhuang	645

The Main Factors for the Quality of a Semantic Space in the Traditional Chinese Intelligent Tutoring System using Limit Concept in Calculus as an Example <i>Fu-Jung Liu, Heng-Bin Xu, Hsiao-Yun Huang</i>	649
Effect of LiF and HfO2 on the LKNNT Lead-free Piezoelectric Ceramics Ching-Hsing Pei	653
The phenomenon of multiculturalism from animated short film "A Minor Incident" <i>I-Chun Liu</i>	657
Design of Axial Fan Blade with Computational Analysis of Dust Flow <i>Chih-Neng Hsu, Tzu-Fan Huang, Jih-Sheng Huang</i>	661
The Effect of Annealing Temperature of Titanium Oxide Film for Photocatalytic Activity by Liquid Phase Deposition <i>Chih-Feng Yen, I-Hui Lee, Shun-Hsyung Chang, Chi-Tsan Lin</i>	664
Query Customization and Trigger Optimization on Home Care Systems <i>YungYu Zhuang</i>	668
Speed Control of IPMSM Motor Drives Using Model Reference Adaptive Technique Sarayut Amornwongpeeti, Oleh Kiselychnyk, Jihong Wang, Nirav Shah, Michail Soumelidis	672
A Study on Fractal Patterns for the Textile Design of the Fashion Design <i>Artde Donald Kin-Tak Lam</i>	676
An Improved Filtering Algorithm for the CT Image Processing for ICASI 2017 Guanwu Jiang, Minzhou Luo, Saixuan Chen, Keqiang Bai	679
The Changes of Improvement-related Motor Kinetics after Virtual Reality based Rehabilitation Chun-Chuan Chen, Si-Huei Lee, Wei-Jen Wang, Huang-Ren Chen, Jo-Lam Liu, Yu-Fang Huang, Mu-Chun Su	683
Tool Condition Monitoring with Current Signals for a Low-power Spindle <i>C. Wang, M. Huang, T.T. Chung, H.T. Young, K.M. Li</i>	686
Development of a Smart Home System Based on Multi-Sensor Data Fusion Technology Po-Huan Chou, Yu-Liang Hsu, Wan-Lung Lee, Yu-Chen Kuo, Chih-Chien Chang, Yuan-Sheng Cheng, Hsing-Cheng Chang, Shyan-Lung Lin, Shih-Chin Yang, Hsin-Hung Lee	690
Analysis of Thermal Characteristics of Spindle and Spindle Box of Machine Tool Based on Finite Element Method Ze Xiang Bo, Wei Zi Yao, Dong Kai, Lv Shou Tang, Gong Pei Qiang, Deng Tao	694
A General Analytical Algorithm for Collaborative Robot (cobot) with 6 Degree of Freedom (DOF) Saixuan Chen, Minzhou Luo, Omar Abdelaziz, Guanwu Jiang	698
Investigation Clearance Size and Friction Effect on Bynamic of a Slider-crank Mechanism with Two Sliders by Quantitative Analysis Method Ngoc-Thai Huynh, Shyh-Chour Huang, Thanh-Phong Dao	702

Performance Study of Falling Film Cooling Condenser Coil in the Split-type Air Conditioner Chih-Neng Hsu, Chueh-Chih Chen, Jim-You Guo	706
Optimization of Spheroidized Annealing Process Parameters on AISI 10B21 Steel Wire Using Taguchi Approach Chih-Cheng Yang, Shih-Ting Wang, Jung-Tai Tsai	709
A Wirelessly Powered Temperature Sensor for Cell Culture Micro System Pei-Zhi Li, Yi-Ting Lin, Mu-Lien Lin, Hung-Wei Chiu	713
The Dynamic Routing for Heterogeneous Monitoring Systems	717
Building a Forecasting Model of Customer Demand for O2O Dual-channel Xianwu Hu, Ping-Kuo Chen, Zhenkai Lou	721
Convergence of Variational Iteration Method Applied to Generalized Two-point Diffusion Problems <i>Shih-Hsiang Chang</i>	724
Sensing Properties of Electrolyte-Insulator-Semiconductor Capacitors with Nanoscale Patterns Fabricated by Nano Imprint Lithography Yo-Chen Huang, Tzu Nien Lee, Henry J. H. Chen, Kuang Chien Hsieh	728
Case Study: University Lecture Timetabling Without Pre-registration Data San-Nah Sze, Chia-Lih Bong, Kang-Leng Chiew, Wei-King Tiong, Noor Alamshah Bolhassan	732
Design and Implementation of a Simple User Interface of Building Construction Traceability System Marco Lee, Y.R. Wang, Chung-Fah Huang	736
Comparing and Modeling Power GaN FETs for Switching Converter Applications <i>Chih-Chiang Wu, Shyr-Long Jeng</i>	740
Use Support Vector Machine (SVM) to Estimate Gas Concentration in Mixture Condition Kuan-Chou Lin, Tse-Yen Liu, Po-Han Chen, Chih-Ting Lin	744
Efficiency Enhancement on Urban Planning Stake in Urban Planning using High-precision True-Orthphoto Hung-Lin Lin, Tsung-Yi Lin, Yi-Ting Wei, Siou-Yu Lin, Pei-Yu Guo	747
A New Storage Approach on the Original Cadastral Maps by Multi-View Image Processing Technology Hung-Lin Lin, Feng-Chi Yu, Tsung-Yi Lin, Yi-Jun Hong, Jia-Jun Xu, Guan-Ling Lin, Yu-Feng Wang, Ying-Ying Chen	750
A Study of the Eye-Catching Features and Preference of Children's Pop-Up Book <i>Yu-Ming Chang</i>	754

Investigating Awareness and Potential Contributions of IoT in the East African Community. The Viewpoints from Kenya, Rwanda and Tanzania Students in Japan <i>Bikorimana Emmanuel, Butare Damascene Jimmy, Sun Yi</i>	758
Kinetic Chain Assessment and Learning Computerized System for Cantonese Opera: The Development, Validation and Application Magdalena Mo Ching Mok, Bo Wah Leung, Bor-Chen Kuo, Zhi-Yong Liu, Sze Ming Lam, Chun Wai Ng, Kevin Hang Hey Ma, Tsz Wing Choi	762
Study of Wearable Wireless Device for Moisture Measurement of Human Skin by Voltage Difference <i>Chau-Yun Hsu, Yi-Kang Huang, Chang-Hao Yau, Chia-Huei Ting</i>	766
When UUDN Meets 5G Waveforms: New Challenge of Signal Linearity? Li Cho, Chia-Huei Ting, Cheng-Yu Chen, Chang-Hao Yau, Chau-Yun Hsu	770
Density-based Clustering Algorithm for GPGPU Computing Kai-Shiang Chang, Yi-Wen Peng, Wei-Mei Chen	774
The Cost-effective GPS Guided Autonomous Vehicle – A Feasibility Study based on Self-balancing Scooter <i>Ray-Shine Run, Guo-Gang Sun</i>	778
Crosstalk Suppression by Threshold Adjustment of Codecs in Optical CDMA Network <i>Chih-Ta Yen, Jen-Fa Huang, Ying-Wei Tu</i>	781
Polynomial Fuzzy Control Design for Synchronizing Multi-scroll Chen Chaotic Systems Ying-Jen Chen, Hao-Gong Chou, Wen-June Wang	785
i-Car System: A LoRa-based Low Power Wide Area Networks Vehicle Diagnostic System for Driving Safety Yu-Shang Chou, Yu-Ching Mo, Jian-Ping Su, Wan-Jung Chang, Liang-Bi Chen, Jing-Jou Tang, Chao-Tang Yu	789
Educational Virtual Reality Implementation on English for Tourism Purpose Using Knowledge-Based Engineering Bi-Wen Lee, Hsin-Yi Shih, Yu-Tuan Chou, Yu-Sin Chen	792
Fatigue Behavior of Nickel Sheet via the Magnetic Force Jain-An Lin, Chi-Hsiang Lien, Yunn-Horng Guu	796
The Variation of Threshold Voltages Associated with Various Applied Gate Voltages at Different Temperatures on FinFET Devices <i>Hsin-Chia Yang, Ting-Wei Lu, Tsin-Yuan Chang, Sung-Ching Chi</i>	799
Recoding Narratives: Inclusion and Diversity as a Path to Design Innovation <i>Daniel Barreto Wildberger</i>	802
Design of a Multi-Sensor Readout Chip for Amperometric, Potentiometric, Impedometric, and Colorimetric Bio-Sensor Applications Wen-Yaw Chung, Angelito A. Silverio, Vincent F.S. Tsai, Cheanyeh Cheng, Shu-Yu Chang, Zhou Ming-Ying, Chi-Ying Kao, Dan A. Rustia, Yi-Wen Lo	806

The Implementation of High-speed Data Transmission for 8B/10B Protocol on FPGAs <i>Shih-Mim Liu, Hui-Ching Lin, Chung-Hsiang Wang</i>	810
Convolution Neural Network for Automatic Facial Expression Recognition Xiaoguang Chen, Xuan Yang, Maosen Wang, Jiancheng Zou	814
A Novel Panoramic Image Stitching Algorithm Based on ORB Maosen Wang, Shaozhang Niu, Xuan Yang	818
Short-term Wind Speed Estimation based on Kernel Density Estimation using GNSS-Reflectometry Observation Data <i>Kittipong Kasantikul, Dongkai Yang, Qiang Wang</i>	822
A Novel Algorithm of Detecting Document Area of Mobile Images Maosen Wang, Shaozhang Niu	826
Super-resolution Reconstruction of Color Image Based on Microarray Lens Jiancheng Zou, Honggen Zhang	830
Cross Calibration Thaichote and Landsat 8 over Libya4 using Pseudo Invariant Calibration Sites (PICS) Alongkot Pakat, Deng Hui, Morakot Kaewmanee, Dennis Helder, Prayot Puangjaktha	834
Regional Land Use Dynamic Monitoring using Chinese GF High Resolution Satellite Data Budsaba Uamkasem, Huang Lin Chao, Bi Jiantao	838
The Use of Augmented Reality in the Maintenance of Mechanical Objects Oduor Andrew Orlando, Sandor Markon	842
Deposition of AlN thin films on LiTaO3 substrates Yu-Chen Chang, Ying-Chung Chen, Kuo-Sheng Kao, Chien-Chuan Cheng, Wei-Tsai Chang, Wei-Che Shih, Shang-Huai Lin, Jyun-Min Lin	846
The Use of Object Tracking in Visual SLAM X. Wang, Z. Yao, Z. Yang	850
Preliminary Results of Computer Aided System with the 2nd-Generation Narrow-Band Imaging for Endoscopic Screening of Colorectal Neoplasms <i>Wen-Jia Kuo, Li-Yun Wang, Pen-Jen Chen</i>	854
The Affecting Factors of Career Coaching Implementation on College Training Programs in Innovation and Creativity – A Case Study <i>Kun-Dang Chen</i>	858
Analysis and Design of a Novel Soft-Switching Single-Phase Dynamic Voltage Restorer <i>Maoh-Chin Jiang, Kao-Yi Lu</i>	861
A Novel Fast Object Tracking Method based on Hierarchical Block Matching Zhi-hui Yang, Jie-fei Liu	865

Mathematical Model for Minimizing Idle Resources in Non-Sequential Linear Construction Project Using Integer Programming Agung Budiwirawan, Shu-Shun Liu	869
Region Merging Based On Hue Angles Ken-Chung Ho, Chia-Lung Hung	873
Automatic Crack Detection on Concrete Images Using Segmentation via Fuzzy C-means Clustering Yohwan Noh, Donghyun Koo, Yong-Min Kang, DongGyu Park, DoHoon Lee	877
Collective Quantum Behaviors in the Quantum Well Associated with the Strongly Inversed Channel <i>Hsin-Chia Yang</i>	881
The Study of the Anti-Collision System of Intelligent Wheeled Robot <i>Hai-Wu Lee, Chin-Yue Wong</i>	885
Secret Digital Images over Cloud Computing Using Meaningful Secret Sharing Technique Wen-Chuan Wu, Ke-Chung Cheng, Shang-Chian Yang	889
Goo9: a Wireless Sensor Network System for Wet Diaper Detection Ming-Hui Wen	893
Observing the Conflict between Human Civilisation and Mother Nature in Environmental Changes on Easter Island <i>Hei-Ling Kao, Huann-Ming Chou</i>	896
A User Experience Study of a Web-based Formative Assessment System <i>Ting-ling Lai, Pei-yu Chen, Chi-yin Chou</i>	899
An Accurate, Low-Cost, Easy-to-Use Sleep Posture Monitoring System <i>Poyuan Jeng, Li-Chun Wang</i>	903
AP Scheduling Protocol for Power Beacon with Directional Antenna in Energy Harvesting Networks Keyi Zhang, Ji Hyoung Ahn, Tae-Jin Lee, Ping Zhao	906
A SIMD-Based Software Fault Tolerance for ARM Processors Shun-Zhi Lin, Peng-Sheng Chen	910
Potential Dimensions of Consumers' Affective Responses to Perfume Bottle Form <i>Hung-Yuan Chen, Hua-Cheng Chang, Chen-I Huang</i>	914
An Improved Cyber-Physical Systems Architecture for Industry 4.0 Smart Factories <i>Jehn-Ruey Jiang</i>	918
FallCare+: An IoT Surveillance System for Fall Detection Charles CH. Hsu, Michael YC. Wang, Hsien C.H. Shen, Ranma HC. Chiang, Charles H.P. Wen	921

Assessment on the Feasibility of Three Map in One Work using Unmanned Aerial Vehicle Tsung-Yi Lin, Hung-Lin Lin, Po-Hsien Hsu, Chia-Chun Wu	923
Analyzing the Application and Method of "Twist" after the Conflict in the Short Animation <i>Siang-Wen Deng, Hsien-Yuan Chiu</i>	926
The Predictive Model of Imagination Stimulation from Web Environment Jui-Hsiang Lee, Chang-Franw Lee	930
Robust and Efficient Algorithms for Storage and Retrieval of Disk Based Data Structures Kathiravan Srinivasan, Ravinder Kumar, Sahil Singla	934
Developing a System for English Evaluation and Teaching Devices <i>Paul Juinn Bing Tan, Ming-Hung Hsu</i>	938
Appearance Design Research of Opera Animation & Comic Cultural Product Illustrated by the Case of <i>Opera Animation & Comic</i> <i>Liang Chen</i>	942
Integration of BIM and GIS to Query Management on Pipeline of Building-A Case Study of Dormitory Chin-Feng Tsai, Yi-Tin Xiao, Huei-Shan Chen, Yi-Xuan Ye, Chin-Han Wang, Ting-Wen Liang	944
Evaluation of Computational Efficiency on Image-Block Cutting Area in Stitching Orthophoto Chin-Feng Tsai, Cai-Yun Tsou, Yi-Chun Hung, Jie-Yi Lee, Ya-Ting Hsu, Wen-Hs Lin, Ting-Wen Liang	948
Work in Progress: A Prototype for Identifying Potential Conflicts (e-Paz) Antonio Reginaldo Francisco, Muhammad Wannous	952
Exploring the Yogācāra Doctrine in the Prajñā Scriptures through the Lens of Shuo Wugoucheng Jing <i>Ta-Chang Kuo, Huann-Ming Chou</i>	956
Innovate Talent Cultivating Mechanism-Achieve Digital Media Development Thoughts on Digital Media Major Talents Cultivating Mode <i>Ye Mao</i>	960
Research on the Development Strategy of Product under the Strategy of Brand Merger and Acquisition <i>Xiangyuan Zeng</i>	963
Research on the Construction of "Five in One" Young Teacher Career Development System in Colleges and Universities <i>Xuan-Hua Yang, Qing Guo</i>	966
A Study on the Visual Image Design of the Rio Olympic Games 2016 <i>Junxiong Zhang</i>	970

A Study of Intellectual Property Protection for Mass Innovation Spaces Qing Lin, Shawn Wong	973
Describe the Nature of the Stage Costume Design from Local Conditions and Customs <i>Yisong Chen</i>	976
Understanding the Features of Ingredients of Manicures <i>Hsueh-Feng Hung</i>	978
Investigation on Current ETP Courses Implement in Taiwan's Universities <i>Bi-Wen Lee</i>	981
HeMatic: An Automated Leukemia Detector With Separation of Overlapping Blood Cells through Image Processing and Genetic Algorithm <i>Reymond Joseph A. Cabrera, Criselle Amor P. Legaspi, Erika Jasmine G. Papa, Reden D. Samonte, Donata D.</i> <i>Acula</i>	985
Study of Deposition Parameters on the RF Magnetron Sputtered ZnO Films on Mo/SiNx/Si Substrates Yu-Chen Chang, Ying-Chung Chen, Bing-Rui Li, Wei-Che Shih, Chun-Sen Wu, Wei-Tsai Chang, Jyun-Min Lin	988
Investigation Study on Design of Ford Motor Advertisements from 1922 - 1936 Taking Automobile Advertisements on Shun Pao and Taiwan NichiNichi Shin Po as Examples <i>Jiaman Xing, Chi Shyong Tzeng</i>	0
MarkToLock: An Image Masking Security Application via Insertion of Invisible Watermark Using Steganography and Advanced Encryption Standard (AES) Algorithm Christian C. Cirineo, Roberto Q. Escaro Jr., Christian Deiniel Y. Silerio, Jasper Bryan B. Teotico, Donata D. Acula	
Effects of Horizontal Piezoelectric Fan Arrangement on the Forced Convection Flow Field of a Pin-fin Heat Sink Ya-Chu Chang, Go-Long Tsai, Yen-Yeh Chueh	998
Learning Analytics: Supporting At-Risk Student through Eye-Tracking and a Robust Intelligent Tutoring System Alexander Muriuki Njeru, Samiullah Paracha	1002
A Hybrid Approach on Multi-Objective Route Planning and Assignment Optimization for Urban Lorry Transportation <i>Yu-Tuan Chou, Shao-Yi Hsia, Cheng-Hsuan Lan</i>	1006
Implementation of Remote Control for a Spraying Robot Chun-Mu Wu, Jui-Tsung Lu	1010
A Comparative Study on the Development of Cross - Strait Mobile Media Yijing Chen, Yisong Chen	1014
On the Industrial Design Education in Taiwan Universities <i>Xiangyuan Zeng</i>	1017

High Practicality and High Efficiency Multi-Output LED Driver with Remote Dimming Control <i>Yu-En Wu</i>	3 10 2 0
Fog Computing Architecture-Based Wi-Fi Union Mechanism for Internet Advertising System Thi Thanh An, ChePin Chang, Yi-Hung Li, Shyan-Ming Yuan	1024
A Joyful Kinect-based Learning System Yi-Hsing Chang, Jhen-Hao Hwang, Rong-Jyue Fang	1028
A Colored Petri Net Models with Intelligent Function for Power System Restoration of Semiconductor Industry <i>Tzu Hung Chang, T. E. Lee, C. H. Lin</i>	1032
A Fuzzy Color Petri Net for Repair Scheduling and Dispatching of Large- Scale Contingencies in Distribution System <i>Tzu Hung Chang, T. E. Lee, C. H. Lin</i>	1036
Distribution Network Reconfiguration for Load Balancing with A Colored Petri Net Algorithm <i>Tzu Hung Chang, T. E. Lee, C. H. Lin</i>	1040
Oblivious Watermarking Scheme for the Application of the Multimedia Communication Yu-Wen Chang, Huang-Chi Chen	1044
The Meta-Value of Yog c ra Buddhism Jui-Wen Yu, Huann-Ming Chou	1048
Assessment of Micro-terrain Features Using Dynamic Tactile Pressure Sensor Vu Trong Thien, Zulqarnain Bin Abdul Halil, Sun Yajuan, Yeo Swee Hock	1052
Metric 11 -median Selection with Fewer Queries Ching-Lueh Chang	1056
Improvement on Wear Resistance of 304 Stainless Steel via Cr-C-O Arc-coatings <i>Cheng-Hsun Hsu, Wei-Che Huang, Chi-Yu Chang</i>	1060
The Study on Intelligent Roadside Park Charging Systems Huey-Der Chu, Yong-Quan Yeh, Yi-Cheng Lin, Meng-hung Lai, Yi-Jie Lin, Ming-Sun Wu	1064
System Identification of an Induction Motor Rong-Fong Fung, Wen-Hao Yang	1068
InstantGaming: Playing Somatosensory Games Using Smartwatches and Portable Devices Meng-Shiuan Pan, Wu-Chun Hsu, Chun-Hung Liu, Ku-Chen Huang, Chien-Fu Cheng	1072

Obfuscated Red-black Tree: Decoupling Search Trees to Make Them Friendly for Nonvolatile Memories in One-memory Systems Yun-Shan Hsieh, Yun-Fei Liu, Yi-Hua Chen, Min-Chun Chen, Po-Chun Huang, Hsin-Hsin Chen	1075
Using Data Mining and Machine Learning Techniques for System Design Space Exploration and Automatized Optimization Yu-Xuan Wang, QiHui Sun, Ting-Ying Chien, Po-Chun Huang	1079
Dynamic Power Adjustment for Speeding up Tag Identification Time in a RFID System <i>Tsang-Ling Sheu, Jian-Xing Zhu</i>	1083
Living Green Shell: Urban Micro-vertical Farm Jeanne Lee, I-Ting Chuang	1087
New Algorithm of Location Model based on Robust Estimators and Smoothing Approach Hashibah Hamid	1091
Target Prediction to Improve Human Errors in Robot Teleoperation System <i>Jiann-Fuh Liaw, Pei-Hsuan Tsai</i>	1094
Enhance the Processing and Management Efficiency of Dental Laboratory by the strategy of Productivity 4.0 <i>Yu-Jie Cheng, Ming-Huang Chen, Fu-Chi Cheng, Keng-Pei Lin, Cheng-Jung Yang</i>	1098
Behavior Analysis of Winding to Ground Fault in Transformer using High and Low Frequency Components from Discrete Wavelet Transform Jintasit Rumkidkarn, Atthapol Ngaopitakkul	1102
Modeling the Continuance Usage Intention of Game-based Learning in the Context of Collaborative Learning <i>Ya-Ming Shiue, Yu-Chiung Hsu, Yu-Chen Liang</i>	1106
Structural Analyses of Mechanisms with Springs in Ancient China Kuo-Hung Hsiao, Yang Zhang, Kan Shi, Jian-Liang Lin	1110
Integrated Slope Management Application for National Freeways in Taiwan Yi-Min Huang, Chia-Yun Wei, Jung-Chun Lai, Te-Wei Hsiung, Wei-Hsin Huang, Jo-Yu Liu	1114
Preparation of Block Copolymer SBSIS Having Various Polystyrene Block Lengths Via Anionic Polymerization and the Properties Research Shih-Syuan Yang, Guo-Quan You, You-Min Wang, Jen-Ray Chang, Raymond Chien-Chao Tsiang	1118
A Real-time Pedestrian Legs Detection and Tracking System Used for Autonomous Mobile Robots Chin-Shyurng Fahn, Chu-Ping Lee, Yu-Shu Yeh	1122
Tribological Performance Evaluation of Hydrotreated Vegetable Oil Blended with Fosse Diesel <i>Yuan-Ching Lin, Chun-Ching Hsu</i>	il 1126

Development of a Multi-parameter Plant Growth Monitoring and Control System for Quality Agriculture Application Wei-Chieh Tai, Ya-Chuan Tseng, I-Ting Chiang, Yu-Sin Lin, Wen-Yaw Chung, Kwan-Wei Wu, Yuh-Han Yeh	1130
Computerized Innovation Inspired by Existing Patents Hsiang-Tang Chang, Chen-Yen Chang, Wen-Kuei Wu	1134
Pedestrians' Awareness and Observation of their Behaviors During Intersection Crossing at a Traffic Circle <i>Meng-Cong Zheng</i>	1138
Observation of Passengers' Transfer Routes in Underground Station Chia-Cheng Lu, Meng-Cong Zheng	1142
The Study on the Forming Style of Monkey Shape Applied in Bionic Healing Products <i>Ya-Chun Yang, Ming-Chyuan Ho</i>	1146
Ideation from Poetry & Songs for Cultural Creative Product Design Chung Sheng Chen	1150
Microstructural Evolution and Microwave Dielectric Properties of MgO-CaO-2SiO2 Material System Chen-Chia Chou, Po-Hsien Wu, Kuei-Chih Feng, Chung-Ya Tsao	1154
A Study of Virtual Reality Experience Value and Learning Efficiency of Museum-Usin Shihsanhang Museum as an Example <i>Peng-Peng Li, Pai-Ling Chang</i>	g 1158
A Case Study in Applying Security Design Patterns for IoT Software System <i>Wen-Tin Lee, Po-Jen Law</i>	1162
The Impact of SCAN Model on the Acquisition of Cultural Metaphor <i>Jiin-chyuan Lai, Tsui-lien Shen, Ming-chang Tsai</i>	1166
Study on the Communication Process between the Designer and the Owner of a Web-based Model Simulation System Sheng-Cheng Shih, Nei-Wei Kuo	1170
A Study on Fire Risks to Firefighters in the Building with Photovoltaic System <i>Shin-Ku Lee, Chun-Mu Wu, Kuo-Chan Hung</i>	1174
A Study of Japanese Multimedia Communication Industry for the Effects of Asia Chun-Chia Shih, Chwen-Liang Chang	1178
Applied the GM(1,1) for Groundwater Level Supplement in Jiao-Xi Hot Spring Area, Taiwan Jung-Wei Chen, Ming-Hui Cheng, Cheng-Haw Lee, Hung-Lin Lin	1182
Using Statistical Analysis and Affective-Engineering Theory in Web Visual Design <i>Chen-Yuan Liu, Shih-Wen Hsiao</i>	1186

Exploratory Study on Corporate brand image and Customer Satisfaction on Consumer Purchase Behavior: A Case Study of UNIQLO <i>Yu-Lin Chen, Kuo-Kuang Fan</i>	1190
New Evidence: Exploring the Awakening of Faith's Teaching of the Zhenshi Chan Found in the Āgamas Li-Chen Tsai, Huann-Ming Chou	1194
Investigation on Syllabus of Civil Engineering for Senior Vocational High School <i>Yuan-Min Chu, Hung-Lin Lin, Jing-Wen Chen</i>	1198
The Temperature Prediction System of Automobile Engine Based on Fuzzy Algorithm <i>Jui-Chuan Cheng, Te-Jen Su, Yu-Ming Cao, Chien-Yuan Pan</i>	1201
Parallel Hybrid Converter with Wide Zero-Volatge Switching Range, Less Switches and Low Circulating Current Losses <i>Bor-Ren Lin</i>	d 1205
IoT Based Coffee Quality Monitoring and Processing System in Rwanda Joachim Rutayisire, Sandor Markon, Ndacyayisaba Raymond	1209
Selecting Persuasive Strategies for Design for Energy-saving Behavior Li Hsing Shih, Fenghueih Huarng, Yi-Cin Jheng	1213
A Practice of 2-to-2 Fixed Priority Arbiter Used to Multi-core Processors <i>Jih-Fu Tu, Chien-Min Ou</i>	1217
The Implementation of the Evaluation System of Major Equipment Procurement in a Medical Institution <i>Chi-Chieh Chen, Pei-Jarn Chen, Liang-Miin Tsai</i>	1221
Research and Development of a Practical Water Dispenser Chin Jung Huang, Fa Ta Tsai	1225
Applying Big Data Analysis Technique to Students' Learning Behavior and Learning Resource Recommendation in a MOOCs Course Yu-Sheng Su, Ting-Jou Ding, Jiann-Hwa Lue, Chin-Feng Lai, Chiu-Nan Su	1229
Survey of Non-visual Identification Performance by Using a Tactile Compass in Smartphones Hsinfu Huang, Ya-Wen Chang	1231
Integration of Computer-Aided Pre-Operative Planning and 3D Printing Technology for Comminuted Fracture Bone Surgery Irwansyah, D.B. Redyarsa, Jiing-Yih Lai, Terence Essomba, Pei-Yuan Lee	or 1235
Format Effects of Traditional Chinese Character Size and Font Style on Reading Performance When Using Smartphones Shih-Miao Huang, Wu-Jeng Li	1239

Effects of Temperature and Velocity of Uniaxial Tension of Au/Cu/Au/Cu Nanofilms Investigated Using Molecular Dynamics <i>Cheng-Da Wu, Wen-Xiang Jiang</i>	1243
A Multipath Transmission Scheme for the Improvement of Throughput over SDN Yi-Rou Chiang, Chih-Heng Ke, Yun-Shuai Yu, Yeong-Sheng Chen, Chin-Ju Pan	1247
Random Graphic User Password Authentication Scheme in Mobile Devices Sung-Shiou Shen, Tsai-Hua Kang, Shen-Ho Lin, Wei Chien	1251
Performance Improvement for Drain Expansion and Quasi Saturation by using Vertical RESURF in UMOSFET Sivaji Selvendran, Gene Sheu, S. Krishna Sai, Shaik Mastanbasheer, Muntha Sai Dheeraj, Chirag Aryadeep, Suma Jaiswal, Ching-Yuan Wu, Po-An Chen	1255
Study on Establishment of Product Life Cycle Model of Cultural Creative Product Industrialization Being-Cheng Chen	1259
Secure Certificateless Signature Resisting to Continual Leakage Attacks Yuh-Min Tseng, Sen-Shan Huang, Jui-Di Wu	1263
An Approach to Design-by-Analogy Using Structure Mapping Theory <i>Hung-Hsiang Wang</i>	1267
New Product Development; The Nikola Tesla Extrapolation Eduardo Martínez Escobedo	1271
The Application of Lean Production and Six Sigma in the Improvement of MRI efficiency in Hospital Settings <i>Huan-Chung Yao, Pei-Jarn Chen, Ping-Shun Chen, Yu-Ting Kuo, Ginger Shu</i>	1273
Enhancing Capacity of Multimedia O-CDMA Networks with Power Control Shih-Hao Cho, Guu-Chang Yang, Min-Kuan Chang, Wing C. Kwong	1277
Design and Digital Hardware Implementation of a Sensorless Controller for PMSM Drives using LF Signal Injection and EKF <i>Risfendra, Ying-Shieh Kung, Liang-Chiao Huang</i>	1281
An Entropy-Preserving Histogram Modification Algorithm for Image Contrast Enhancement Bo-Hao Chen, Yu-Ling Wu	1285
A Novel Scheme for Constructing Product Development Portfolio Based on TRIZ Tien-Lun Liu, Jhih-Wei Chen	1289
A Compact Subthreshold Swing Model of Ultra-Thin Body Ultra-Thin Box SOI MOSFETs with Gaussian Doping Profile Sufen Wei, Guohe Zhang, Jing Liu, Huixiang Huang, Li Geng, Zhibiao Shao, Cheng-Fu Yang	1293

Modeling a Si Homojunction SOI-Tunnel FET with Configurable Voltage Difference on Gates	1297
Sufen Wei, Guohe Zhang, Jing Liu, Huixiang Huang, Li Geng, Zhibiao Shao, Cheng-Fu Yang	1277
Improving System Extensibility via an IoT-Interoperable Platform for Dynamic Smart Homes <i>Ching-Hu Lu</i>	1300
Developing a Product Pricing and Marketing Analysis System on the Website <i>Shih-Yen Huang</i>	1304
Increasing Efficiency of an Electricity Production System from Solar Energy with a Method of Reducing Solar Panel Temperature <i>Bancha Sreewirote, Akeratana Noppakant, Chaichan Pothisarn</i>	1308
Adaptive Adjustment of TDD Uplink-downlink Configuration based on Cluster Classification in Beyond LTE Heterogeneous Networks <i>Ming-Hua Cheng, Yu-Jie Wang, Wen-Shyang Hwang, Yan-Jing Wu, Cheng-Han Lin</i>	1312
Seismic Response Analysis of Flexible Pavements Embedded with CLSM Bases Using Finite Element Method <i>Ming-Chao Lin</i>	1316
A New Multiphase Buck Converter with Optimum-Damping-Control and Current-Balanced Techniques Kun-Da Wu, Ming-Hao Chiu, Chih-Shiun Jheng, Jiann-Jong Chen, Yuh-Shyan Hwang, Yi-Tsen Ku, Cheng-Chieh	1320 Yu
A Lesson Plan for ePUB3 eBook-based Course Design Tina Pingting Tsai, Jyhjong Lin, Lendy Chaoyu Lin, Jiaru Li	1324
New CM/VM 3rd-Order Quadrature Oscillator using VDCCs Dinesh Prasad, Javed Ahmad, Mayank Srivastava	1328
Improved ZigBee Module Based on Fuzzy Model for Indoor Positioning System Fang-Tsung Liu, Chiung-Hsing Chen, Yi-Chun Kao, Chih-Ming Hong, Chia-Ying Yang	1331
Video Error Concealment Method Using Motion Vector Estimation Propagation Xutao Wei, Hua-Wei Tseng, Jhe-Wei Jhang, Tzu-Hao Su, Yi-Chieh Yu, Yangming Wen, Zhaoyi Liu, Ting-Lan Lin Shih-Lun Chen, Yih-Shyh Chiou, Ho-Yin Lee	1335 ,
The Practice of Social Design-A Case Study on the Fashion Brand Development of a Traditional Aboriginal Village <i>Ya-Ling Huang, Ming-Hui Cheng</i>	1339
Mechanism Analysis of Water Powered Bellows in Ancient Western Illustrations <i>Jian-Liang Lin</i>	1343
Design of High Step-Up Driving Circuit for Linear Ultrasonic Motor Zhi-Fu Zhang, Wei-Zhi Chen, Rong-Jong Wai	1347

Investigating the Designed Parameters of Dual-Layer Micro-Channel Heat Sink by Design for Six Sigma (DFSS) Jui-Chin Jiang, Cheng-Hsing Hsu, Thi-Anh-Tuyet Nguyen, Hung-Son Dang	1351
Analyzing Geometric Features of SEM Image by Applying Distance Transformation Method <i>Chih-Hung Lee, Hoaying Lu, Ji-Hwei Horng</i>	1355
Bionic Design of Winged Seed's Aerodynamic Force Characteristics Apply to Wind Turbine Blades Cheng-Hsing Hsu, Jun-Liang Chen, Ching-Chuan Chang, Hung-Son Dang, Wei-Feng Tsai	1359
A Study of Paging Style in Smartphones for Middle-Aged Users Nien-Tsan Wang, Chiao-Mei Cheng, Yi-Chen Hsu	1363
Growth of CuInSe2 Nanowire Arrays by Pulse Electrodeposition with an Electrolyte at Varying Temperatures <i>Yu-Song Cheng, Wan-Ru Dai, Mau-Phon Houng</i>	1367
An Implementation of a Particle Detective Mobile Device to Solve the Problem of Collecting PM2.5 Data without Internet-Connection <i>Yung-Chung Tsao, Tung-Chun Shen, Chia-Chun Wu</i>	1371
A Study of Applications, Challenges, and Channel Models on the Internet of Underwater Things Chien-Chi Kao, Yi-Shan Lin, Geng-De Wu, Chun-Ju Huang	1375
A Simultaneously Sensing System to Improve Efficiency of Digital Light Process Printing Yu-Sheng Lin, Ming-Huang Chen, Cheng-Jung Yang	1379
Investigation on Synchronous Averaging for Fault Feature Extraction of Sun Gear in A Planetary Gearbox Lei Zhao, Yu Guo, Xing Wu	1383
A New Wide-Bandwidth Hybrid Supply Modulator for LTE-A Power Amplifiers Kun-Da Wu, Sheng-Shing He, Xiang-Ren Rao, Yuh-Shyan Hwang, Jiann-Jong Chen, Yi-Tsen Ku, Cheng-Chieh Y	1387 ′u
A Novel Digitally Programmable Quadrature Oscillator using DCVDGA Dinesh Prasad, Shalu Singh, Anupam Kumari, Mayank Srivastava	1391
Construction of Experience Aesthetics Centered Innovative Experience Design Model for Tourism Factories –Example of Industries in Douliu Industrial Park in Yunlin County <i>Hsiu Ching Laura Hsieh, Jia An Guo, Fang Yu Luo</i>	1395
An Automatic and Adaptive Light Control System by Integrating Wireless Sensors and Brain-Computer Interface <i>You-Chiun Wang, Wei-Ting Chen</i>	1399

Investigating the Design Parameters on the Multi-layer Micro-channel Heat Sink by using Quality Function Deployment and Taguchi Method with the Enlarged Outlet <i>Cheng-Hsing Hsu, Jui-Chin Jiang, Hung-Son Dang, Thi-Anh-Tuyet Nguyen, Ching-Chuan Chang</i>	1403
ESD-Reliability Influence on LV/HV MOSFET Devices by Different Zapping-voltage Steps in the Transmission-Line Pulse Testing <i>Yu-Jen Chen, Shen-Li Chen, Min-Hua Lee</i>	1407
A Discussion about Bodhisattva Guanzizai from the Perspective of the Heart S tra <i>Hei-Ling Kao, Huann-Ming Chou, Hwo-Ching Chang</i>	1411
An Initial Exploration of the Parallels between Xuanzang's Yog c ra Buddhism and Huineng's Chan Tradition <i>Wei-Hsuan Fan, Huann-Ming Chou</i>	1415
The Implementation of Intergenerational Green Energy Programs in Nursing Homes and Its Prospects <i>Ling-Tze Chao, Huann-Ming Chou</i>	1419
R2D: Combining Replication and Redundancy to Enhance the Performance and Reliability of Storage Systems <i>Min-Chun Chen, Yun-Shan Hsieh, Hsin-Hsin Chen, Yi-Hua Chen, Yun-Fei Liu, Po-Chun Huang, Yu-Tsai Lin</i>	1423
Liquid-Filled Dispersion-Flattened Photonic Crystal Fiber Guan-Ru Huang, Jui-Ming Hsu	1427
Time-series Storage for MLC Nonvolatile Memories Toward Performance and Reliability Co-optimization Yang Liu, Yun-Shan Hsieh, Yi-Hua Chen, Min-Chun Chen, Hsin-Hsin Chen, Yun-Fei Liu, Po-Chun Huang	1431
Performance Evaluation of Cluster Algorithms for Big Data Analysis on Cloud Chu-Hsing Lin, Jung-Chun Liu, Tsung-Chi Peng	1434
The Devices and Interfaces for Elderly Healthcare Yu-Min Fang, Chun Lin, Sheng-Yi Huang	1438
A High Performance DC Power Supply System Chien-Ming Wang, Chien-Min Lu, Chi-Hsiang Cheng	1442
Vehicle Lane Detection and Following Based on Vision System and Laser Scanner Shiuh-Jer Huang, Chien-Chang Tsai	1446
Investigation of Enciphering Technology Applied on Radio Frequency Identification System Chin-Sung Hsiao, Chin-Chang Jao	1450
Design and Implementation on Fiber Transmission with Automatic Photo-Power Control System Tai-Ping Sun, Jia-Hao Li, Yi-Tai Chen, Bo-Hao Huang	1453

Continuous Evaluation for Application Development on Cloud Computing Environments <i>Chia Hung Kao</i>	1457
Development of a Simulation-Based Electricity Analysis Environment for a Communit Microgrid System Yu-Jen Liu, Shang-I Chen	ty 1461
A Study of Manufacturing Strategies for LED Lighting Product Design Jui-Hung Cheng, Shuo-Fang Liu	1465
A Study of Brand & Product Strategies for Technological SMEs Jui-Hung Cheng, Shuo-Fang Liu	1469
Analysis of Kansei Image of the Trademark Design under the Chinese Culture Five-Elements Theory <i>Ting-Chun Tung, Yu-Chen Huang, Ching-Fen Chang</i>	1473
Symmetric and Asymmetric Wave-guides for Multi-striped Orthogonal Photon-Photocarrier-Propagation Solar Cells (MOP3SC) Akira Ishibashi, Hikaru Kobayashi, Nobuo Sawamura, Kenji Kondo, Tsuyoshi Kasai	1477
The Building of a Sense of Local Identity by Youth Volunteers in Taiwan Alishan's Zhuqi Township through Local Participation <i>Pei-Chi Su, Ko-Hsuan Chu</i>	1480
Comparison of Sensor Analysis for Swimming in Different Positions Ku-Chen Huang, Chih-Ping Chu, Tung-Kuei Chiu, Jui-Chen Chen	1484
Synthesis and Characterization of Amphiphilic Elastomeric Copolymer Poly (PIMA-co-MMA-co-PEGMA) Yu-Ting Huang, Tsai-Ting Hsu, Jen-Ray Cheng, Raymond Chien-Chao Tsiang	1488
Surface Pattern Effect on Tribological Behaviors with Different Thin Film Metallic Glas Coatings of 7075-T6 Aluminum Alloy Y.C. Lin, Ting-Wei Chang, Chia-Lin Li, J. P. Chu	ss 1492
Subdeadline Assignment for Real-time Tasks with Multiple Parallelization Options on Multiprocessor Systems <i>Chin-Fu Kuo, Yung-Feng Lu, Shu-Ping Lu, Ya-Ju Yu</i>	1496
Realization of Multi-function All Optical DWDM Routing Device Po-Tsung Wu, Chang-Lin Chen, Tsair-Chun Liang	1500
Design and Implementation of Web Microblogging System Ji Yang, Yu-Xia Yao, Chin-Ling Chen, Jungpil Shin	1504
A Preview System for 3D Printing Shyh-Kuang Ueng, Lu-Kang Chen, Szu-Yao Jen	1508

Effects of Negative Semantics in Product Design Wei-Ken Hung, Yu-Shan Athena Chen, Meng-Hsuan Lin, Huei-Cih Yang	1512
Comparison of Business Models of Citrus Fruit Orchards Ling-Yu Pan, Wei-Ken Hung	1516
Molecular Dynamics Simulation of Nanoimprinting Effects of Silver Thin Films with Impurities Defects on Copper Substrate <i>Yuan-Ching Lin, Zong-Ian Yu</i>	1520
An Approach for Situation Awareness based Personal Service Framework Chih-Hung Chang, Tse-Chuan Hsu, William Cheng-Chung Chu	1524
Effect of Precipitate Interfacial Bonding Strength on Mechanical Behaviors in Simple Tension of [110] Iron Nanowire <i>Yuan-Ching Lin, Jun-Shih Chang</i>	1528
3D Object Pose Estimation Using Stereo Vision for Object Manipulation System <i>Taryudi, Ming-Shyan Wang</i>	1532
Design and Implementation of Anti Low-frequency Noise in Visible Light Communications Fu-Liang Chang, Wei-Wen Hu, Da-Huei Lee, Chao-Tang Yu	1536
Kaohsiung Image Oriented Product Design Based on Kansei Form Composition Approach Chyun-Chau Lin, Wen-Hui Tsai, Shun-Jin Yu	1539
Experimental and Theoretical Development of Self-assembling Photochromic Materials <i>Li-Fen Wang</i>	1543
Electric Unicycle Control Chih-Hui Chiu, Ya-Fu Peng	1546
An Investigated of Butt Joint between Aluminum Alloy A5052 and Stainless Steel SS400 by using MIG Welding Method Van Nhat Nguyen, Quoc Manh Nguyen, Huong Thao Dang Thi, Shyh-Chour Huang) 1550
An Enhanced Depth Estimation System Using RGB-D Cameras and Gyroscopes Ting-Hsuan Chien, Yu-Hsin Lu, Jhe-Wei Lin, Rong-Guey Chang	1554
Forming Brand Identity and Promotion Strategy of Creative Industry in Indonesia <i>Jui-Che Tu, Yi-Lin Lee, Kharisma Creativani</i>	1558
Students' Perceptions of using a Flipped Classroom Instructional Model in an ESP Course Bi-Wen Lee	1562
Innovative Research on Development Game-based Tourism Information Service by Using Component-based Software Engineering <i>Huei-Ming Chiao, Wei-Hsin Huang, Ji-Liang Doong</i>	1565

The Research of Applying Mobile Virtual Reality to Martial Arts Learning System with Flipped Classroom <i>Wen-Chun Hsu, Hao-Chiang Koong Lin, Yu-Hsuan Lin</i>	1 1568
A Study of Computer Simulation Activity Engaged in the Career Jobs of University Students Hsiu-Lan Ma, Der-Bang Wu, Hsing-Ping Ting	1572
The Experience Design of the Bamboo Craft of Laiji Tribe in Alishan Township Ying Dai, Shyh-Huei Hwang	1576
The Study on Deposition of Cu/Co Multilayer Nano Thin Films under Gravitational Effect by Molecular Dynamics <i>Jen-Ching Huang</i>	1579
Effect of Various Assisted Machining Technique Applications on Cutting Performance of Quartz Glass Milling <i>S. Y. Lin, J. Z. Chen</i>	1583
A Study on the Properties of Heat Conduction and Tribology for the Pair of Copper an AlN Film with Phase Change Materials Jin-Chi Wang, Yuh-Ping Chang, Huann-Ming Chou, Li-Ming Chu	d 1587
LSPR Based Glucose Sensor Using Au Nanoparticles Fabricated by Photochemical Method Hsueh-Tao Chou, Wei-Hao Huang, Tien-Ming Wu, Yi-Keng Yu, Ho-Chun Hsu	1591
The Study of the Die Geometry and the Characteristics of a non-Newtonian Viscoe-lastic Fluid during Extrusion <i>Hung-Yuan Li, Zo-Han Lin, Bo-Lin Li, Chuan-Lung Chang</i>	1595
Qualitative Research of Indigo Development between Japan and Taiwan Er-Yu Tsao, Hou-Lan Hsieh, Mei-En Chen, Chun Lin	1599
Hybrid Beam Forming with Data Logging Scheduling (DLS) for Wireless Sensor Network (WSN) Sakthidasan Renu, Lei Yen, Abebe Belay, Hsin-Piao Lin, Shiann-Shiun Jeng	1603
A Market Study on the Narrow Mouth Pottery Design Jen-Yao Li, Chien-Cheng Chang	1607
Integration between Real Estate market and Stock market: Evidence from Taiwan Yih-Chang Wang, Ran Huang, Chien-Chung Nieh, Hong-Kou Ou, Maochieh Chi	1611
Toward the Control of Ascend and Descend of a Powered Lower Limb Orthosis Chuan Yang, Jian-Shiang Chen, Jih-Hsiang Chiu	1615
A 5th order Gm-C Filter Design with Wide Tuning Transconductor Ko-Chi Kuo	1618

A Hierarchical License Plate Recognition System Using Supervised K-means and Support Vector Machine Wei-Chen Liu, Cheng-Hung Lin	1622
Resource Allocation for NOMA in Multiuser Multicarrier Systems Wen-Han Hsueh, Yung-Fang Chen	1626
Palladium-catalyst-mediated Coupling Reactions for the Preparation of Stereoregular Flurescent Polymers and Diblock Copolymers Jing-Cherng Tsai, Ya-Chun Yang, Cheng-Hung Chiang, Shih-Hung Huang, Yeo-Wan Chiang	1630
Analysis of Jig Application to Inhibit Welding Deformation on SUS304 Steel Plates for Gas Metal Arc Welding (GMAW) Yan-Ru Wang, Yaw-Hong Kang, Cheng-Kuang Hung, Chao-Ming Hsu	1634
A 1.2V 10 bits 100-MS/s Analog-to-Digital Converter with a 8-stage Pipeline and a 2 bits Flash ADC <i>Ko-Chi Kuo</i>	1638
A Study on the Eexhibition and Performing Arts Pattern of Rural Villages Based on the Perspective of Design Aesthetics <i>Jia-Yi Liu, Li-Shu Lu</i>	1642
The Eenvelop-based Bispectral Analysis for Motor Bearing Defect Detection <i>DM. Yang</i>	1646
State of Product Detection Method Applicable to Industry 4.0 Manufacturing Models with Small Quantities and Great Variety: An example with Springs <i>Cheng Ju Kuo, Kuo-Cheng Ting, Yi-Chung Chen</i>	1650
Skyline Inspection Route Planning Query for Management Team Yu-Ren Yang, Ruei-Ping Wang, Po-Cheng Chuang, Ping-Chen Tsai, I-Chieh Lin, Yu-Chun Hsieh, Jun-Hong Che Yang-Chou Juan, Yi-Chung Chen, Yuling Hsueh	1654 ^{en,}
MATLAB-based Analysis of Labor Dispatch and Work Distribution: An Example Involving Caseworkers in Central Taiwan Chin-Yu Oh, Meng-Chueh Hsu, Chang-Ming Tsai, Jyun-Yao Jhang, Yu-Ren Chen, Bo-Xiang Chen, Yi-Chung Ch Chun-Wen Teng, Shu-Hui Chen	1658 1en,
The Fatigue Analysis for Early Warning System Based on Fuzzy Algorithm Jui-Chuan Cheng, Te-Jen Su, Hong-Yan-Lin, Chun-Wang Wei	1661
Study of the Optimal Helical Passageways in Complex-hole Polishing by Abrasive Flow Machining Ken-Chuan Cheng, Hsin-Min Lee, A-Cheng Wang, Yan-Cherng Lin	v 1665
A Wireless Network Simulator Based on Design Patterns for WiMAX and LTE Hsin-Hung Hsieh, Bih-Hwang Lee, Huai-Kuei Wu, Wen-Pin Hsu, Hung-Chi Chien	1669
Application of Augmented Reality Technology to Promote Interactive Learning Rong-Chi Chang, Zeng-Shiang Yu	1673

A New Family of One-Dimensional Spreading Codes for Optical CDMA <i>Po-Yi Lu, Cheng-Yuan Chang</i>	1675
A Novel Approach to Extract Significant Time Intervals of Vehicles from Superhighway Gantry Timestamp Sequences Jing-Doo Wang, Ming-Chorng Hwang	y 1679
The study of SROI of the Cheng-Long Wetlands International Environmental Art Project and Setouchi Triennale Art Festival <i>Wen-Yuan Hu, Chieh Mo</i>	1683
An Application Study on the Legibility of Characters Printed on One-Way Vision Film <i>Wen-Yuan Hu, Jie-Yu Liou</i>	1686
Improving Range Resolution in Pulse-compression Ultrasonic Systems by Optimal Filtering P. Burrascano, M. Ricci, L. Senni, R.Tomasello, S. Laureti	1690
Efficient Modeling of Hysteretic Systems P. Burrascano, M. Ricci, L. Senni, S. Laureti	1694
Capacity determination of a Dynamic Energy Storage System in an Island Power System with High Renewable Energy Penetration Yuan-Kang Wu, Guan-Ting Ye, Li-Tso Chang, Ting-Yen Hsieh, Bo-Shiung Jan	1698
Utilizing Cloud Computing in Public Sector Cases from the World <i>Emad Abu-Shanab, Fatima Estatiya</i>	1702
Using Spiral Dynamic Algorithm for Maximizing Power Production of Wind Farm Mok Ren Hao, Raja Mohd Taufika Raja Ismail, Mohd Ashraf Ahmad	1706
Bridging Local Trend to Global: Analysis of Indonesian Contemporary Modest Fashior Indarti, Li-Hsun Peng	n 1710
Examining the Bicycle Bottle Cage Based on Universal Design Principle Sin-Ho Chin	1714
Application of Nonparametric Weighted Feature Extraction for an Inertial-Signal-Based Human Activity Recognition System Yu-Liang Hsu, Shyan-Lung Lin, Po-Huan Chou, Hung-Che Lai, Hsing-Cheng Chang, Shih-Chin Yang	ł 1718
A Weighted Feature Fusion Scheme For Multi-Behaviometrics Pohsiang Tsai	1721
File Placement Mechanisms for Improving Write Throughputs of Cloud Storage Services Based on Ceph and HDFS <i>Chun-Feng Wu, Tse-Chuan Hsu, Hongji Yang, Yeh-Ching Chung</i>	1725
Intelligent Comic Make System Based on Comic Script Creation Shang-Te Tsai	1729

Sparse Feature Extraction Based on Sparse Representation and Dictionary Learning for Rolling Bearing Fault Diagnosis <i>Chang Liu, Xing Wu, Tao Liu</i>	1733
The Development and Simulation of a Smart Parking Guidance System Chihhsiong Shih, Zhaolong Liang	1736
An Application of Grey Prediction to Estimate the Market Size of Tutoring Industry in Taiwan Yu-Chien Chai, Ying-Fang Huang, Hoang-Sa Dang	1740
Development of an Intelligent Lithium-Ion Battery-Charging Management System for Electric Vehicle <i>Chien-Wu Lan, Shih-Sung Lin, Sih-Yan Syue, Hao-Yen Hsu, Tien-Cheng Huang, Kuang-Hsiung Tan</i>	1744
The Research of Language Function and Application via SCAN Model <i>Ming-Jen Chuang, Jiin-Chyuan Lai</i>	1747
Design of an On-Scribe-Line 12-bit Dual-Slope ADC for Wafer Acceptance Test Hao-Chiao Hong, Long-Yi Lin, Chun-Jung Liu	1751
Small Cell Placement and Interference Management in Heterogeneous Networks Using Multi-objective Genetic Algorithm <i>C. F. Wu, C. N. Lee</i>	; 1755
A Path Reuse Method for Specular Surface Reflection in Monte Carlo Path Tracing <i>Chang-Yu Tang, Chun-Fa Chang</i>	1759
Indoor Localization at 5GHz Using Dynamic Machine Learning Approach (DMLA) Abebe Belay, Lei Yen, Sakthidasan Renu, Hsin-piao Lin, Shiann-Shiun Jeng	1763
The Comparison Study between Distinct Physical Fitness Norms and their ECG Signals under Graded Exercise Intensities and Recovery Shyan-Lung Lin, Tung-Yi Lin, Cheng-Yi Huang, Yu-Liang Hsu, Hsing-Cheng Chang	3 1767
Research on Flexible Variable-Speed Control Model and Optimization Method of Rod Pumping Well Based on Genetic Algorithm <i>Chaodong Tan, Pengfei Tan, Xinlun Li, Haoda Wu, Ruogu Yang</i>	1771
Creative Mechanism Design of Magnetic Gears Integrated with Continuously Variable Transmissions <i>Yi-Chang Wu, Mi-Ching Tsai, Chin-Tsung Chan</i>	1775
Cooperative Multirobot Strategy for Seeking Multiple Sources Hao-Yu Yang, Wei-Yu Chiu	1779
Strategy for Multirobot Navigation on Complicated Terrains Chih-Yuan Yu, Wei-Yu Chiu	1782

Exploring the Community of Inquiry in the Interdisciplinary Project-based Learning through Collaborative Technology <i>Yu-Chiung Hsu, Ya-Ming Shiue</i>	1785
Hardware and Software Cooperative Control System for Die-Cutting Machine Tool <i>Chia-Hsiang Su, Horng-Horng Lin, Yu-Shih Liu</i>	1789
Polygonal Object Dilation and Packing in Vector Space for Die-Cutting Machine Tools <i>Chung-Ting Huang, Horng-Horng Lin, Chia-Hsiang Su</i>	1793
A Study of Extending BPMN to Integrate IoT Applications Yu-Ting Chen, Ming-Shi Wang	1797
2+1- Order Switched-Current MASH Delta-Sigma ADC with the Digital Cancellation Circuit <i>Leenendra Chowdary Gunnam, Guo-Ming Sung, Lei-Wen Weng</i>	1801
Electrical and Optical Characterization of Thermally Deposited Indium-Tin-Oxide Film on High Efficiency Single-Junction GaAs Solar Cell Jian-Cheng Lin, Wen-Jeng Ho, Wen-Bin Bai, Jheng-Jie Liu, Hung-Pin Shiao	1805
A Preliminary Investigation in Contemporary Shamanic Designs in Taiwan <i>Chih-Wei Huang</i>	1808
On Repair of Erroneous Images for Faulty Circuits Tong-Yu Hsieh, Tai-Ang Cheng	1812
Using OBD-II Data to Explore Driving Behavior Model Yu-Jen Pan, Te-Cheng Yu, Rung-Shiang Cheng	1816
Design a Novel Small Pattern UV LED Array Curing System Yi-Tai Chen, Tai-Ping Sun, Po-Yan Huang, Hsiu-Li Shieh	1819
A Modified WKNN Indoor Wi-Fi Localization Method with Differential Coordinates Lei Yen, Ching-Hsiang Yan, Sakthidasan Renu, Abebe Belay, Hsin-Piao Lin, Yu-Shan Ye	1822
Intelligent Algorithm Design by Using Fuzzy Inference on Two-Wheeled Self-Balancing Vehicle Jung-Chang Wang, Chih-Peng Huang, Jui-Chung Hung	g 1825
The Use of Cloud Computing and Mobile Technologies to Facilitate Access to An E-Learning Solution in Higher Education Context Work in Progress <i>Mohammad Nazim Kabiri, Muhammad Wannous</i>	1829
Extrinsic Ion Effect on Corrosion Behavior of Anodized Aluminum Alloys in Solution <i>Liu-Ho Chiu, Li-Hsiang Teng, Pei-Lun Ting, Chung-Chun Wu</i>	1833
Retained Austenite Produced by Induction Hardening of Cast Iron Liu-Ho Chiu, Chih-Hsiang Ma	1837

Distributed Power Control vs Power Control Game: A Comparison Study of Performance in Cognitive Femtocell Network Anggun Fitrian Isnawati, Risanuri Hidayat, Selo Sulistyo, I Wayan Mustika	1841
Heat Treatment Effect on Formation of Ferrite Layer of Phosphate Coated Steels Yi-Zhe Zeng, Tai-Wei Wu, Liu-Ho Chiu, Chin-Fu Chen, S.M. Chiu	1845
Combining Narrative and Dynamic Assessment Theory to Design a Game for the Elderly on Cognitive Function Training <i>Kuo-Yu Liu, Hua-Lin Huang, Shing-Ming Chen</i>	1849
Development of a Game-based Cognitive Measures System for Elderly on the Basis of Mini-Mental State Examination <i>Kuo-Yu Liu, Shing-Ming Chen, Hua-Lin Huang</i>	1853
Analysis of Design Application on Structural Model of Origami Hsun-Yi Tseng	1857
A Big Data Fuzzy Grey Relational Analysis Method for Social Post Retrieval– with an Application to Facebook's News Groups <i>Chang-Ling Hsu, Chia-Ming Liu, Tai-Ling Li</i>	1861
Initialization Requirement in Developing of Mobile Learning 'Molearn' for Biology Students Using Inquiry-based Learning M.J. Dewiyani Sunarto, Bambang Hariadi, Tan Amelia, Tri Sagirani	1865
The Robot-Assisted Sensor Deployment Problem in Wireless Sensor Networks Chien-Fu Cheng, You-Cyun Chen, Meng-Shiuan Pan	1868
The Influence of Payer vs Partial Payers on Customers' Complaint Intentions: the Mediating Role of Embarrassment Avoidance <i>Chia-Jung Chang, Hui-Hsiung Huang, Pei-Ru Li, Chien-Yuan Hung</i>	1871
Preschoolers' Cognitive Game Prototype Endah Sudarmilah, Adhi Susanto, Ridi Ferdiana, Neila Ramdhani	1875
Identification of Transmission Bottlenecks Before and After Large Scale Renewable Energy Integration in Taiwan Yuan-Kang Wu, Che-Yi Hu, Shih-Ming Jhang, Ting-Yen Hsieh, Bo-Shiung Jan	1879
The Study of Phalaenopsis Seedlings with LED Illumination <i>Yi-Yu Lu, Hau-Chen Yen</i>	1883
Effective Application of Automatic Auxiliary Supervision Equipment for Highway Patrol Task Wen-Chia Wang, Ya-Ting Wang, Wei-Hsin Huang, Pro-Chung Fu, Te-Wei Hsiung	1887
A Review of Flexibility Requirement of Electric Generators in High Wind Power Penetration Systems Yuan-Kang Wu, Li-Tso Chang, Ting-Yen Hsieh, Bo-Shiung Jan	1890

Enhancing Compatibility in the Copolyester/Phenoxy Blends Chen-Sian You, Cheng-Fu Yang, Hsiang-Ching Wang, Wei-Ting Tsai, Chean-Cheng Su	1894
The Next Generation of Special Design Intelligent Biomedical Chip System <i>Jian-Chiun Liou, Wen-Chieh Lin</i>	1896
Large Array Elements Decoding System for Ultrasound Images Jian-Chiun Liou, Wen-Chieh Lin	1898
Develop a Video Monitoring System for Dairy Estrus Detection at Night <i>Cheng-Jung Yang, Yi-Hong Lin, Shao-Yu Peng</i>	1900
An Improved Genetic-based Forecasting Model for High-speed Trading Chien-Feng Huang, Chi-Hsuan Lin, Po-Chun Chen, Bao-Rong Chang	1904
The Possibility of Media use is Analyzed Through the "New Farmers" Program Huang-Yao Lin, Hong-Ho Liu	1908
Exploring Horizontal Communication of Matrix-structured Organization with Social Penetration Theory <i>Yi-Chen Lee, Shinyi Lin</i>	1911
Beverage Cup Analysis and Material Detection Lawrence Y. Deng, Dong-Liang Lee	1914
In Situ Synchrotron X-ray Diffraction Study on the Rehydrogenation Behavior of MgH ₂ -LiAlH ₄ Composites <i>I-Chun Lin, Wen-Ta Tsai</i>	1918
Web API Recommendation Based on Service Cooperative Network Shang-Pin Ma, Hsuan-Ju Lin, Chu-An Yu, Chia-Ying Lee	1922
Dynamical Start-Band Frequency Determination Based on Music Genre for Spectral Band Replication Tool in MPEG-4 Advanced Audio Coding Shingchern D. You, Wei-Hsun Huang	1926
Development of Multiple Big Data Analysis Platforms for Business Intelligence Bao Rong Chang, Yo-Ai Wang, Yun-Da Lee, Chien-Feng Huang	1930
Story Teller: an Event-based Story Ontology Composition System for Biographical History <i>Jian-hua Yeh</i>	1934
From Interactive Post-production 3D Video Technology, to Explore the Virtual Reconstruction, the Perceptual Creative Process of Appearance System <i>Chi-Hao Lung</i>	1938
Development of a Surface Scanning Touch Probe for Micro-CMM Chih-Liang Chu, Hung-Chi Chen	1942

Five-axis Stabilization System for a 2-DOF Translational OIS Huai-San Wang, Kang-Fu Qiu, Paul CP. Chao	1946
An Anti-drug Mobile Application with Smart Alerting for Parents Yeung Tsz Hei, Ng Chi Kit, Vincent Ng	1950
On Developing the Online Hamilton Cycles Learning Games with the Design Considerations of Learning Reflexiveness <i>Hsuan-Yu Chiang, Meng-Chien Yang</i>	1954
A Low Latency Coding Scheme for Compressing Reference Frame in Video Codec <i>Chun-Lung Lin</i>	1957
The Blue Ocean Strategy Applied in a Flood Control Product Development <i>Yann-Long Lee, Wen-Sheng Wang, Szu-Ming Chung</i>	1961
Unmanned Aerial Vehicle for Landslide Investigation in Difficult Terrain with Low cos Relay Communication Network for ICASI 2017 L. Fang, Y.T. Wang, Y. Du, W. Qui, Z.J. Shen, Y.C. Chen, C.H. Kuo, C. Kuo	t 1965
Unmanned Aerial Vehicle for Infrastructure Inspection with Image Processing for Quantification of Measurement and Formation of Facade Map K.C. Peng, L. Feng, K.C. Peng, Y.C. Hsieh, T.H. Yang, S.H. Hsiung, Y.D. Tsai, C. Kuo	1969
Developing an Adaptive e-Learning System for Learning Excel <i>Chun-Hui Wu, Ta-Cheng Chen, Yih-Her Yan, Chun-Feng Lee</i>	1973
A Study on the Application Model of Chinese Characters Nushu in Cultural and Creative Products Wei-Han Chen, Kuan-Chen Wu	1976

Author Index