

Technical Program of Automation 2019 on Nov. 23, 2019

[TS-I-A] Session Title: Artificial Intelligence in Smart Automation

Session Chairs: Gee-Sern Hsu, Jenn-Jier James Lien

Time: Nov. 23, 08:20 am-09:35 am

Meeting Room: IB-304

1. 1052 A Comparison of Embedded Computations for ConvNet-Based Windshield Rain Detection 【Chen Kuei Wen (Taipei University of Technology)】
2. 1053 RST Template Matching-based Alignment System on an Embedded GPU System 【Minh-Tri Le (National Cheng Kung University), Ching-Ting Tu (National Chung Hsing University), Jenn-Jier James Lien (National Cheng Kung University)】
3. 1065 Analysis of The Position Information of Objects For Different Geometric Shapes Based on Mask R-CNN 【Chien-Kuan Liu (National United University), Pin-Gao Huang (Nation United University), Chi-Hsiang Lien (Nation United University)】
4. 1074 Automatic Depth Determination Using Dynamic DenseNet 【Sin-Ru Lu (National Taiwan University), Cheng-Yun Cheng (National Taiwan University), Wei-Zhi Lin (National Taiwan University), Han-Pang Huang (National Taiwan University)】
5. 1076 Evaluation of State-of-the-Art Loss Functions for Face Recognition 【Gee-Sern Hsu (National Taiwan University of Science and Technology), Hung-Yi Wu (National Taiwan University of Science and Technology)】

[TS-I-B] Session Title: Automatic Measurement and Control Technology

Session Chairs: Min-Chun Pan, Liang-Chia Chen

Time: Nov. 23, 08:20 am-09:35 am

Meeting Room: IB-305

1. 1055 Effects of Different Charge/Discharge Cycle on the Aging of Ultracapacitor Stack 【Prateek Verma (National Taiwan University of Science and Technology), Weiliem Abubakar (National Taiwan University of Science and Technology), C. J. Chiang (National Taiwan University of Science and Technology)】
2. 1083 Wireless-IMU Based Gait Parameters for Objectively Assessing Stroke Patients Disability 【Meng-Lin Cai (National Central University), Toko Sugiharto (National Central University), Min-Chun Pan (National Central University)】
3. 1086 Evaluation of Scraping Workpiece Quality with Cloud Computing 【Hsin-Chung Yin (National Cheng Kung University), David Kurniawan Tendean (National Cheng Kung University), Ju-Chin Chen (National Kaohsiung University of Science and Technology), Jenn-Jier James Lien (National Cheng Kung University)】
4. 1088 Applications of Micro Structure Profiling Using Auto-focusing System Based on Linear Platform 【Pi-Ying Cheng (National Chiao Tung University)】
5. 1090 Development of Motorized Rheometer for measure Cassava-pulp Viscosity and Yield Stress 【Tawarat Treeamnuak (Suranaree University of Technology), Kiattisak Jaito (Suranaree University of Technology), Krawee Treeamnuak (Suranaree University of Technology)】

Technical Program of Automation 2019 on Nov. 23, 2019

[TS-I-C] Session Title: Smart Manufacturing and Data Science

Session Chairs: Chao-Lung Yang, Her-Terng Yau

Time: Nov. 23, 08:20 am-09:35 am

Meeting Room: IB-306

1. 1004 Autoencoder + Deep Neural Network Model to Detect Failure in Worm Gear Reducer 【Asheber W. T. (National Taiwan University of Science and Technology), Hsiao J.C. (Precision Machinery Research and Development Technology), Yu-Fu Wang (Precision Machinery Research and Development Technology)】
2. 1013 Optimization Design of Composite Structural with Linear Motor Machine Tools 【Tzu-Chi Chan (National Formosa University), Yu-Ping Hong (National Formosa University), Yu-Chuan Wang (National Formosa University), Shang-hung Wu (National Formosa University)】
3. 1064 Explore the Possibilities of Classifying the Statuses of a Ball Bearing by ApEn Features 【Her-Terng Yau (National Chin-Yi University of Technology), Kuan-Ting Yu (National Chin-Yi University of Technology), Yu-Syong Guo (National Chin-Yi University of Technology), Bo-Lin Jian (National Chin-Yi University of Technology)】
4. 1094 Optimization of Processing Parameters of Lathe Material Based on Taguchi Quality 【Cheng-Chi Wang (National Chin-Yi University of Technology)】
5. 1133 A Novel Intelligent Manufacturing Services Platform based on Container Technologies 【Min-Hsiung Hung (Chinese Culture University), Yu-Chuan Lin (National Cheng Kung University), Zih-Yan Shieh (National Cheng Kung University), Chao-Chun Chen (National Cheng Kung University), F. T. Cheng (National Cheng Kung University)】

[TS-I-D] Session Title: MEMS, Nanotechnology and Sensor Networks

Session Chairs: Chii-Rong Yang, Jenq-Shyong Chen

Time: Nov. 23, 08:20 am-09:35 am

Meeting Room: IB-307

1. 1020 Electrochemical Immunosensor for Early Detection of Chronic Kidney Disease 【Cheng-Hsin Chuang (National Sun Yat-sen University), Wen-Chian Hu (National Sun Yat-sen University), Muhammad Omar Shaikh (Southern Taiwan University of Science and Technology), Pei-Yu Zhu (Southern Taiwan University of Science and Technology), Srikanth Boyanagunta (Southern Taiwan University of Science and Technology)】
2. 1033 Develop A Novel Plastic Metal Material Applied to Wearable Sensors 【Chi-Tse Ko (National Taiwan Normal University), Jian-Fu Shih (National Taiwan University), Sen-Yeu Yang (National Taiwan University), Chih-Chieh Chang (National Sun Yat-sen University), C. R. Yang (National Taiwan Normal University)】
3. 1062 Piezoelectric Ultrasound Transducer Fabricated on Stainless-steel Substrates 【Yu-Heng Yang (National Taiwan University), Wen-Jong Wu (National Taiwan University)】
4. 1110 Non-Destructive Means of Probing Composite Polyamide Membrane for Positron Annihilation Lifetime Spectrum 【Wei-Song Hung (National Taiwan University of Science and Technology)】
5. 1115 The Fabrication of Modified Bi-Layer Graphene Through Low-Damage Plasma and Its Application 【Ming-Hsiu Tsai (National Taiwan University), Chih-Ting Lin (National Taiwan University)】

Technical Program of Automation 2019 on Nov. 23, 2019

[TS-I-E] Session Title: Machinery and Mechanical Systems for Automation

Session Chairs: Peter I-Tsyuen Chan, Chien-Hung Liu

Time: Nov. 23, 08:20 am-09:35 am

Meeting Room: IB-308

1. 1008 The Linear Calibration System with the Novel Auto-Alignment Module for the Optical Beam 【Yi-Chieh Shih (National Central University), Yung-Cheng Wang (National Yunlin University of Science and Technology), Lih-horng Shyu (National Formosa University), Pi-Cheng Tung (National Central University), Jia-You Lin (National Yunlin University of Science & Technology), Syuan-Chen Chang (National Chiayi University)】
2. 1035 Modeling of Serial Hybrid Heavy-duty Chain Track Vehicles 【Huai-Jing Huang (National Taiwan University of Science and Technology), Siong Yee (National Taiwan University of Science and Technology), C. J. Chiang (National Taiwan University of Science and Technology)】
3. 1051 Interferometric Calibration System for X-Y Positioning Stage 【Chung-Ping Chang (National Chiayi University), Siang-Ruei Huang (National Chiayi University), Syuan-Chen Chang (National Chiayi University)】
4. 1136 Development of Virtual Test Simulation for Engine Forklift Operation Mode 【Jin-Hyun Kim (Inha University), Young-Chul An (Inha University), Chul-Hee Lee (Inha University)】
5. 1149 System Identification and Disturbance Suppression for BLDC Motor Systems 【Peter I-Tsyuen Chang (National Taiwan University of Science and Technology)】

[TS-II-A] Session Title: Best Paper Award Competition

Session Chairs: Cheng-Kuo Sung, Ming-Jong Tsai

Time: Nov. 23, 13:15 pm-14:30 pm

Meeting Room: IB-304

1. 1089 Microscopic 3-D surface profilometry using hybrid pattern projection 【Hong-Ruei Chen (National Taiwan University), Liang-Chia Chen (National Taiwan University)】
2. 1127 Analysis of Firefly-Fuzzy Hybrid Algorithm for Navigation of Quad Rotor unmanned Aerial Vehicle 【Brijesh patel (MATS University)】
3. 1128 In Vitro Microfluidics-Based Blood-Brain Barrier Model And It' s On-Line TEER Monitoring System 【Kai-Hong Tu (National Chung Hsing University), Han-Yi Hsu (National Chung Hsing University), Jun-Wei Chang (National Chung Hsing University), Ya-Yu Chiang (National Chung Hsing University)】
4. 1139 Increasing the reconfigure ability of automated material flow systems using an agent-based control approach 【Birgit Vogel-Heuser (Technical University Munich), Juliane Fischer (Technical University of Munich), Matthias Seitz (Technical University of Munich), Christian Lieberoth-Leden (Technical University of Munich), Johannes Fottner (Technical University of Munich)】
5. 1151 Implementing Industry 4.0 in an Indonesia Traditional Assembly Industry: Monitoring System 【Sri Raharno (Institut Teknologi Bandung)】

Technical Program of Automation 2019 on Nov. 23, 2019

[TS-II-B] Session Title: Best Student Paper Award Competition

Session Chairs: Pei-Chun Lin, Chin-Sheng Chen

Time: Nov. 23, 13:15 pm-14:30 pm

Meeting Room: IB-305

1. 1001 A Feasible and Low-Cost Intelligent AGV System for Dynamic Crowded Environments 【Tai Minh Tan Le (Feng Chia University), Ching-Hwa Cheng (Feng Chia University), Don-Gey Liu (Feng Chia University), Thai-Dinh Kim (Feng Chia University)】
2. 1025 Robotic Arm with A Parallel Gripper applying Mask R-CNN for Garbage Classification 【Tsong-Wun Wang (National Taiwan University), Po-Yu Lin (National Taiwan University), Tian-Ju Wu (National Taiwan University), Feng-Li Lian (National Taiwan University)】
3. 1072 Design and Experimental Evaluation of a VSA Based Compliant Gripper 【Chien-Ping Wu (National Taiwan University of Science and Technology), Chi-Ying Lin (National Taiwan University of Science and Technology), Dun-Yang Wu (National Taiwan University of Science and Technology)】
4. 1079 Development of safety cooperative and collaborative multi-robot platform 【Zhi-Hao Kang (National Taiwan University), Yi-Hsiu Lee (National Taiwan University), Yu-Bo Lee (National Taiwan University), Astra Chun-Hui Lee (National Taiwan University), Han-Pang Huang (National Taiwan University)】
5. 1084 Development and Application of Smart Tapping Machine: Nut Forming Inspection 【En-Yu Lin (National Cheng Kung University), Ju-Chin Chen (National Kaohsiung University of Applied Sciences), Tsung Chun Lin (National Sun Yat-sen University), Dermin Tsay (National Sun Yat-sen University), Jenn-Jier James Lien (National Cheng Kung University)】

[TS-II-C] Session Title: Signal and Image Processing

Session Chairs: Chyi-Yeu Lin, Hsin Hsiu

Time: Nov. 23, 13:15 pm-14:30 pm

Meeting Room: IB-306

1. 1015 Extending and Matching High Dynamic Range Image from a Single Image 【Van Luan Tran (National Chung Cheng University), Huei-Yung Lin (National Chung Cheng University)】
2. 1030 LED Application in Intelligent Street Lighting System 【Shih-Jie Chou (Taiwan Instrument Research Institute)】
3. 1056 Efficient Pose Estimation Strategy for Household Object Grasping with 2D and 3D Vision 【Yu-Ru Chen (National Taiwan University of Science and Technology), Ping-Hsuan Wu (National Taiwan University of Science and Technology), C. Y. Lin (National Taiwan University of Science and Technology), Yuan-Chiu Lin (UBIQelife Technology Corporation)】
4. 1059 Multi-level Stereo Matching Using the Pervasive Guided Image Filtering 【Yau-Zen Chang (Chang Gung University), Cheng-Tao Zhu (Tianjin University)】
5. 1102 A Machine Vision-based Method for Spinning Tools Inspection 【Bor-Haur Lin (National University of Kaohsiung), Ta-Wei Yeh (National Cheng Kung University), Ching-Ting Tu (National Chung Hsing University), Chih-Kai Ho (National Chung Cheng University), Meng-Shiun Tsai (National Taiwan University), Jenn-Jier James Lien (National Cheng Kung University)】

Technical Program of Automation 2019 on Nov. 23, 2019

[TS-II-D] Session Title: Advances of Digitalization in Manufacturing Processes and Management

Session Chairs: Chun-Hui Chung, Kung-Jeng Wang

Time: Nov. 23, 13:15 pm-14:30 pm

Meeting Room: IB-307

1. 1003 A Hybrid Approach to Improve Circle Detection in Laser Drilling 【Adnan Muhammad (National Cheng Kung University), Jenn-Jier James Lien (National Cheng Kung University), F. T. Cheng (National Cheng Kung University), Haw-Ching Yang (National Kaohsiung University of Science and Technology)】
2. 1006 Automation of Tool-Path Planning Using NX 【Chun-Hui Chung (National Cheng Kung University), Jia-Zheng Li (National Taiwan University of Science and Technology)】
3. 1063 Development of Troubleshooting System for Lithium Battery Packs 【Yung Sheng Tsai (National Central University), Min-Chun Pan(National Central University), Tsung-Hsuan Su (National Central University)】
4. 1067 Pod and Robot Assignment Problem in Robotic Mobile Fulfillment System 【Agnes Yosephine Kosasih (National Taiwan University of Science and Technology), Chaterine Alvina Prima Hapsari (National Taiwan University of Science and Technology), Shou-Yan Chou (National University of Science and Technology), Po-Hsun Kuo (National Taiwan University of Science and Technology), Anindhita Dewabharata (National Taiwan University of Science and Technology)】
5. 1143 An Investigation of Advanced Planning and Scheduling Implementation on A Wireless Module Manufacturing' s Testing Process 【Faiz Akbar Imaduddin (National Taiwan University of Science and Technology), Zerlynda Fitria Nur Mayanti (National Taiwan University of Science and Technology), Shou-Yan Chou (National University of Science and Technology), Vincent F. Yu (National Taiwan University of Science and Technology)】

Technical Program of Automation 2019 on Nov. 23, 2019

[TS-II-E] Session Title: Computational Techniques for Brain Computer Interface and Human Neuromusculoskeletal Disorders Using Wearable Device and Advanced System

Session Chairs: Wei-Chun Hsu, Yi-Hung Liu

Time: Nov. 23, 13:15 pm-14:30 pm

Meeting Room: IB-308

1. 1038 Classification of EEG brain signal for Cycling Behaviours Using SVM and GRNN 【Chih-Jer Lin (National Taipei University of Technology)】
2. 1054 Performance Comparison of Deep Learning-Based Activity Recognition with Wearables Sensors 【Tommy Sugiarto (National Taiwan University of Science and Technology), Arif Widiyanto (National Taiwan University of Science and Technology), Yi-Jia Lin (National Taiwan University of Science and Technology), Yung-Hsiang Lee (National Taiwan University of Science and Technology), Wei-Chun Hsu (National Taiwan University of Science and Technology)】
3. 1058 Physical Activity Intensity Classification using a Convolutional Neural Network and Wearable Accelerometer 【Arif Widiyanto (National Taiwan University of Science and Technology), Tommy Sugiarto (National Taiwan University of Science and Technology), Yi-Jia Lin (National Taiwan University of Science and Technology), Yung-Hsiang Lee (National Taiwan University of Science and Technology), Wei-Chun Hsu (National Taiwan University of Science and Technology)】
4. 1085 Diagnosing Alzheimer ' s disease and Mild Cognitive Impairment Based on Relative EEG Powers 【Trinh Thanh Tung (National Taipei University of Technology), Chun-Hung Huang (National Taipei University of Technology), Chia-Fen Tsai (Taipei Veterans General Hospital), Chien-Te Wu (National Taiwan University), Yi-Hung Liu (National Taipei University of Technology)】
5. 1112 Developing a Wearable Radial-Artery Photoplethysmographic Measurement System to Assess Blood Supply Condition 【Zong-Jhe Lyu (National Taiwan University of Science and Technology), Hsin Hsiu (National Taiwan University of Science and Technology)】

[TS-III-A] Session Title: Cornea Measurement and Corneal Biomechanics

Session Chairs: Jia-Yush Yen, Dai, Chi-An

Time: Nov. 23, 14:50 pm-15:50 pm

Meeting Room: IB-304

1. 1026 Wavefront Aberration Measurement of The Artificial Cornea and Analysis of the Corneal Stroma Structure 【Jia-Hong Jian (National Taiwan University), Jia-Han Li (National Taiwan University)】
2. 1047 Cell Tensegrity Model and Its Dynamic Strength 【Chia-Yu Chang (National Taiwan University), Zhi-Xuan Dai (National Taiwan University of Science and Technology), Po-Jen Shih (National Taiwan University)】
3. 1075 Bio-printing of Artificial Cornea with Aligned Fibrous Structure 【Hsi-Yun Tai (National Taiwan University), Jun-Ji Lin (National Taiwan University), Jia-Yush Yen (National Taiwan University)】
4. 1111 Fabrication of Novel Artificial Corneas for Biomechanical Simulations 【Chi-An Dai (National Taiwan University)】

Technical Program of Automation 2019 on Nov. 23, 2019

[TS-III-B] Session Title: Microdevices for Medical Stents with Wireless Sensing Capabilities

Session Chairs: Yao-Joe Yang, Chien-Hao, Liu

Time: Nov. 23, 14:50 pm-15:50 pm

Meeting Room: IB-305

1. 1045 A Passive Flexible Pressure Sensor for Wirelessly Monitoring Cardiovascular Pressure 【Yao-Joe Yang (National Taiwan University), Zhe-Wei Lin (National Taiwan University), Hsuan-Yu Chen (National Taiwan University), Chao-Chi Yeh (National Taiwan University), Shao-Hsiang Lo (National Taiwan University)】
2. 1091 A low-Power Implantable Temperature Detection System with Wireless Power Transmission for Medical Applications 【Hui-Kai Yu (National Ilan University)】
3. 1095 The Research and Development of Wireless Stent Heating and Temperature Monitoring 【Wen-Cheng Kuo (National Kaohsiung University of Science and Technology)】
4. 1098 Stent-Based Antennas for Smart Stent Applications 【Chien-Hao Liu (National Taiwan University)】

[TS-III-C] Session Title: Smart Machine Tool Spindle

Session Chairs: Pei-Zen Chang, Yuh-Chung, Hu

Time: Nov. 23, 14:50 pm-15:50 pm

Meeting Room: IB-306

1. 1092 Estimation of the Thermal-Deformation of Machine Tool Spindle 【Yuh-Chung Hu (National Ilan University), Chung-Hsuan Wu (National Taiwan University), Pei-Zen Chang (National Taiwan University)】
2. 1093 A Smart Tool Holder with Force Sensing Function 【Yuh-Chung Hu (National Ilan University), Tzu-Sen Hung (National Taiwan University), Pei-Zen Chang (National Taiwan University)】
3. 1097 Design and Analysis of a Resonant Accelerometer Using Commercially-available Quartz Tuning Fork 【Chien-Hao Liu (National Taiwan University)】
4. 1105 Wireless Power Transfer (WPT) and Communication Module for Smart Spindle 【Yo-Sheng Lin (National Chi Nan University)】
5. 1122 Displacement Sensor for Smart Spindle Incorporated with SkyMars 【Jung Tang Huang (National Taipei University of Technology)】

Technical Program of Automation 2019 on Nov. 23, 2019

[TS-III-D] Session Title: Industry 4.0 and Other Related Technologies

Session Chairs: Shuhao Liang, Meng-Kun Liu

Time: Nov. 23, 14:50 pm-15:50 pm

Meeting Room: IB-307

1. 1068 Development of an Intelligent Manufacturing Analysis Toolbox-A EDM Case Study 【Haw-Ching Yang (National Kaohsiung University of Science and Technology), Qing Yi Xie (National Kaohsiung University of Science and Technology), Min Chun Chuang (National Kaohsiung University of Science and Technology), Lu-Wen Kung (Metals Industry Research and Development Center)】
2. 1071 Advanced Planning and Scheduling in Industry 4.0: Functions, Advantages, and Effective Adoption 【Zerlynda Fitria Nur Mayanti (National Taiwan University of Science and Technology), Andro Nicus Sutanto (National Taiwan University of Science and Technology), Bing Xuan Xie (National Taiwan University of Science and Technology), Hector Landes (National Taiwan University of Science and Technology), Yu Fen Lan (National Taiwan University of Science and Technology), Yu Ming Yang (National Taiwan University of Science and Technology), Shou-Yan Chou (National University of Science and Technology), Vincent F. Yu (National Taiwan University of Science and Technology)】
3. 1081 Dynamic Control Limit for Detecting Process Shift in Production 【Chao-Lung Yang (National Taiwan University of Science and Technology), Hendri Sutrisno (National Taiwan University of Science and Technology)】
4. 1142 Sales Rank Model and Sales Forecasting Model Considering User-Generated Contents 【Anas Maruf (Bandung Institute of Technology)】
5. 1147 Exploiting Frequency Analysis for Semiconductor Equipment Anomaly Detection: A HDP Drift Case 【Shi-Chung Chang (National Taiwan University)】

[TS-III-E] Session Title: Smart Additive Manufacturing Technology and Applications

Session Chairs: Ming-Jong Tsai, Ming-Hua Ho

Time: Nov. 23, 14:50 pm-15:50 pm

Meeting Room: IB-308

1. 1005 3D Printing of Flexible Photo-Resin for Biomedical Sensors 【Ming-Hua Ho (National Taiwan University of Science and Technology), Yu-Chun Wang (National Taiwan University of Science and Technology)】
2. 1043 Smart Pulling Force Monitor for High Resolution LCD based Additive Manufacturing System 【Shu-Hao Zhuang (National Taiwan University of Science and Technology), Ming-Jong Tsai (National Taiwan University of Science and Technology), Zheng-Yu Chen (National Taiwan University of Science and Technology), Sung-Yi Kuo (National Taiwan University of Science and Technology)】
3. 1048 Multi-Nozzle Pneumatic Extrusion Based Additive Manufacturing System for Printing Sensing Pads 【Kai-Wei Chen (National Taiwan University of Science and Technology), Ming-Jong Tsai (National Taiwan University of Science and Technology), Heng-Sheng Lee (National Taiwan University of Science and Technology)】
4. 1101 Design and Force Estimation of a Cable-Driven Soft Finger 【Kai-An Yang (Da-Yeh University), Cheng-Hsiu Chuang (National Taiwan University of Science and Technology), Yu-Ta Yao (National Taiwan University of Science and Technology), Wei-Yao Tan (National Taiwan University of Science and Technology), Po-Ting Lin (National Taiwan University of Science and Technology)】
5. 1109 Mechanism of Self-Assembling of Smart Electrical Responsive Graphene-PVDF membrane 【Wei-Song Hung (National Taiwan University of Science and Technology)】

Technical Program of Automation 2019 on Nov. 24, 2019

[TS-IV-A] Session Title: Autonomous Learning Technology and Its Applications
Session Chairs: Chin-Sheng Chen, Kai-Lung Hua Time: Nov. 24, 08:30 am-10:00 am Meeting Room: IB-304
<ol style="list-style-type: none">1023 Frequency domain based on Adaboost for Signal Identification and Tracking System 【Yen-Lin Chen (National Taipei University of Technology), Ko-Feng Lee (National Taipei University), Hao-Yuan Hsiao (National Taipei University of Technology), Chao-Wei Yu (National Taipei University of Technology), Cheng-Lung Jen (National Chiao Tung University)】1024 Fault Diagnosis of Ball-bearing Mechanism Based on DWT Integrated with Symmetrized Dot Pattern and SVM 【Chih-Jer Lin (National Taipei University of Technology)】1029 Virtual Reality Factory Connection System Based on Petri Net Visualization 【Chun-Ju Wu (National Taiwan University of Science and Technology), Chung-Hsien Kuo (National Taiwan University of Science and Technology), Yu-Cheng Kuo (National Taiwan University of Science and Technology)】1032 Intelligent Tone Mapping Based on Adaptive Histogram Bin-Width Adjustment 【Yung-Yao Chen (National Taipei University of Technology), Jun-Hua Wu (National Taipei University of Technology, Taiwan), Yun-Chen Tsai (National Taipei University of Technology), Hsin-Han Lu (National Taipei University of Technology), Kai-Lung Hua (National Taiwan University of Science and Technology)】1050 Intuitive Teaching and Verification of Peg-in-Hole Assembly with Robotic Manipulator 【Tzung-Yu Chen (National Taipei University of Technology), Shih-Kang Chen (National Taipei University of Technology), Chin-Sheng Chen (National Taipei University of Technology)】1066 Real-Time Human Activity Recognition using Dynamic Sliding Window via CNN and GRU 【Richard Richard (National Taiwan University of Science and Technology), Shou-Yan Chou (National University of Science and Technology), Anindhita Dewabharata (National Taiwan University of Science and Technology), Rasyid Fajar (Sepuluh Nopember Institute of Technology), Rully Agus Hendrawan (Sepuluh Nopember Institute of Technology)】

[TS-IV-B] Session Title: Intelligent Automation and Its Application
Session Chairs: Sheng-Dong Xu, Cheng-Hsiung Yang Time: Nov. 24, 08:30 am-10:00 am Meeting Room: IB-305
<ol style="list-style-type: none">1021 The Platform of Four Laser Spots Space Projection Locator for Remote Sensing Crack 【Tai-Shan Liao (Taiwan Instrument Research Institute)】1028 Automatic 3D Medical Image Reconstruction and 3D Printing Assist Pelvic Fracture Surgery 【Jia-En Chen (National Taiwan University of Science and Technology), Tsu-Te Yeh (Tri-Service General Hospital), Yuan-Ta Li (Tri-Service General Hospital), Sendren Sheng-Dong Xu (National Taiwan University of Science and Technology)】1039 Reduce of DenseNets calculation on UAV Vision Application 【Jong Yi Lin (Academia Sinica)】1040 Feature Extraction and Transfer Learning for Blister Package Identification Problems 【Sheng-Luen Chung (National Taiwan University of Science and Technology), Shih-Chou Chien (National Taiwan University of Science and Technology), Hsien-Wei Ting (Taipei Hospital), Chih-Fang Chen (Mackay Memorial Hospital)】1099 Global Optimization Approach over Sparse Matrix Cones for Harmonic Balance Method 【Cheng-Hsiung Yang (National Taiwan University of Science and Technology)】1146 Material Extrusion Additive Manufacturing of Thermoplastic Polyurethane Lattice Structures for Compression Loading 【Eric Conner Smiley (National Taipei University of Technology), Jia-Chang Wang (National Taipei University of Science and Technology)】

Technical Program of Automation 2019 on Nov. 24, 2019

[TS-IV-C] Session Title: Intelligent Control and Application

Session Chairs: Chien-Wu Lan, Shih-Sung Lin

Time: Nov. 24, 08:30 am-10:00 am

Meeting Room: IB-306

1. 1022 Distribution Static Compensator for THD Improvement 【Kuang-Hsiung Tan (National Defense University)】
2. 1034 Multirotor Drone with Collision Avoidance and Monocular Depth Estimation 【Wen-Hao Chen (National United University), Min-Hong Ke (National United University), Hsiang-Chieh Chen (National United University)】
3. 1037 EKF-based estimation for Induction Motor 【Ting-Wei Hsu (National Taiwan University of Taiwan and Technology), Yu-Ting Hsiao (National Taiwan University of Taiwan and Technology), C. J. Chiang (National Taiwan University of Science and Technology)】
4. 1061 Development of a LoRa-based Remote Robot Arm 【Shih-Sung Lin (National Defense University), Chien-Wu Lan (National Defense University), Kuang-Chun Li (National Defense University), Sheng Tao Chen (National Defense University)】
5. 1087 A Wearable Fall Detection Warning System Based on Accelerometer and Machine Learning 【Chien-Wu Lan (National Defense University), Shih-Sung Lin (National Defense University), Song-Qun Chen (National Defense University)】
6. 1113 Motion Control Design for Reducing Effect of Communication Delay-Time 【Chi Wang Im (National Cheng Kung University), Chun-Lin Chen (National Cheng Kung University), Mi-Ching Tsai (National Cheng Kung University)】

[TS-IV-D] Session Title: Intelligent automation and robotic systems

Session Chairs: Chan-Yun Yang, Kuo-Ho Su

Time: Nov. 24, 08:30 am-10:00 am

Meeting Room: IB-307

1. 1012 SCARA Robot Manipulator Control by using the developed Image Processing Algorithm 【Hong-Yi Chen (Ming Chi University of Technology)】
2. 1019 Development of navigation system for automatic guided vehicles 【Kuo-Ho Su (Chinese Culture University), Te-Chang Sung (National Taiwan University of Science and Technology), Jui-Chen Wu (Chinese Culture University), Tang-Xuan Ou (Chinese Culture University), Zhuo-Lun Zhang (Chinese Culture University)】
3. 1042 Flexible fringe projection implementation for three-dimensional imaging 【Chung Hsin Huang (Taipei University of Marine Technology), Tzu Jie Kao (Chinese Culture University), Han Yen Tu (Chinese Culture University)】
4. 1078 Design on Self-Managed Blockchain Automobile Insurance Platform 【Yean-Fu Wen (National Taipei University)】
5. 1080 An Advanced Vehicle Warning System to Prevent Road Accidents 【Chamani Shiranthika Jayakody (University Of Moratuwa, Sri Lanka), Nilantha Premakumara Weerappulige (National Taipei University), Chaturangi shyalika Jayakody kankanamalage (University of Moratuwa), Surangi Bandara (Sabaragamuwa University of Sri Lanka), Sagara Sumathipala (University of Moratuwa Sri Lanka), Chan-Yun Yang (National Taipei University), Jamintha Hashini Nisansala Samarakoon Mudiyansele (University of Peradeniya)】
6. 1145 Development and Analysis of Ferroelectric Polypropylene Films 【Chia Cheng Chien (National Taiwan University), Yu-Hsiang Hsu (National Taiwan University), Chih-Kung Lee (National Taiwan University)】

Technical Program of Automation 2019 on Nov. 24, 2019

[TS-IV-E] Session Title: Machine IoT and Its CPS Applications

Session Chairs: Wei-Chen Lee, Nai-Wei Lo

Time: Nov. 24, 08:30 am-10:00 am

Meeting Room: IB-308

1. 1011 Tool Wear Monitoring Using Sound Signal and Machine Learning Technique **【Minh-Quang Tran (National Taiwan University of Science and Technology), Pei-Chi Hsu (National Taiwan University of Science and Technology), Meng-Kun Liu (National Taiwan University of Science and Technology)】**
2. 1016 A Study of Global LPWAN Network Service on Intelligent Farming Development **【Shu-Hao Liang (National Taiwan University of Science and Technology), Ramiro Ramirez (National Taiwan University of Science and Technology)】**
3. 1018 Smart Manufacturing Management Framework for Industrial Internet of Things Environment **【Nai-Wei Lo (National Taiwan University of Science and Technology)】**
4. 1027 Multi-Sensor Fusion for the Fault Diagnosis of Induction Machines **【Minh-Quang Tran (National Taiwan University of Science and Technology), Meng-Kun Liu (National Taiwan University of Science and Technology), Peng-Yi Weng (National Taiwan University of Science and Technology)】**
5. 1082 Deployment of Industrial Internet of Things: A Case Study in a Machine Shop with Various Machines **【Wei-Chen Lee (National Taiwan University of Science and Technology), Wei-Li Tang (National Taiwan University of Science and Technology), Pei-Ling Tai (National Taiwan University of Science and Technology), Wei-hsun Chiang (National Taiwan University of Science and Technology)】**
6. 1152 Application of Internet of Things on Condition Based Maintenance for A Public Transport System **【Hennie Husniah (Langlangbuana University), Andi Cakravastia Arisaputra (Bandung Institute of Technology), Bermawi P. Iskandar (Bandung Institute of Technology)】**

Technical Program of Automation 2019 on Nov. 24, 2019

[TS-V-A] Session Title: Autonomous Learning Technology and Its Applications

Session Chairs: Po-Ting Lin, Shun-Feng Su

Time: Nov. 24, 10:15 am-11:45 am

Meeting Room: IB-304

1. 1031 An Intelligent Image-Based force Sensing with Feedback Training System Used to Assist Robot Arm Surgery 【Dung Minh Pham (Feng Chia University), Ching-Hwa Cheng (Feng Chia Univ.), Don-Gey Liu (Feng Chia University)】
2. 1041 Deeply Supervised Part Feature Network for Open-World Person Re-Identification 【Sheng-Luen Chung (National Taiwan University of Science and Technology), Shun-Feng Su (National Taiwan University of Science and Technology), Shih-Chou Chien (National Taiwan University of Science and Technology)】
3. 1107 A Smart Early-Detection Approach for Different Fault-Types of Rotation Machine 【Shih-Yu Li (National Taipei University of Technology), Hao-An Li (National Taipei University of Technology), CHin-Sheng Chen (National Taipei University of Technology), Lap-Mou Tam (The Institute for the Development and Quality)】
4. 1108 A Multi-Leveled Cipherring Process for Information-hiding of Personal Image 【Shih-Yu Li (National Taipei University of Technology), Kai-Chung Shih (National Taipei University of Technology), Lap-Mou Tam (The Institute for the Development and Quality), CHin-Sheng Chen (National Taipei University of Technology)】
5. 1125 Transfer Learning for Makeup Face Verification 【Uyen Thi Kim Nguyen (Feng Chia University), Jyun-We Huang (National Cheng Kung University), Sian-Guang Liou (Feng Chia University), Shih-Hung Yang (National Cheng Kung University)】
6. 1126 Machine Vision Object Recognition Using Dual-Stage Deep Learning 【Augie Widyotriatmo (Institut Teknologi Bandung), Yul Yunazwin Nazaruddin (Institut Teknologi Bandung)】

[TS-V-B] Session Title: Intelligent Automation and Its Application

Session Chairs: Chao-Lung Yang, Yong-Lin Kuo,

Time: Nov. 24, 10:15 am-11:45 am

Meeting Room: IB-305

1. 1002 Hybrid Control for Hexa Parallel Robot 【Yong-Lin Kuo (National Taiwan University of Science and Technology), Ba-Phuc Huynh (National Taiwan University of Science and Technology)】
2. 1036 Nonlinear Aging Behavior Modeling of Lithium-ion Battery 【Shuo-Yu Hsu (National Taiwan University of Science and Technology), Yun-Hsiang Lin (National Taiwan University of Science and Technology), C. J. Chiang (National Taiwan University of Science and Technology)】
3. 1049 Physics-Based Modelling and Control of Pneumatic Muscle Actuated Manipulators 【Rong-Huei Lin (National Taiwan University of Science and Technology), Feng-yu Zhang (National Taiwan University of Science and Technology), C. J. Chiang (National Taiwan University of Science and Technology)】
4. 1069 Derivation Index of Radiation Beam Path Planning Based on Pulmonary Function【Jing Xiang Wong (National Chung Cheng University), Yin-Xuan Zheng (National Chung Cheng University), Zhi-Ying Yang (National Chung Cheng University)】
5. 1131 Design and Experiments of Two-Integer-Frequency Two-Modes Linear piezoelectric motor 【Yu-Min Lin (National Taiwan University), Hao-Tung Kuo (National Taiwan University), Yu-Hsiang Hsu (National Taiwan University), Chih-Kung Lee (National Taiwan University), Wen-Chun Su (National Taiwan University), Yuan-Ting Kao (National Taiwan University)】
6. 1132 Inventory Control Strategy in Capacity-Constrained Supply Chain with Access to Spot Markets 【Budhi Sholeh Wibowo (Universitas Gadjah Mada), Rahman Dwi Wahyudi (University of Surabaya)】

Technical Program of Automation 2019 on Nov. 24, 2019

[TS-V-C] Session Title: In-Situ Measurement for Smart Automation Applications

Session Chairs: Ching-Yuan Chang, Wei-Song Hung

Time: Nov. 24, 10:15 am-11:45 am

Meeting Room: IB-306

1. 1046 Color and Depth Mapping of Kinect v2 【Tang Tuan Le (National Taiwan University of Science and Technology), C. Y. Lin (National Taiwan University of Science and Technology)】
2. 1116 Development of a Contact Trigger Probe with Wireless Data Transmission 【Chun-Kai Lan (National Chung Hsing University)】
3. 1119 In-Situ Measurement of Machining Vibration and Early Chatter Identification by Using Machine Vision 【Ching-Yuan Chang (National Taipei University of Technology), En-Jie Chang (National Taipei University of Technology)】
4. 1120 In-situ Classification of Rotational Mechanism by using Machine Vision and Piezoelectric Films 【Ching-Yuan Chang (National Taipei University of Technology), Dong-Rong Chen (National Taipei University of Technology), Zih-Jyun Jhong (National Taipei University of Technology)】
5. 1138 A Study on A Porous Ferroelectret for Application to Loudspeakers 【Yu-Sheng Liao (National Taiwan University), Chih-Kung Lee (Institute of Applied Mechanics, National Taiwan University), Yu-Hsiang Hsu (National Taiwan University)】
6. 1148 Ferroelectret curved force sensor 【Kai-Chun Kuo (National Taiwan University), Yu-Hsiang Hsu (National Taiwan University), Chih-Kung Lee (Institute of Applied Mechanics, National Taiwan University)】

[TS-V-D] Session Title: High-Accuracy Mobile Manipulation

Session Chairs: Kuo-Yang Tu, Wikan Sakarinto

Time: Nov. 24, 10:15 am-11:45 am

Meeting Room: IB-307

1. 1057 Design of Suction System with Vacuum Principle in Electric Sweeper Car 【Wikan Sakarinto (Gadjah Mada University), Radhian Krisnaputra (Gadjah Mada University), Saka Buana Putra (Gadjah Mada University)】
2. 1077 Optimal Design of Robot Manipulator Controller Based on Butterfly Optimization Algorithm for Tracking Linear and Nonlinear Trajectories 【Mahmoud Elsis (Benha University)】
3. 1103 First Human-Robot Archery Competition – A New Humanoid Robot Challenge 【Kuo-Yang Tu (National Kaohsiung University of Science and Technology), Hong-Yu Lin (National Kaohsiung University of Science and Technology), Zhe-Pin Hing (National Kaohsiung University of Science and Technology), Jacky Baltes (National Taiwan Normal University)】
4. 1106 Stereovision-Based Inline Inspection with a 6R Robot 【Zai-Gen Wu (National Taiwan University of Science and Technology), Chao-Yi Lin (National Taiwan University of Science and Technology), Mr.Po Ting Lin (National Taiwan University of Science and Technology)】
5. 1117 Analysis of the Search Space of the Dr. Eureka Game 【Jacky Baltes (National Taiwan Normal University)】
6. 1135 Can a Robot Shoot an Olympic Recurve Bow? A preliminary study 【Jacky Baltes (National Taiwan Normal University)】

Technical Program of Automation 2019 on Nov. 24, 2019

[TS-V-E] Session Title: Advances in Automation for Energy Technologies

Session Chairs: Sagung Dewi Kencana, Yu-Lin Kuo

Time: Nov. 24, 10:15 am-11:45 am

Meeting Room: IB-308

1. 1104 Feedback Linearization Leveling Control of an Offshore Turbine Access System with Three-Axial Active Motion Compensation **【Mao-Hsiung Chiang (National Taiwan University)】**
2. 1129 Energy Simulation of a 1.3 kWp Grid-Tied Solar PV System for Household in Bali **【Nyoman Sugiarta (Politeknik Negeri Bali), I Made Sugina (Politeknik Negeri Bali), I Gede Santosa (Politeknik Negeri Bali), Ida Bagus Gde Widianara (Politeknik Negeri Bali)】**
3. 1130 Experimental Study on a No Valve Solar Adsorption Refrigerator Working with Activated Carbon-Methanol **【Nyoman Sugiarta (Politeknik Negeri Bali), I Made Sugina (Politeknik Negeri Bali)】**
4. 1140 Atmospheric Pressure Plasma Jet Driven on Automatic XYZ System **【Ronaldo Gabe Manik (National Taiwan University of Science and Technology), Yusuf Rahmatullah (National Taiwan University of Science and Technology), Yu-Lin Kuo (National Taiwan University of Science and Technology), Sagung Dewi Kencana (National Taiwan University of Science and Technology)】**
5. 1141 Automation of APPJ System on Developing LSM Cathode Materials of Solid Oxide Fuel Cell **【Yu-Lin Kuo (National Taiwan University of Science and Technology), Sagung Dewi Kencana (National Taiwan University of Science and Technology), Ade Djienea Pratama (National Taiwan University of Science and Technology)】**
6. 1144 Stereovision-Based Voxel-to-Voxel View Factor Determination **【Mark Christian E. Manuel (Chung Yuan Christian University), Yu-Hsien Tu (Chung Yuan Christian University), Wei-Hao Lu (Chung Yuan Christian University), Shu-Ping Lin (Chung Yuan Christian University), Po-Ting Lin (National Taiwan University of Science and Technology)】**