

**ICSSE 2020 Best Student Paper Award Competition****Chairman: Prof. Tzoo-Hseng S. Li****Co-Chairmen: Prof. Jih-Gau Juang and Prof. Pei-Jun Lee****9/1 (TA-1) 【IB-505】 13:00-15:40**

#1067, #1085, #1106, #1140, #1163, #1165

**Oral & Virtual conference: Virtual conference software: Zoom**

Kunting Yu and Yongming Li	Observer-based Sampled-Data Adaptive Fuzzy Output Feedback Control for MIMO Pure-Feedback Nonlinear Systems (1067)
Fan-Nong Yu, Ying-Jen Chen, Kazuo Tanaka, Motoyasu Tanaka and Shun-Hung Tsai	A Descriptor System approach for Polynomial Fuzzy-Model-Based Control Design (1085)
Chao-Yue Zeng, Po-Wei Huang and Bing-Fei Wu	Contour Based Region of Interest Selection for Remote Photoplethysmography Signals (1106)
Renhui Wang, Haoyuan Xue, Zhongkun Li, He Li, Ning Wang and Hong Zhao	Fixed-time Trajectory Tracking Control of an Unmanned Surface Vehicle (1140)
Hengrui Liu, Deshan Chen, Di Zhang and Peng Zhou	Fast and Robust Underwater Obstacle Detection in Acoustic Vision (1163)
Li-Wei Hsiao, Jing-Ming Guo, Gi-Luen Huang, Yi-Fang Hsieh, Chih-Hsien Hsia and Herleeyandi Markoni	Face Expression and Tone of Voice for Deception System (1165)

**SI of IJFS (I)****Chairman: Prof. Jin-Tsong Jeng****9/1 (TA-2) 【IB-506】 13:00-15:40**

#1119, #1080, #1011, #1021, #1149, #1167, #1094

**Virtual conference: Virtual conference software: ZooM**

Peide Liu and Dongyang Wanga	The Normal T-spherical Fuzzy Taxonomy Method for Multiple Attribute Decision-making Problems (1119)
liyan zhu, Tieshan Li and Yue Wu	Observer-Based Adaptive Fuzzy Prescribed Performance Control for Intelligent Ship Autopilot (1080)
Guangmei Xu, Jin Zhou, Jiwen Dong, Hui Jiang, Dong Wang, Lin Wang, Shiyuan Han and Yuehui Chen	Morphological Reconstruction based Improved Fuzzy C-means Clustering Algorithm with Guided Filter for Image Segmentation (1011)
Rongrong Wang, Jin Zhou, Hui Jiang, Shiyuan Han, Lin Wang, Dong Wang and Yuehui Chen	A General Transfer Learning based Gaussian Mixture Model for Clustering (1021)
Cang Zhou, Hong Mo, Xiuru Chen and Huan Wen	Fuzzy Control under Time-varying Universe and Phase Optimization in Traffic Lights (1149)
Lu Chen, Haiyan Xu and Ginger Y. Ke	A PROMTHEE II Approach Based on Probabilistic Hesitant Fuzzy Linguistic Information with Applications to Multi-Criteria Group Decision Making (1167)
Zhixin Pang, Jiali Yu, Jinsong Leng, Chunxiao Wang and Bisen Liu	Continuous Attractors of Fuzzy Coupled Recurrent Neural Networks (1094)

## SS10 Intelligent Learning in Control Systems

Chairman: Prof. Kao-Shing Hwang

9/1 (TA-3) 【IB-507】 13:00-14:15

#1054, #1127, #1133, #1134, #1141, #1113

### Oral conference

Kao-Shing Hwang, Jin-Ling Lin and Wei-Cheng Jiang	Object Proximity Sensing based on 3D Point Cloud Segmentation (1054)
Gwo-Ruey Yu and Wei-Yi Wang	TPSO-based Tracking Control of a Mobile Robot Using T-S Fuzzy Systems (1127)
Kuan-Ting Chen, Wen-June Wang, Hsiang-Chieh Chen, Yi-Chieh Cai	A Banknotes Recognition System Based on Yolact (1133)
Bo-Yi Li, Wen-June Wang, Hsiang-Chieh Chen and Wei-Kai Wang	An Intelligent 6-DOF Robotic Arm for Tracking and Facing Human's Forehead with a Fixed Distance (1134)
Leel Vinod and Jin Tsong Jeng	Artificial Intelligence Visual Surveillance for Autonomous Farm Management (1141)
Chun-Liang Lu and Yong-Lin Kuo	Polyphase Watt-Hour Measurement Methods Based on Back Propagation Neural Network (1113)

## Deep Learning and Applications 1

Chairman: Prof. Jih-Gau Juang

9/1 (TA-4) 【IB-507】 14:20-15:50

#1057, #1058, #1126, #1161, #1174, #1112

### Oral conference

Sheng-I Chang and Jih-Gau Juang	Deep Learning and Object Identification for Hexacopter Application (1057)
Tsung-Hsien Huang and Jih-Gau Juang	Real-time Path Planning and Fuzzy Based Obstacle Avoidance for UAV Application (1058)
Ying-Hao Chen, Wei-Cun Chen and Chian-Song Chiu	Navigation Application of Q-learning Neural Network (1126)
Shang-Chih Lin, Chia-Wei Jen and Shun-Feng Su Yennun Huang	A Signal Fusion-based ANN Algorithm for Fault Diagnosis of Rotating Machinery (1161)
Kuang-Yow Lian, Yong-Jie Hong, Zhe-Wei Zhang, Yu-Wei Su and Kebba Jaiteh	Loading Optimization of Chiller Systems Using Deep Learning Method (1174)
Jia-En Chen, Tsu-Te Yeh, Sendren Sheng-Dong Xu1, Yuan-Ta Li, Ching-Cheng Hsiao, Chin-Chieh Yi and Rui-Hong Wu	Study of Metal 3D Printing-Assisted Pelvic Fracture Surgery (1112)

## WS04 Smart Manufacturing/Industry 4.0 Systems

Chairman: Prof. Ching-Chih Tsai

9/1 (TA-5) 【IB-505】 16:00-17:30

#1073, #1079, #1091, #1012, #1009, #1157

### Oral conference

Yu-Ruy Cheng, Ching-Chih Tsai, Chun-Chieh Chan and Guo-Shun Hung	Intelligent PID Injection Speed and Pressure Control Using ORBLS for Compound Plunger in Semiconductor Die Packaging (1073)
Chia-Feng Juang, Ching-Yu Chou and Yuan-Sue Yang	Map-Free Path Planning of a Fuzzy-Controlled Mobile Robot in Unknown Environments (1079)
Guo-Jung Chen, Ching-Hung Lee and We-Yu Lai	Virtual Machining System Development for Electrical Discharge Machining (1091)
Mei-Yung Chen and Peng Jing-Quan	Adaptive Neural Backstepping Control for Uncertain Robotic Manipulator (1012)
Sy Ngo and Chian-Song Chiu	Simulation Implementation of MPPT Design under Partial Shading Effect of PV Panels (1009)
Hsiao-Ni Chi, Pei-Jun Lee and Chia-Ling Lo	Visual Tracking Cleaner — A Robot Implements on the Whiteboard (1157)

**ICSSE 2020 Best Paper Awards Competition****Chairman: Prof. Wen-June Wang****Co-Chairmen: Prof. Chin-Wang Tao and Prof. Kuang-Yow Lian****9/1 (TA-6) 【IB-508】 15:00-17:40**

#1053, #1064, #1070, #1098, #1124, #1172

**Oral & Virtual conference: Virtual conference software: Zoom**

Wen-Hau Jian and Mei-Yung Chen	Face Transformation and Local Feature Adjustment Algorithm Based on Facial Feature Points (1053)
Hsin Han Chiang, Zong-Yue Deng, Wei-Yen Wang, Shih-Ting Hung and Tsu-Tian Lee	Facial Recognition System Design Using Deep Learning Network for Authorized Access to Autonomous Vehicles (1064)
Hung-Sheng Chen, Ching-Chih Tsai and Feng-Chun Tai	Adaptive PID-Like Control Using Fuzzy Broad Learning System for Nonlinear Dynamic Systems (1070)
Meng Han, H.K. Lam, Fucai Liu, Yuandi Li and Yinggan Tang	Estimation of Domain of Attraction for Positive Polynomial Fuzzy Systems with Input Saturation using Membership-Function-Dependent Analysis and Imperfect Premise Matching Concept (1098)
Guangyao Chen, Shaoqiong Yang, Tongshuai Sun and Peng Lv	An Experimental Comparison Study of Artificial Supercavitation Generated by Air Injection Behind Disk-shaped Cavitators and Elliptical Disk-shaped Cavitators (1124)
Tran Quoc Viet, Shun-Feng Su, Minh-Quang Tran and Truong Vi	Intelligent Non-Invasive Vital Signs Estimation from Image Analysis (1172)

**SI of IJFS (II)****Chairman: Prof. Jin-Tsong Jeng****9/1 (TA-7) 【IB-507】 15:50-16:40**

#1007, #1168

**Oral conference**

Kanika Bhalla, Yo-Ping Huang, Hung-Chi Chu and Si-Huei Lee	A Wavelet K-Means Clustering and Fuzzy Based Method for Parkinson's Disease MRI Segmentation (1007)
Kuo-Yi Chen and Chin-Yuan Tsui	The Fuzzy Control Approach for a Quadruped Robot Guide Dog (1168)

**SS09 Healthcare Systems****Chairman: Prof. Yo-Ping Huang****9/1 (TA-8) 【IB-507】 16:50-17:30**

#1025, #1062, #1089, #1036

**Oral conference**

Ching-Chang Wong, Hsuan-Ming Feng, Shao-Yu Chien and Hisasuki Aoyama	Deep Reinforcement Learning Design for Collision Avoidance of Dual-Arm Robot (1025)
Hung-Chi Chu and Young-Lin Zhang	CNN-based Sound Classification Mechanism (1062)
Xiu-Zhi Chen, Chieh-Min Chang, Chao-Wei Yu and Yen-Lin Chen	Visibility Stabilization Method for Vehicle Detection Under Extreme Weather Conditions (1089)
Tsai-Ping Chu, Jian-Hua Jhou and Yih-Guang Leu	Image-based Solar Irradiance Forecasting Using Recurrent Neural Networks (1036)

**Poster Session (I)****9/1: 16:00-17:30**

#1023, #1093, #1097, #1088, #1138, #1128, #1092

SS04: #1049, #1051,

SS08: #1032, #1035, #1037, #1046, #1047, #1052, #1131

SS01: #1024, #1031, #1045, #1090

Hao-Wei Chen, Chi-Yi Tsai, Yu-Hsiang Chen and Yu-Chen Hu	Surface Defect Recognition for Calcium Silicate Boards Based on a Deep Learning Method (1023)
Jenq-Lang Wu, Jia-Yao Jhang and Chee-Fai Yung	The Study of Control-Consistency Space and Control Lyapunov Function for Nonlinear Descriptor Systems (1093)
Sheng-Luen Chung, Chang-Lin Cho and Shun-Feng Su	End-to-end Identification of Pharmaceutical Blister Packages Based on One-side Handheld Images (1097)
Shih-Yu Li, kai-chung Shih, Chin-Sheng Chen and Lap-Mou Tam	A Novel Image Protection Algorithm with Double Hyperchaos Cipherring (1088)
Li-Syuan Pan, Wing P. Chan, Chia-Wei Li, Shee-Yen Tay and Shun-Feng Su	Deep-Learning based Automatic Segmentation of Coronary Arteries in Computed Tomography Angiography Images (1138)
Fang-Jing Shen, Jian-Hao Chen, Wei-Yen Wang, Dien-Lin Tsai, Lien-Chieh Shen and Ching-Tung Tseng	A CNN-Based Human Head Detection Algorithm Implemented on Edge AI Chip (1128)
Han-Yun Chen and Ching-Hung Lee	Vibration Signals Analysis for Bearing Fault Diagnosis Using Convolutional Neural Network and XAI Approach (1092)
Tzu-Chun Lin, Wei-Fu Kao, Zi-Ling Lin and Chun-Fei Hsu	Motion and Balance Control for a Collinear-Mecanum-Wheeled Self-Balancing Robot (1049)
Tzu-Chun Lin, Wei-Fu Kao, Zi-Ling Lin and Chun-Fei Hsu	Intelligent Control of a Unicycle Balancing Robot (1051)
Kai-Yu Yang, Po Yuan Yang, Fu-I Chou and Jyh-Horng Chou	Parameters Optimization for Group Search Algorithm (1032)
Yu-cheng Liao, Po Yuan Yang, Fu-I Chou and Jyh-Horng Chou	Improved Fractional-Order Particle Swarm Optimizer based on Sliding-Level Strategy (1035)
Chiu-Hung Chen, Po Yuan Yang, Chun-Jen Kuo and Jyh-Horng Chou	Solution of Unconstrained Optimization Problems by Using Hybrid Vector Multi-Objective Genetic Algorithm (1037)
Chia-Wei Chuang, Po Yuan Yang, Fu-I Chou, Jinn-Tsong Tsai and Jyh-Horng Chou	Parameter Optimization for Reinforcement Learning by Using Uniform Design (1046)
Tzu-Chieh Hung, Chin-Sheng Chen and Hao-Xiang Yang	An Active Data Augmentation Method to Improve Deep Learning Model for Surface Defect Detection with Scarce Samples (1047)
Wei Tai Huang, Zhi-Yao Tu and Jyh-Horng Chou	Performance Optimization Research on Ultrasonic Vibration Assisted Turning (1052)
Chun-Ting Liu, Chung-Hsun Sun and Hsiang-Chieh Chen	Trajectory Recognition of Spinning Ball for Ping-Pong Robots (1131)



Yu-Chen Chiu, Chi-Yi Tsai, Ming-Da Ruan, Guan-Yu Shen and Tsu-Tian Lee	Mobilenet-SSDv2: An Improved Object Detection Model for Embedded Systems (1024)
Ching-Chang Wong and Chih-Cheng Liu	Omni-directional Drive Autonomous Mobile Robot (1031)
Kuan Yi Lin, Tsung Lin Hsieh, Chien I Yu and Peter Liu	Road User Intention Classify by K-means Algorithm (1045)
Ko Feng Lee, Yen-Lin Chen, Kai-Yi Chin, Chao-Wei Yu and Chia-Yu Hsiao	Surrounding View Advanced Driver Assistance Systems base on Lightweight Technology (1090)

### **SS11 PHM for Complex Systems 1**

**Chairmen: Prof. Xiao-jian Yi, Prof. Hui-Na Mu and Prof. Ya-juan Liu**

**9/2 (WM-1) 【IB-505】 08:50-10:20**

#1022, #1033, #1034, #1042, #1072

**Virtual conference: Virtual conference software: Zoom**

Shulin Liu, Zili Wang, xiaojian Yi and Peng Hou	Reliability Model of Single Internal and External Meshing Planetary Gear Transmission Mechanism Considering Load Correlation (1022)
Zhao Yao, Shen Yu, Zhannan Guo, Jianxin He, xiaojian Yi and Yingshun Li	Application of Multi-sensor Information Fusion Technology in Fault Diagnosis of Transport Vehicle Engine (1033)
Yingshun Li, Ji yao Lu, Zhannan Guo, Aina Wang, Jianxin He and xiaojian Yi	Research on Fault Diagnosis of Armored Delivery Vehicle Based on Oil Monitoring Information (1034)
Yingshun Li, Aina Wang and xiaojian Yi	A Survey Of Equipment Fault Diagnosis and Condition Evaluation Methods Based On Data Driven (1042)
Na Jiao, Wenjun Guo, Meng Zhang and xiaojian Yi	A Maintenance Analysis Method Associated Functional Structure for Complex Equipment (1072)

## SS11 PHM for Complex Systems 2

Chairmen: Prof. Xiao-jian Yi, Prof. Hui-Na Mu and Prof. Ya-juan Liu

9/2 (WM-3) 【IB-505】 10:40-12:10

#1150, #1153, #1154, #1018

Virtual conference: Virtual conference software: Zoom

Zhongliang Wei, Xingguo Zhao, Minhui Chen, Liang Ling, Fang Xie, Li Li and Sijuan Zheng	Simulation Analysis on Safety Prediction of Front Impact of Special Vehicles (1150)
Fang Xie, Sijuan Zheng, Liang Lin, Zhongliang Wei and Wei Hu	Study on Mental Load Test and Evaluation of Special Vehicle Crew (1153)
Jianguo Lv, Xuelian Xiao, Yuankun Dong, Chunlin Liu, Chaofan Wang and Zhiyuan Guo	Study on Electric and Electric Hybrid Energy Matching of Off-Road Vehicle Based on Ragone Curve (1154)
Huchang Liao and Xingli Wu	Aggregation and Comparison of Probabilistic Linguistic Term Sets with Interval Probabilities (1018)

## Deep Learning and Applications 2

Chairman: Prof. Chen Chien Hsu

9/2 (WM-2) 【IB-506】 08:50-10:20

#1026, #1048, #1050, #1123

Virtual conference: Virtual conference software: Zoom

Huidong Tang, Yuichiro Mori and Masahiko Toyonga	A Tiny Neural Network Model for Estimating Next 24 Hour Temperature Transition (1026)
Jen-Kai Tsai, Chen-Chien Hsu and Wei-Yen Wang	Deep Learning Based Real-Time Multiple-Person Action Recognition System (1048)
Hsin-Hung Chen, Chen-Chien Hsu and Wei-Yen Wang	Object Pose Estimation System for Pick and Place Automation (1050)
Jingchen Li, Haobin Shi and Kao-Shing Hwang	Should Kernels Be Trained in CNN?- a Paradigm of AG-Net (1123)

## WS03 Reliability Design and Resilient Control of Intelligent Mechatronic Systems

Chairmen: Prof. Zhengtian Wu and Prof. Xiaona Song

9/2 (WM-4) 【IB-506】 10:40-12:10

#1158, #1101, #1137, #1028

Virtual conference: Virtual conference software: Zoom

Zhengtian Wu, Lijian Yang and Baoping Yang	Sliding Mode Control of Temperature and Humidity in Air Conditioners (1158)
HuiDong Wang, Mingguang Dong and Lei Wang	A New Fuzzy DEA Model for Green Supplier Evaluation Considering Undesirable Outputs (1101)
Dong Nan, Yongpeng Weng and Ning Wang	Data-driven Robust PID Control of Unknown USVs (1137)
Huimin Wang, Xinyue Shen and Xiao-Jian Li	$L_1/H_\infty$ Filter Design for Affine Fuzzy Systems with Imperfect Premise Matching (1028)

## SS12 Robotic Vision & It's Application

Chairman: Prof. Mei-Yung Chen

9/2 (WM-5) 【IB-507】 10:40-12:10

#1095, #1121, #1027

Virtual conference: Virtual conference software: Zoom

Ru-Ting Kuo, Amy J.C. Trappey, Charles Trappey, Chia-Ming Chang, Chih-Hsuan Nieh and Pin-Chun Lin	Virtual Reality Exposure Therapy for Driving Phobia Disorder: A System Design and Development (1095)
Cheng-Hsiung Yang and Hui-Yu Shen	Analysis and Prediction of Chaotic Time Series Based on Deep Learning Neural Networks (1121)
Yu Cho, Xin-Hong Ho and Cheng-Ming Huang	Improvement of Deep Learning Based Human Action Recognition with Motion Prediction System (1027)

## SS07 Intelligent and Learning Control of Nonlinear Systems: Theory and Applications

Chairmen: Prof. Yongming Li and Prof. Tieshan Li

9/2 (WA-1) 【IB-505】 13:00-14:30

#1043, #1082, #1086, #1177

Virtual conference: Virtual conference software: VooV

Ying Wu, Hong Xue, Ying Tian and Hongjing Liang	Adaptive Fuzzy Finite-Time Bipartite Containment Control for Stochastic Multi-Agent Systems (1043)
Ming Chen, Man Yu, Long yan Zhang and Qing huan Wang	Adaptive Fixed-Time Prescribed Performance Control for a Class of Nonlinear Systems with Quantized Input Signals (1082)
Yi-Xian Fang and Rui Bai	Fault Tree Analysis of Electronic-controlled Air Suspension (1086)
Weizhao Chen, Wenbai Chen, Chao He, Nan Liu, Peiliang Wu and Haobin Shi	Research on Classification and Detection System of Common Household Tools for Home Service Robot (1177)

## WS01 Workshop on Offshore Robotics 1

Chairman: Prof. Hongde Qin

9/2 (WA-2) 【IB-506】 13:00-14:30

#1081, #1111, #1118, #1120, #1125

Virtual conference: Virtual conference software: Zoom

Changli Yua, Runfa Gea, Myung Hyun Kimb, Xiaobo Gong and Zhen Xin Yang	Research on Structural Health Monitoring of Pressure Cabin Based on Stress Intensity Factor (1081)
Chong Wang, Yu Jiang, Ge Liu and Fenglin Wei	Research on Underwater Image Recognition Based on Deep Learning (1111)
Xiaofeng Liu, Risheng Liu, Ming Zhu, Wei Zhong, Xin Fan, Zhongxuan Luo and Wanhui Zhang	A Real Time Multi-thread Underwater Images Enhancement System (1118)
Tony Xiaotong Lin, Qiuyang Tao and Fumin Zhang	Planning for Fish Net Inspection with an Autonomous OSV (1120)
Guangzhao Zhou, Xianbo Xiang and Chuan Liu	Design and Simulation of Open Frame Underwater Towing Vehicle (1125)

## WS01 Workshop on Offshore Robotics 2

Chairman: Prof. Hongde Qin

9/2 (WA-5) 【IB-506】 14:40-15:40

#1129, #1144, #1156

Virtual conference: Virtual conference software: Zoom

Xin-Xin Wang, Jian Gao and Lei Feng	Recognition and 3D Pose Estimation for Underwater Objects Using Deep Convolutional Neural Network and Point Cloud Registration (1129)
Bryan Gunawan, Yuanchang Liu and Xudong Li	Adaptive Localisation for USVs Using IMU-IMM (1144)
Ning Wang and Yongpeng Weng	Online Reinforcement Learning-Based Adaptive Tracking Control of an Unknown Unmanned Surface Vehicle with Input Saturations (1156)

## SS13 Intelligent Systems in Biometrics and Physiological Measurements

Chairman: Prof. Jing-Ming Guo

9/2 (WA-3) 【IB-507】 13:00-14:30

#1077, #1164, #1135, #1063

Virtual conference: Virtual conference software: Zoom

Jing-Ming Guo, Li-Wei Hsiao, Tsung-Neng Tsai, Wei-Wen Hsu, Meng-Yi Bai and Yu-Chi Wang	Spectrogram Analysis with Convolutional Neural Networks for Contact-Free Heart Rate Estimation Using Radar Signals (1077)
Zih-Ching Chen, Sin-Ye Jhong and Chih-Hsien Hsia	Design of a Lightweight Network Architecture for Palm Vein Recognition with Model Compression (1164)
Jian-Yang Li, Bo-Yuan Cai, Yu-Lin Wang and Hung Fei Kuo	Exposure Dosage Planning in Digital Lithography (1135)
Kao-Yi Shen, Hioshi Sakai and San-Ting Lee	A Rule-Base Granular Computing Approach for Stock Portfolio Optimization (1063)

**SS14 Consensus for Large-scale Group Decision Making**

**Chairmen: Prof. Jian Wu, Prof. Yucheng Dong, Zaiwu Gong, Prof. Yejun Xu, and Prof. Zhen Zhang**

9/2 (WA-4) 【IB-505】 14:40-15:10

#1084, #1099

**Virtual conference: Virtual conference software: ZOOM**

Jian Wu, Tian Tian Gai and Ming Shuo Cao	A Joint Optimization Approach for Consensus in Large-scale Group Decision Making under Social Network (1084)
Fang Wang and Hengjie Zhang	Dynamic Trust-driven Consensus Reaching Process in Social Network Multiple Attribute Group Decision Making (1099)

**SS15 Theory, method and application of conflict decision**

**Chairmen: Prof. Haiyan Xu and Prof. Ginger Y. Ke**

9/2 (WA-4) 【IB-505】 15:10-15:40

#1166, #1173

**Virtual conference: Virtual conference software: VooV**

Shinan Zhao and Haiyan Xu	Multi-Level Option Form in Graph Model for Conflict Resolution (1166)
Yu Han and Haiyan Xu	Methods on Inverse Problem for Different Behavior Patterns in Environmental Conflict Resolution (1173)

## SS05 Performance Analysis and Synthesis of Complex Systems

Chairmen: Prof. Jianwei Xia, Prof. Xudong Zhao, and Prof. Hao Shen

9/2 (WA-7) 【IB-505】 16:00-17:30

#1006, #1016, #1030, #1061, #1066, #1068

Virtual conference: Virtual conference software: VooV

Hein Zaw Htet, Gennady Sergeevich Mytsyk and Hlaing Min Oo	Structural-algorithmic and Parametric Synthesis of N-Level Single Phase Voltage Source Inverter for Solar PV System (1006)
Guodong Zhao, Haitao Li and Yuanhua Wang	Algebraic State Space Representation for Boolean Networks with Multiple Time-Delays (1016)
Qi Li, Hong Xue and Yingnan Pan	Fault Detection Observer Design for Nonlinear Discrete-Time Systems with Measurement Outliers (1030)
Ke Xu, Xudong Zhao and Xiumei Han	Adaptive Dynamic Programming for a Class of Two-player Stackelberg Differential Games (1061)
Huimin Ouyang, Xiang Xu and Huan Xi	Sliding Mode Control for Double-pendulum Rotary Cranes (1066)
Wei Sun and Yuanwen Xing	Adaptive Event-triggered Tracking Control for a Class of Uncertain Nonlinear Systems (1068)



## SS06 Intelligent Control and Applications

Chairmen: Prof. Wen-Shyong Yu and Prof. Ching-Hung Lee

9/2 (WA-8) 【IB-506】 16:00-17:30

#1110, #1122, #1044, #1056, #1105, #1152

Virtual conference: Virtual conference software: Teams

Wen-Shyong Yu and Jin-Liang Kuo	Trajectory Tracking for a Two-Wheels Car Using Fuzzy Adaptive Balance Control (1110)
Hsien-Ju Ko, Hao-Cheng Yang, Yuan-Bin Wang and Han He	The Fixed-Point Implementations for Recurrent Neural Networks (1122)
Wei-yuan Lien, Chun-Ta Chen, Chuang-Hung Jung, You-Fu Chiang, Yu-Cheng Wu and Tse-Min Lee	Intelligent Harvesting System for Cherry Tomato (1044)
Yu-Cheng Wu, Chun-Ta Chen, Wei-Yuan Lian, Tse-Min Lee, Huang Chen-En, Po-Hsiang Tsai, Mao-Chun Chang and Chi-Shiuan Lee	Application of a Wearable Lower-Limbed Assistance Robot on Sit-to-Stand Movement (1056)
Shun-Hung Tsai, Yu-Wen Chen, Ming-Li Chiang and Ying Jen Chen	Formation Control of Multi-Agent Systems with Multiple Structures (1105)
Tzung-Pei Hong, Meng-Ping Ku, Wei Ming Huang, Shu-Min Li and Chun-Wei Lin	Mining High Fuzzy Average-Utility Itemsets (1152)

**Poster Session (II)**

**9/2: 16:00-17:30**

#1010, #1139, #1142, #1143, #1145, #1146,  
 #1147, #1176, #1109, #1040  
 SS04: #1059, #1060, #1104, #1107, #1115, #1171  
 #1136, #1151,  
 #1100  
 #1013, #1019, #1038, #1074, #1075, #1076, #1160, #1108

Tianyu Zhao, Jindong Xu and Guozheng Feng	A Fuzzy C-Means Clustering Algorithm base on Spatial Context Model for Image Segmentation (1010)
Pratima Jain and Kit Yan Chan	A Social Media Analytical Framework Incorporating Fuzzy Regression for Affective Design (1139)
Chao Zhou and Zong-Yao Sun	Fast Finite-time Adaptive Event-triggered Tracking for Planar Nonlinear Systems (1142)
Xiuru Chen, Hong Mo, Cang Zhou and Fan Le	Evaluation of Intelligent Vehicle Safety Based on AHP and Fuzzy Comprehensive Evaluation (1143)
Weijing Dou, Shuo Shan, Nawei Zhang, Jinxia Zhang, Kanjian Zhang and Haikun Wei	An Unsupervised Multi-scale Micro-crack Segmentation Scheme for Multicrystalline Solar Cells (1145)
Jianbin Qiu, Hao Zhang, Tong Wang and Qingshuang Zeng	Event-Triggered Synchronization for Memristor-Based Neural Networks (1146)
Truong Van Nguyen, Shun-Feng Su, Thien Van Nguyen and Thuan Xuan Nguyen	Nonlinearities Output-Feedback Adaptive Nonsingular Fast Terminal Sliding Mode Control for Redundant Parallel Manipulators (1147)
Jia Liu, Miyi Duan, Wen-Bai Chen and Haobin Shi	Adaptive Weighted Image Fusion Algorithm based on NSCT Multi-scale Decomposition (1176)
Jiliang Chang and Lei Xie	Trajectory Outlier Detection Algorithm Based on VAE-LSTM Model (1109)
Yiming Wu, Ning Sun, Yongchun Fang, He Chen and Xiao Liang	Nonlinear Output Feedback Control of Double-pendulum Ship-mounted Cranes With Amplitude Saturation and Gravitational Compensation (1040)
Chien-Wu Lan and Wei-Ting Jian	Research of Wireless Sensor Network Positioning (1059)
Liyu Yeh, Yu Cheng Lai, Shao-Yu Chien, Ching-Chang Wong, Chih-Cheng Liu and Chi-Yi Tsai	Re-orientation Planning based on Semantic Segmentation Keypoint Detection (1060)
YI QING Liao, Chih-Cheng Liu, Li-Hsiang Chou and Yu Ying Liu	Strategy Design in Archery Behavior of Humanoid Robot Based Hough Transformation (1104)
Yu-Ming Kang, Li-Hsiang Chou, Shih-An Li, Yun Chien Chen and Chih-Cheng Liu	Implementation of Dynamic Obstacle Avoidance for Mobile Robot Based on Gazebo Simulator (1107)
Shao-Yu Chien, An-Sung Wang and Ching-Chang Wong	Design and Implementation of Two-Wheeled Self-Balancing Vehicle Based on Load Sensor (1115)

Chin-Wang Tao, Rui-Qian Chang, Chia-Wen Chang and Sheng Kai Lin	Design of Distributed Cloud Computing System (1171)
Zhifan Xu, Qiongbin Lin and Chih-Min Lin	Online Health Estimator of Hybrid Energy Storage System Based on Fuzzy Brain Emotional Learning Neural Network (1136)
Zhenyi Bi, Yu-Long Wang and Lang Ma	Perception and Recognition of Underwater Cable Based on Deep Learning (1151)
Kazuki Nagatomo, Fukumi Minoru, Momoyo Ito and Shin-ichi Ito	Finger Motion Identification Based on Wrist EMG Analysis Using Machine Learning (1100)
Guoliang Chen, Te Yang and Jianwei Xia	Aperiodic Sampled-data Controller Design of Stochastic Markovian Jump Neural Networks With Time-Varying Delay (1013)
Guowei Zhao, Kun Ma, Guangming Zhuang, Wei Sun, Yuqian Lin and Jie Wang	Admissibility Analysis and Stabilization for Degenerate Jump Systems with Distributed Delay and Discrete State Delay (1019)
Yanli Fan and Yongming Li	Adaptive Fuzzy Finite-Time Fault-Tolerant Control for Uncertain Non-strict Feedback Nonlinear Systems (1038)
Chunling Wei, Shaoning Liu, Qiangde Wang and Zhengqiang Zhang	Consensus Output Regulation of a Class of Nonlinear Multi-agent Systems with Unknown Control Directions (1074)
Duy Quang Nguyen, Tieshan Li, Renhai Yu, Qihe Shan, Yue Wu and Jun Ning	An LQG Optimal Linear Controller for Fin Stabilizer System of Marine Vessels (1075)
Lin Zhou, Kai Chen, Zhen Chen, Hang Dong and Qing Dong Song	Course Control of Unmanned Sailboat Based on BAS-PID Algorithm (1076)
Xingru Li and Xiaona Song	Quasi-Synchronization of Coupled Reaction-Diffusion Neural Networks via Time-Space Sampled-Data Control (1160)
Kuo-Ho Su, Jui-Chen Wu and Te-Cheng Sung	A Smart Face Recognition System for Companion Robot (1108)

**Poster Session (III)**

**9/3: 10:00-11:30**

SS02, SS03: #1071, #1083, #1096, #1159, #1132

Chen-Chia Chuang, Yu-Yun Tsai and Jin-Tsong Jeng	Simple iOS Electronic Signature System (1071)
Chih-Ching Hsiao, Jin-Tsong Jeng and Chen-Chia Chuang	A Feature Selection Approach for People Trend Analysis (1083)
Hsu-Chih Huang, Sendren Sheng-Dong Xu, Chien-Ming Chen and Jing-Jun Xu	An Online Fuzzy Control System for Parallel Manipulators (1096)
Li-Cheng Jin, Chun-Wen Wang, Xin-Chen Shen, I-Hsum Li and Lian-Wang Lee	An Intelligent Delta Robot for Maze Solving using Deep Q-Learning (1159)
Jau-Yang Chang and Min-Tang Li	An Efficient Wireless Charger Placement Scheme for Rechargeable Sensing Devices in Wireless Sensor Networks (1132)