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Plenary Sessions
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Guadalquivir 1-3

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Opening Ceremony

9:40 – 10:40
Prof. Xin Yao, IEEE Fellow
Southern University of Science and Technology, Shenzhen, China and University of Birmingham, UK
Ensemble Approaches to Class Imbalance Learning

10:40 – 11:00
Coffee break

11:00 – 12:00
Prof. Zidong Wang, IEEE Fellow
Brunel University, UK
Synchronization, Filtering and Control for Complex Dynamical Networks - A Sampled- Data Perspective
12:00 – 13:00
Prof. Lixian Zhang, IEEE Fellow
Harbin Institute of Technology, China
Analysis and Control of Nondeterministic Switched Systems: Challenges, Advances and Trends

13:00-14:00
Lunch @ Guadalquivir Restaurant

Parallel Session 1: Control and Automation I
July 3, early afternoon; Guadalquivir 1
Chair/co-chair: Jie Lian/Tieshan Li

PAGE:

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1 Shuai Yuan, Bart Deschutter, and Simone Baldi; Adaptive tracking control of switched linear systems using mode-dependent average dwell time
14:20 – 14:40
8 Jingqi Li, Tieshan Li, Cheng Liu, and Qi Qin; Formation control of marine surface vessel based on sliding mode control and local state observer
14:40 – 15:00
15 Jie Lian, Yang Meng and Lili Li; Formation control and obstacle avoidance for multi-agent systems using barrier Lyapunov functions
15:00 – 15:20
21 Bo Dong, Shuxiang Wang, Fan Zhou, Yan Li, Shenquan Wang, Keping Liu, and Yuanchun Li; Critic-identifier structure-based ADP for decentralized robust optimal control of modular robot manipulators

15:20 – 15:40

31 Surita Maini and Dilip Singh Shekhawat; Analysis of copper tube sleeve coaxial spiral antenna for interstitial hepatic microwave ablation

Parallel Session 2: Computer Science and Engineering I
July 3, early afternoon; Guadalquivir 2
Chair/co-chair: Zheng Yan/Xinyi Le

14:00 – 14:20

35 Yongchi Su and Chunping Li; Table transformation rule learner

14:20 – 14:40

43 Zheng Yan, Xinyi Le, and Shiping Wen; A continuous-time recurrent neural network for sparse signal reconstruction based on L1 minimization

14:40 – 15:00

50 Zhen Wang, Hang Su, Xuemei Guo and Guoli Wang; Radio tomographic imaging with feedback-based sparse Bayesian learning

15:00 – 15:20

57 Dongcheng Peng, Tieshan Li, C.L. Philip Chen, and Yang Wang; Research on information collection method of shipping job hunting based on Web Crawler

15:20 – 15:40

63 Yiyao Zhang, Yu Zheng, Xinyi Le, and Xing Mei; A processing route decision method for ring-frame parts based on improved Bayesian rough Set

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July 3, early afternoon; Guadalquivir 3
Chair/co-chair: Jianbin Qiu/ Zhaojie Ju

14:00 – 14:20

70 Meng Wang, Gang Feng and Jianbin Qiu; A novel memory piecewise affine filtering design for T-S fuzzy affine systems in finite frequency domain

14:20 – 14:40

78 Yiming Cheng, Weiyang Sun, Liu Tianhe, Lin Zhang, Changhong Wang and Yuechao Ma; Design of filters of networked systems via multiple channels subject to imperfect-Markov-switching

14:40 – 15:00

84 Bo Liao, Jing Li, Zhaojie Ju, and Gaoxiang Ouyang; Hand gesture recognition with generalized Hough transform and DC-CNN using RealSense

15:00 – 15:20

91 Jing Huey Khor and Michail Sidorov; Weakness of ultra-lightweight mutual authentication protocol for IoT devices using RFID tags

15:20 – 15:40

98 Bin Wen, Ziqiang Luo and Yazhi Wen; Evidence and trust: IoT collaborative security mechanism

15:40 – 16:00
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July 3, late afternoon; Guadalquivir 1
Chair/co-chair: Dan Wang/Ding Wang

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104 Mingming Ha, Ding Wang, Derong Liu and Bo Zhao; Adaptive event-based control for discrete-time nonaffine systems with constrained inputs
16:20 – 16:40
110 Huan Ying, Siwei Miao, Lifang Han, Wenhao Yu, and Liang Zhou; A quick deterministic replay method based on dependence pair
16:40 – 17:00
114 Fan Zhou, Bo Dong, Yan Li, Keping Liu and Yuanchun Li; Module system monitoring and fault detection for modular and reconfigurable robot
17:00 – 17:20
121 Yanning Guo, Pengyu Wang, Guangfu Ma and Chuanjiang Li; Prescribed performance based finite-time attitude tracking control for rigid spacecraft
17:20 – 17:40
127 Yibo Zhang, Dan Wang and Zhouhua Peng; Containment maneuvering for a class of uncertain nonlinear systems based on concurrent learning

Parallel Session 5: Computer Science and Engineering II
July 3, late afternoon; Guadalquivir 2
Chair/co-chair: Zhiwen Yu/Shen Yin

16:00 – 16:20
133 Weilin Luo and Taichun Rao; An approach of multidisciplinary optimization to underwater vehicle profile design
16:20 – 16:40
138 Huaqiang Qiu, Baoran An, and Shen Yin; Research on method of process monitoring with deterministic disturbances based on just-in-time
16:40 – 17:00
145 Shuquan Ye, Zhiwen Yu, Jiaying Lin, Kaixiang Yang, Dai Dan, Zhi-Hui Zhan, Wei-Neng Chen, and Jun Zhang; Two-dimensional-reduction Random Forest
17:00 – 17:20
153 Zhentao Tang, Dongbin Zhao, Yuanheng Zhu and Ping Guo; Reinforcement learning for build-order production in StarCraft II
17:20 – 17:40
159 Jianxin Yuan and Chengan Guo; A deep learning method for detection of dangerous equipment

Parallel Session 6: Signal Processing and Telecommunications II
July 3, late afternoon; Guadalquivir 3
Chair/co-chair: Jiejie Chen/ Zhigang Zeng

16:00 – 16:20
257 Le Yang and Zhigang Zeng; A memristor-CMOS hybrid circuit for classical conditioning reflex
16:20 – 16:40
170 Yi Huang, Rui Hu and Zhigang Zeng; Three-dimensional memristor-based crossbar architecture for capsule network implementation
16:40 – 17:00
176 Xinming Shi and Zhigang Zeng; Memristor-based neuron circuit with adaptive firing rate
17:00 – 17:20
188 Boshan Chen, Jiejie Chen and Zhigang Zeng; A memristive neural networks described by differential-algebraic systems
17:20 – 17:40
165 Li Xu, Ning Wang, Han Bao, Quan Xu, Mo Chen, and Bocheng Bao; Third-order generalized memristor-based chaotic circuit and its complex dynamics

Banquet
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Bandolero Restaurant
(next to the Cordoba Mosque-Cathedral across the Roman Bridge)

Parallel Session 7: Control and Automation III
July 4, early morning; Guadalquivir 1
Chair/co-chair: Li Li/Tianhe Liu

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194 Li Li, Liang Chang, Pingshan Liu and Bonan Yu; Multi-owner scheduling for cascade hydro power using multi-objective optimization technique
9:20 – 9:40
200 Van Khang Huynh, Surya Teja Kandukuri, Witold Pawlus and Kjell Gunnar Robbersmyr; Parameter identification of a winding function based model for fault detection of induction machines
9:40 – 10:00
206 Lin Zhang, Gang Li, Yining Han, Yuxin Zhao and Ziqian Chen; Robust adaptive tracking control of a class of uncertain multi-mode nonlinear systems with unknown disturbances
10:00 – 10:20
212 Peng Luo, Hong Zhao, Chen Guo and Shichao Cheng; Model predictive control on a kind of PMSM propulsion system applied in USV with composite ship-propeller load
10:20 – 10:40
218 Tianhe Liu, Ye Liang, Yiming Cheng, Lin Zhang, Changhong Wang and Jun Wang; non-weighted H∞ filtering for networked systems with variable quantization density

Parallel Session 8: Computer Science and Engineering III
July 4, early morning; Guadalquivir 2
Chair/co-chair: Wing Ng/ Mc Du Plessis

9:00 – 9:20
224 Mc Du Plessis; An explorative approach to the quantitative ranking of historical countries in terms of prominence using PageRank
9:20 – 9:40
231 Ning Wang, Yuncheng Gao, Zhongjiu Zheng, Hong Zhao and Jianchuan Yin; A hybrid path-planning scheme for an unmanned surface vehicle
9:40 – 10:00
237 Donovan Welsford, Christiaan Pretorius and Mc Du Plessis; neural networks for mobile robot inverse kinematics
10:00 – 10:20
245 Li Jiayong, Wing Ng and Xing Tian; A compression hashing scheme for face retrieval
10:20 – 10:40
252 Mohamed Lamine Bouibed, Hassiba Nemmour and Youcef Chibani; Evaluation of gradient descriptors and dissimilarity learning for writer retrieval

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July 4, early morning; Guadalquivir 3
Chair/co-chair: Dan Wang/ Zhigang Zeng

9:00 – 9:20
321 Dong Wang, Jianjie Yin and Wei Wang; Design of fixed step-size distributed optimization protocol of multiagent systems over weighted unbalanced digraphs
9:20 – 9:40
262 Bin Zhang, Zhouhua Peng, Dan Wang, Nan Gu, Lu Liu and Shuai Ren; Nonlinear observer design for a robotic unmanned surface vehicle using GPS and IMU measurements with experimental results
9:40 – 10:00
268 Amarpartap Singh Pharwaha, Sushil Kakkar and Tara Singh Kamal; On the optimal design of fractal tuning stub UWB patch antenna with band-notched function
10:00 –10:20
274 Sulaiman Aljeddani and Farah Mohammadi; A novel migration technique to balance thermal distribution for future heterogeneous 3D chip multiprocessors
10:20 – 10:40
280 Jagpal Singh Ubhi, Akash Tomar and Mukesh Kumar; Low power 3-bit flash ADC design with leakage power reduction at 45 nm technology

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Parallel Session 10: Control and Automation IV
July 4, late morning; Guadalquivir 1
Chair/co-chair: Dong Wang/ Zhaojie Ju

11:00 – 11:20
288 Wenqiang Ji, Meng Wang and Jianbin Qiu; Fuzzy-model-based output feedback controller design for discrete-time non-affine nonlinear systems via piecewise Lyapunov functions
11:20 – 11:40
294 Yiming Jiang, Chenguang Yang, Zhaojie Ju, Min Wang and Honghai Liu; Null space based robot compliant control with prescribed motion performance
11:40 – 12:00
301 Dianye Huang, Chenguang Yang, Yongping Pan, Shilu Dai and Zhaojie Ju; Composite learning for trajectory tracking control of robot manipulators with output constraints
12:00 – 12:20
307 Weiyang Sun, Lixian Zhang, Dongzhe Wang, Yiming Cheng and Youshan Wang; Stability and H∞ control of systems with variable quantization density in both input and output channels
12:20 – 12:40
314 Xiushan Jiang, Senping Tian, Tianliang Zhang and Weihai Zhang; Weighted H∞ performance analysis of nonlinear stochastic switched systems with state dependent noise: a mode-dependent average dwell time method

Parallel Session 11: Computer Science and Engineering IV
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Chair/co-chair: Huanhuan Chen/Min Han

11:00 – 11:20
329 Zhenyu Liu and Huanhuan Chen; An empirical study of linear dimensionality reduction for judicial predictive models
11:20 – 11:40
335 Fei Yan, Guojian He, Yan Zhuang and Huan Chang; Scene understanding and semantic mapping for unmanned ground vehicles using 3D point clouds
11:40 – 12:00
342 Yaxu Xue, Zhaojie Ju, Kui Xiang and Jing Chen; Classification of dynamic in-hand manipulation based on SEMG and Kinect
12:00 – 12:20
347 Li Li, Hongwei Ge, Jianqiang Gao and Yixin Zhang; A novel curve fitting feature extraction method for hyperspectral image
12:20 – 12:40
351 Kuo Yan and Min Han; Aerial image stitching algorithm based on improved GMS

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13:00-15:00

Poster Session
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Guadalquivir 1-3

358 Nian Zhang, Jiang Xiong, Jing Zhong and Keenan Leatham; Gaussian process regression method for classification for high-dimensional data with limited samples

364 Nian Zhang, Jiang Xiong, Jing Zhong and Lara Thompson; Feature selection method using BPSO-EA with ENN classifier

370 Danting Duan, Yuejiao Gong, Ting Huang and Jun Zhang; Adaptive clustering-based differential evolution for multimodal optimization

377 Xiupin Lv, Nankun Mu and Xiaofeng Liao; A pseudo-random number generator based on delay coupled map lattice

382 Runze Ji, Nankun Mu, and Xiaofeng Liao; A novel privacy-preserving data integrity verification by partial delegation

388 Shaoxin Li, Nankun Mu, and Xiaofeng Liao; Privacy preserving frequent itemsets mining based on database reconstruction

395 Yixiang Liu, Xizhe Zang, Niansong Zhang, Yubin Liu, and Ming Wu; Effects of unilateral restriction of the metatarsophalangeal joints on biped robot walking

401 Guoliang Zhao, Wei Wu, and Degang Wang; enhancement of the variable universe of discourse control by hammersley sequence based TP model transformation

409 Gaosheng Zhang, Qichao Ma, Jiahu Qin, Yu Kang, and Wei Xing Zheng; Adaptive neural network control for consensus of nonlinear multi-agent systems with actuator faults

415 Zhankui Song and Jun Wang; Adaptive trajectory tracking control of a quad-rotor system based on fuzzy monitoring strategy

422 Wenqiang Du, Feng Gu, Hao Zhou, Chunlei Di, Junfeng Xiong, and Yuqing He; Air-ground cooperative environment modeling with bounded elevation map

429 Renjian Feng, Chenguang Li, Qiu Ran, Yinfeng Wu, and Ning Yu; A novel TOA-based source localization algorithm in wireless sensor networks

437 Qingshan Liu, Wei Zhang, Jiang Xiong, Bingrong Xu, and Long Cheng; A projection-based algorithm for constrained L1-minimization optimization with application to sparse signal reconstruction

444 Saran Chen, Tao Wang, Yanghe Feng, Zhong Liu and Jincai Huang; Comparing social influence with collaborative influence in human flesh search

450 Rong Zhou, Kemin Zhou, Menghua Wu, and Jing Teng; Improved interactive multiple models based on self-adaptive turn model for maneuvering target tracking

458 Huayou Wang, Yanming Hu, Liying Yang, and Yuqing He; A robust and accurate simultaneous localization and mapping system for RGB-D cameras

466 Xiaofei Ji, Zhuangzhuang Ji, Jiangtao Cao, and Yangyang Wang; Two-person interaction action recognition based on multi-source information fusion Algorithm

472 Yuan Cheng, Jun Xing, Xinzhe Wang, Jie Dong, and Zhisen Wang; AP based CBR for endpoint carbon content prediction of BOF steelmaking

478 Yu-Han Wang, Chung-Chih Lin, Chyan-Goei Chung, and Chih-Ming Lin; The Study of the electrocardiography monitoring for the elderly based on smart clothes

483 Yu-Hung Lu, and Chung-Chih Lin; The study of smart elderly care system

487 Chenhan Lin, Fei Long, Jianming Huang and, Jun Li; Micro-expression recognition based on spatiotemporal Gabor filters

492 Yisha Liu, Yan Zhuang, Long Wan and Ge Guo; Binocular vision-based autonomous path planning for UAVs in unknown outdoor scenes

182 Liquan Xiao, Shukai Duan and Lidan Wang; A multi-scroll memristive chaotic system via fractal process