SMC Cybernetics Oral Sessions

October 6  8:00 – 9:40  6KC301m

Cyber 1  Fuzzy Systems
Possible Chair:  Plamen Angelov, Professor, Lancaster University
93  A Parameterized Activation Function for Learning Fuzzy Logic Operations in Deep Neural Networks
Godfrey, Luke; Gashler, Michael
148  Extended Kalman Filter-Based Learning of Interval Type-2 Intutionistic Fuzzy Logic System
Eyoh, Imo; John, Robert; De Maere, Geert
221  Pythagorean Fuzzy Bonferroni Mean Operators With Their Application To Supply Chain Management
Wang, Jun, Zhang, Run tong, Buchmeister, Borut
503  A Cascade of Deep Learning Fuzzy Rule-based Image Classifier and SVM
Angelov, Plamen; Gu, Xiaowei
911  Improved Fuzzy $H_{infity}$ Filter Design Method for Nonlinear Systems with Time-Varying Delay
Ma, Qianqian; Li, Li; Ma, Guangcheng; Shen, Junhui; Xia, Hongwei

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Cyber 2  Machine Learning II
Possible Chair:  Wu, Q.M. Jonathan, Professor, University of Windsor
299  Multiscale Depth Local Derivative Pattern for Sparse Representation Based 3D Face Recognition
Soltanpour, Sima; Wu, Q.M. Jonathan
382  multi-dimensional motif discovery for large-scale time series in air pollution data
Liu, Bo; liu, yinxing; Li, Jianqiang
619  Robust Affine Registration Based on Corner Point Guided ICP Algorithm
Wu, Liyang; Xiong, Lei; Du, Shaoyi; Cui, Wenting; Bi, Duyan; Fang, Ting
843  Meta-Heuristic Algorithms for Scheduling on Parallel Batch Machines with Unequal Job Ready Times
Fidelis, Michele; Arroyo, Jose Elias
909  System Level Design for Human Action Recognition in 3D Scenes
Safaei, Amin; Wu, Q.M. Jonathan
1074  Search Space Reduction Approach in Evolutionary Algorithms: The Case of High-Dimensional Portfolio Replication Problem
Orito, Yukiko; Hanada, Yoshiko
1081  A Late Fusion Approach for Harnessing Multi-CNN Model High-Level Features
Thangarajah, Akilan; Wu, Q.M. Jonathan; Jiang, Wei  Safaei, Amin
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Cyber 3  
Image Processing  
Possible Chair: Cheng, Irene, Professor, University of Alberta

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Improved Rank Pooling Strategy for Complex Action Recognition  
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Object Detection of Satellite Images Using Multi-Channel Higher-order Local Autocorrelation  
Uehara, Kazuki; Sakanashi, Hidenori; Nosato, Hirokazu; Murakawa, Masahiro;  
Miyamoto, Hiroki; Nakamura, Ryosuke

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Video Summarization Method Based on the Weber Local Descriptor  
Cirne, Marcos; Pedrini, Helio

554  
Shot Boundary Detection for Video Temporal Segmentation Based on the Weber Local Descriptor  
Santos, Anderson; Pedrini, Helio

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Multi-Scale Texture Recognition Systems with Reduced Cost: A Case Study on Forest Species  
Cavalin, Paulo; Kapp, Marcelo; Oliveira, Luiz

787  
Multi-Layer Feature Histogram with Correlative Degree for Cross-Camera-Based Target Re-Identification  
Han, Hua; Zhou, Mengchu; Lu, Xiaoyu, Sean; Zhang, Yujin

855  
Visual Perception based Adaptive Feature Fusion for Object Tracking  
Krieger, Evan; Asari, Vijayan

1025  
Dynamic Textures Based Target Detection for PTZ Camera Sequences  
Zitouni, M. Sami; Bhaskar, Harish; Sluzek, Andrzej

1096  
A Content-Specific IQM Augmentation Technique for Better Assessment of Image Quality  
Kamballur Kottayil, Navaneeth; Cheng, Irene

1157  
Synthetic Minority Image Over-sampling Technique: How to Improve AUC for Glioblastoma Patient Survival Prediction  
Liu, Renhao; Hall, Lawrence; Bowyer, Kevin; Goldgof, Dmitry; Gatenby, Robert; Ben Ahmed, Kaoutar

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Cyber 4  
Neural Network  
Possible Chair: HUANG, DEXIAN, Professor, Tsinghua University

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A Multi-Scale Fusion Convolutional Neural Network for Face Detection  
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Novel Hybrid CNN-SVM Model for Recognition of Functional Magnetic Resonance Images  
Sun, Xiaolong; Park, Juyoung; Hur, Junbeom; Kang, Kyungtae

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Controlled Dropout: A Different Dropout for Improving Training Speed on Deep
Neural Network
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379 Imbalanced Data Classification Using Complementary Fuzzy Support Vector Machine Techniques and SMOTE
Pruengkarn, Ratchaakoon; Wong, Kok Wai; Fung, Chu Che

539 A Scale-Invariant Framework for Image Classification with Deep Learning
Jiang, Yalong; Chi, Zheru

541 Deep Q Learning for Traffic Simulation in Autonomous Driving at a Highway Junction
Kashihara, Koji

700 Deep Metric Learning for Scene Text Detection
Zhu, Qi-Hai; Zhu, Rui; Li, Ning; Yang, Yu-Bin

736 Automatic Hyper-Parameter Tuning for Soft Sensor Modeling Based on Dynamic Deep Neural Network
Wang, Kangcheng; Shang, Chao; Yang, Fan; Jiang, Yongheng; HUANG, DEXIAN

807 Trajectory tracking on complex networks via neural sliding-mode pinning control
Vega-Perez, Carlos Jesus; Suarez-Sierra, Oscar Javier; Nelson Sánchez Camperos,, Edgar; Chen, Guanrong

1148 Biologically Motivated Quantum Neural Networks
teck, james; Behrman, Elizabeth

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Possible Chair: Il-Chul Moon, Assistant Professor, KAIST

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213 Trend Classification by Bayesian Network and Gaussian Mixture Model
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241 Predicting the Number of Driving Service Orders in Fine-Grained Regions by an Ensemble Multi-View-Based Model
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333 Hybrid Modeling and Simulation of Tactical Maneuvers in Computer Generated Force
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372 Rare Chinese Character Recognition by Radical Extraction Network
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625 Autoencoder, Low Rank approximation and Pseudoinverse Learning Algorithm
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706 Fine-Grained News Recommendation by Fusing Matrix Factorization, Topic Analysis and Knowledge Graph Representation
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854 Text Augmented Automatic Statistician for Predicting Approval Rates of Politicians
Park, JunKeon; Na, Yeongyeon; Moon, Il-Chul

887 CSnet: Constructing Symptom Network Based on Disease-Symptom Relationships
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894 A Between-Class Overlapping Coherence-Based Algorithm in KNN Classification
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1035 Automatic Action Segmentation and Continuous Recognition for Basic Indoor Actions Based on Kinect Pose Streams
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Possible Chair: Macnab, Chris, Associate Professor, University of Calgary  

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Real-time Rigid Motion Segmentation using Grid-based Optical Flow  
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Decentralized Reinforcement Social Learning Based on Cooperative Policy Exploration in Multi-Agent Systems  
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Obstacle Detection on Around View Monitoring System  
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Incremental Maintenance of C-Rank Scores in Dynamic Web Environment  
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Cyber 7  
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Possible Chair: Baruah, Rashmi, Associate Professor, IIT Guwahati  

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Barricaded Boundary Minority Oversampling LS-SVM for linearly non-Separable Imbalanced Binary Classification  
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Cyber 8 Swarm Intelligence and Heuristic Algorithms
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302 Formal Analysis in a Cellular Automata Ant Model Using Swarm Intelligence in Robotics Foraging Task
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369 Effective Lazy Training Method for Deep Q-Network in Obstacle Avoidance and Path Planning
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509 An Ant Colony System Based Virtual Network Embedding Algorithm
Wang, Jia-Bin; Chen, Wei-Neng; Cong, Hao; Zhan, Zhi-hui; Zhang, Jun
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711 Agglomerative Hierarchical Clustering Based on Local Optimization for Cluster Validity Measures
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1202 Development of a computational model based on Particle Swarm Optimization and Network Flow applied to the problem of Hydrothermal Coordination
Aragão, Anderson; Coimbra, Wellington; Rabelo, Ricardo; Asano, Patricia; Godoy, Ferreira, Fabio

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