



2021 IEEE International Conference on Systems, Man, and Cybernetics (SMC)

Oct 17-20, 2021, Melbourne, Australia

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Last updated on October 2, 2021. This conference program is tentative and subject to change

Technical Program for Tuesday October 19, 2021

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D2K4N

Room T11

Jie Lu: Machine Learning for Decision Support in Complex Environments

Keynote Session

Chair: [Kwong, Sam](#)

City University of Hong Kong

12:00-12:30, Paper D2K4N.1

[*Machine Learning for Decision Support in Complex Environments*](#)

[Lu, Jie](#)

University of Technology, Sydney

D2K5N

Room T11

Fred Hadaegh: The Enabling Technologies for Exploration of Space Missions

Keynote Session

Chair: [Tunstel, Edward](#)

United Technologies Research Center

12:35-13:05, Paper D2K5N.1

[*The Enabling Technologies for Exploration of Space Missions*](#)

[Hadaegh, Fred](#)

NASA

D2IN

Room T11

Maija Breque: Industry 5.0: Towards a Sustainable, Human-Centric and Resilient European Industry

Keynote Session

Chair: [Nahavandi, Saeid](#)

Deakin University

13:10-13:25, Paper D2IN.1

[*Industry 5.0: Towards a Sustainable, Human-Centric and Resilient European Industry*](#)

[Breque, Maija](#)

European Commission

D2AT1

Room T1

Computational and Medical Cybernetics

Regular Session

Chair: [Rashidi Fathabadi, Fatemeh](#)

Western Michigan University

Co-Chair: [Puskás, Melánia](#)

Óbuda University

13:30-13:55, Paper D2AT1.1

[Performance Assessment System Using Fuzzy Logic in a Multi-Class Detection of Laparoscopic Box-Trainer Instruments \(I\)](#)[Rashidi Fathabadi, Fatemeh](#)

Western Michigan University

[Grantner, Janos](#)

WMU

[A Shebrain, Saad](#)

Western Michigan University

[Abdel-Qader, Ikhlas](#)

Western Michigan University

13:30-13:55, Paper D2AT1.2

[Tumor Model Parameter Estimation for Therapy Optimization Using Artificial Neural Networks \(I\)](#)[Puskás, Melánia](#)

Óbuda University

[Drexler, Dániel András](#)

Óbuda University

13:30-13:55, Paper D2AT1.3

[Applying Time-Varying Features in Children Respiratory Recognition and Classification for Respiration System Diseases Screening \(I\)](#)[Lichuan Liu, Lichuan](#)

Northern Illinois University

13:30-13:55, Paper D2AT1.4

[Optimized Robust Combined Feedforward/feedback Control of Propofol for Induction of Hypnosis in General Anesthesia \(I\)](#)[Schiavo, Michele](#)

Università Degli Studi Di Brescia

[Consolini, Luca](#)

University of Parma

[Laurini, Mattia](#)

Università Degli Studi Di Parma

[Latronico, Nicola](#)

University of Brescia

[Paltenghi, Massimiliano](#)

Spedali Civili Brescia

[Visioli, Antonio](#)

University of Brescia

13:30-13:55, Paper D2AT1.5

[A Multimodal Biomedical Image Registration Method Based on an Improved Genetic Algorithm Inspired by Hybrid Breeding](#)[Qin, Zeqing](#)

Hubei University of Technology

[Ye, Zhiwei](#)

Hubei University of Technology

[Wang, Zesong](#)

Hubei University

[Gan, Haitao](#)

Hubei University of Technology

[Wang, Furong](#)

Huazhong University of Science and Technology, Liyuan Hospital,

D2AT2

Room T2

[Connected and Autonomous Vehicles](#)

Regular Session

Chair: [Karimoddini, Ali](#)

North Carolina A&T State University

Co-Chair: [Lin, Shih-Chun](#)

North Carolina State University

13:30-13:55, Paper D2AT2.1

[XGBoost: A Tree-Based Approach for Traffic Volume Prediction \(I\)](#)[Lartey, Benjamin](#)

North Carolina A&T State University

[Homaifar, Abdollah](#)

North Carolina A&T State University

[Girma, Abenezzer](#)

NCAT

[Karimoddini, Ali](#)

North Carolina A&T State University

[Opoku, Daniel](#)

Kwame Nkrumah University of Science and Technology

13:30-13:55, Paper D2AT2.2

[A Pedestrian Detection and Tracking Framework for Autonomous Cars: Efficient Fusion of Camera and LiDAR Data \(I\)](#)[Islam, Muhammad Mobaidul](#)

North Carolina Agricultural and Technical State University

[Redwan Newaz, Abdullah Al](#)

North Carolina Agricultural and Technical State University

[Karimoddini, Ali](#)

North Carolina A&T State University

13:30-13:55, Paper D2AT2.3

[A C-V2X Platform Using Transportation Data and Spectrum-Aware Sidelink Access \(I\)](#)[Chia-Hung Lin, Chia-Hung](#)

North Carolina State University

[Lin, Shih-Chun](#)

North Carolina State University

[Wang, Chien-Yuan](#)

North Carolina State University

[Chase, Thomas](#)

North Carolina State University

13:30-13:55, Paper D2AT2.4

[Cooperative Search Algorithm for UAVs Based on Multi-Ant Colony](#)[Yue, Wei](#)

Dalian Maritime University

[Tang, Wenbin](#)

Dalian Maritime University

[Wang, Liyuan](#)

Dalian Minzu University

[Xi, Yun](#)

Dalian Maritime University

[Liu, Zhongchang](#)

Dalian Maritime University

[Zou, Cunming](#)

Liaoning Police College

13:30-13:55, Paper D2AT2.5

[A Systematic Robust Control Method for Marine Surface Vehicles](#)[Celentano, Laura](#)

University of Naples Federico II

[Basin, Michael](#)

Autonomous University of Nuevo Leon

[Shi, Peng](#)

University of Adelaide

D2AT3

Room T3

[Driver Behavior Analysis and Modeling \(DBAM\)](#)

Regular Session

Chair: [Ansari, Shahzeb](#)

University of Wollongong, Australia

Co-Chair: [Yan, Xiaotong](#)

Chongqing University

13:30-13:55, Paper D2AT3.1

[Application of Fully Adaptive Symbolic Representation to Driver Mental Fatigue Detection Based on Body Posture \(I\)](#)

[Ansari, Shahzeb](#)

University of Wollongong, Australia

[Du, Haiping](#)

University of Wollongong

[Naghdy, Fazel](#)

University of Wollongong, Australia

[Stirling, David](#)

University of Wollongong, Australia

13:30-13:55, Paper D2AT3.2

[*Three-Lane Car-Flowing Model Accounting for Variable Lane Change and Driving Behavior*](#)[Yan, Xiaotong](#)

Chongqing University

[Lee, Jia](#)

Chongqing University

[Zeng, Lingqiu](#)

Chongqing University

[Xia, Yunni](#)

Chongqing University

13:30-13:55, Paper D2AT3.3

[*Fessonia: A Method for Real-Time Estimation of Human Operator Workload Using Behavioural Entropy*](#)[Chatzithanos, Paraskevas](#)

University of West Attica

[Nikolaou, Grigoris](#)

University of West Attica

[Stolkin, Rustam](#)

Extreme Robotics Lab, NCNR, University of Birmingham

[Chiou, Manolis](#)

Extreme Robotics Lab, NCNR, University of Birmingham

13:30-13:55, Paper D2AT3.4

[*Maneuver Based Modeling of Driver Decision Making Using Game-Theoretic Planning*](#)[Lemmer, Markus](#)

FZI Research Center for Information Technology

[Shu, Jingzhe](#)

Karlsruhe Institute of Technology

[Schwab, Stefan](#)

FZI Research Center for Information Technology

[PV Sören Hohmann, Pv](#)

KIT

13:30-13:55, Paper D2AT3.5

[*Exploring Conventional, Automated and Deep Machine Learning for Electrodermal Activity-Based Drivers' Stress Recognition \(I\)*](#)[Lingelbach, Katharina](#)Fraunhofer Institute for Industrial Engineering IAO,
Stuttgart,[Bui, Michael](#)Fraunhofer Institute for Industrial Engineering IAO,
Stuttgart,[Diederichs, Frederik](#)

Fraunhofer

[Vukelic, Mathias](#)

Fraunhofer Institute for Industrial Engineering IAO

D2AT4

Room T4

[**Intelligent Transportation Systems \(I\)**](#)

Regular Session

Chair: [Liang, Gang](#)

Sichuan University

Co-Chair: [Qiu, Siqi](#)

Shanghai Jiao Tong University

13:30-13:55, Paper D2AT4.1

[*Multiagent Dynamic Route Assignment: Quick and Fair Itineraries to Connected and Autonomous Vehicles*](#)[Elimadi, Manal](#)

CIAD, Univ. Bourgogne Franche-Comté, UTBM

[Abbas Turki, Abdeljalil](#)

UTBM

[Koukam, Abderrafaa](#)

CIAD, Univ. Bourgogne Franche-Comté, UTBM

13:30-13:55, Paper D2AT4.2

[*Multi-Agent Systems and R-Trees for Dynamic and Optimised Ridesharing*](#)[Fevre, Corwin](#)

Centrale Lille

[Zgaya-Biau, Hayfa](#)

Lille University

[Mathieu, Philippe](#)

University of Lille

[Hammadi, Slim](#)

Ecole Centrale De Lille

13:30-13:55, Paper D2AT4.3

[*Low-Power Hardware-Friendly Fatigued Driving Detection Based on Feature Fusion and Time Series Classification*](#)[Xiao, Yuanxing](#)

Sichuan University

[Liang, Gang](#)

Sichuan University

13:30-13:55, Paper D2AT4.4

[*Design of Intelligent Dispatching System for Port Automatic Guiding Vehicle*](#)[Chen, Zhiyang](#)

Shanghai Jiao Tong University

[You, Jiapeng](#)

Shanghai Jiao Tong University

[Lu, Tong](#)

Shanghai Jiao Tong University

[Qiu, Siqi](#)

Shanghai Jiao Tong University

13:30-13:55, Paper D2AT4.5

[*A Customisable Longitudinal Controller of Autonomous Vehicle Using Data-Driven MPC*](#)[Pappu, Mohammad Rokonzaman](#)

Deakin University

[Mohajer, Navid](#)

Deakin University

[Mohamed, Shady](#)

Senior Research Fellow, Deakin University

[Nahavandi, Saeid](#)

Deakin University

D2AT5

Room T5

[Optimization \(1\)](#)

Regular Session

Chair: [Li, Ke](#)

University of Exeter

Co-Chair: [Bischoff, Esther](#)

Karlsruhe Institute of Technology (KIT)

13:30-13:55, Paper D2AT5.1

[*Transfer Bayesian Optimization for Expensive Black-Box Optimization in Dynamic Environment*](#)[Chen, Renzhi](#)

Defense Innovation Institute

[Li, Ke](#)

University of Exeter

13:30-13:55, Paper D2AT5.2

[*Towards Interactive Coordination of Heterogeneous Robotic Teams – Introduction of a Reoptimization Framework*](#)[Bischoff, Esther](#)

Karlsruhe Institute of Technology (KIT)

[Teufel, Jonas](#)

Karlsruhe Institute of Technology (KIT)

[Inga, Jairo](#)

Karlsruhe Institute of Technology (KIT)

[PV Sören Hohmann, Pv](#)

KIT

13:30-13:55, Paper D2AT5.3

[*A Comparative Study of GPU Metaheuristics for Data Clustering*](#)[Mario, Diego Ferreira dos Santos](#)

Federal University of Alagoas

[Nogueira, Bruno](#)

Universidade Federal De Alagoas (UFAL)

[Pinheiro, Rian G. S.](#)

Universidade Federal De Alagoas

[Guimarães, Almir](#)

Universidade Federal De Alagoas

[Andrade, Ermeson](#)

Federal Rural University of Pernambuco

[Dantas de Lima, Alexandre](#)

Universidade Federal De Alagoas

13:30-13:55, Paper D2AT5.4

[*A Multi-Objective Optimization-Based Clustering Approach for COVID-19 Scholarly Articles*](#)[Dutta, Pratik](#)

Indian Institute of Technology Patna

[Shah, Nupur](#)

Cummins College of Engineering for Women, Pune

[Saha, Sriparna](#)

Indian Institute of Technology Patna

13:30-13:55, Paper D2AT5.5

[*Simulation-Based Engineering Design: Solving Parameter Inference and Multi-Objective Optimization Problems on a Shared Simulation Budget*](#)[Jones, Oliver](#)

University of Sheffield

[Oakley, Jeremy](#)

University of Sheffield

[Purshouse, Robin](#)

University of Sheffield

D2AT6

Room T6

[**Intelligent Power and Energy Systems \(1\)**](#)

Regular Session

Chair: [Kumar, Vivek](#)

IIT BHU

Co-Chair: [Basin, Michael](#)

Autonomous University of Nuevo Leon

13:30-13:55, Paper D2AT6.1

[*Dynamic Event Driven Robust Control Design with Uncertainty Compensator for Agent Misbehavior in Autonomous AC Microgrid*](#)[Kumar, Vivek](#)

IIT BHU

[Mohanty, Soumya R.](#)

IIT BHU

13:30-13:55, Paper D2AT6.2

[*Predefined-Time Stabilization of Permanent-Magnet Synchronous Motor System Using Linear Time-Varying Control Input*](#)[Garza Alonso, Alison](#)

Autonomous University of Nuevo Leon

[Basin, Michael](#)

Autonomous University of Nuevo Leon

[Rodriguez-Ramirez, Pablo Cesar](#)

Autonomous Univ. of Nuevo Leon

13:30-13:55, Paper D2AT6.3

[ADMM-Based OPF Problem against Cyber Attacks in Smart Grid](#)[Jiangjiao, Xu](#)

University of Exeter

[Li, Ke](#)

University of Exeter

[Abusara, Mohammad](#)

University of Exeter

[Zhang, Yan](#)

Naval University of Engineering

13:30-13:55, Paper D2AT6.4

[Evaluation of Compressed Residential Energy Forecasting Models](#)[Fagaras, Robert](#)

University Politehnica of Bucharest

[Nichiforov, Cristina](#)

University Politehnica of Bucharest

[Stamatescu, Iulia](#)

University Politehnica of Bucharest

[Stamatescu, Grigore](#)

University Politehnica of Bucharest

13:30-13:55, Paper D2AT6.5

[A Decentralized Noncooperative Control Approach for Sharing Energy Storage Systems in Energy Communities](#)[Marino Calefati, Marino](#)

Politecnico Di Bari

[Proia, Silvia](#)

Politecnico Di Bari

[Scarabaggio, Paolo](#)

Politecnico Di Bari

[Carli, Raffaele](#)

Politecnico Di Bari

[Dotoli, Mariagrazia](#)

Politecnico Di Bari

D2AT7

Room T7

[Image Processing/Pattern Recognition \(V\)](#)

Regular Session

Chair: [Barhoum, Alaa](#)

University of New South Wales

Co-Chair: [Vo, Huy](#)

Willogy Viet Nam

13:30-13:55, Paper D2AT7.1

[Design and Evaluation of a Novel Ultra High-Resolution Lens Based-SPECT: Insight to Light Field Imaging](#)[Barhoum, Alaa](#)

University of New South Wales

[Manu Francis, Manu](#)

UNSW Canberra

[Camattari, Riccardo](#)

University of Ferrara

[Tahtali, Murat](#)

UNSW Canberra

13:30-13:55, Paper D2AT7.2

[Fine-Grained Hand Gesture Recognition in Multi-Viewpoint Hand Hygiene](#)[Vo, Huy](#)

Willogy Viet Nam

[Do, Tuong](#)

AIOZ

[Pham-Cao, Vi](#)

Willogy Viet Nam

[Nguyen Vu Minh, Duy](#)

Http: //infomed.vn

[Duong, An](#)

Willogy

[Tran, Quang](#)

□Willogy, AIOZ

13:30-13:55, Paper D2AT7.3

[Facial Age Progression Using Conditional Generative Adversarial Network with Heritable Visual Features](#)[Siritanawan, Prarinya](#)

Japan Advanced Institute of Science and Technology

[Kotani, Kazunori](#)

Japan Advanced Institute of Science and Technology

13:30-13:55, Paper D2AT7.4

[High Capacity Coverless Image Steganography Method Based on Geometrically Robust and Chaotic Encrypted Image Moment Feature](#)[Liu, Xiyao](#)

Central South University

[Yaokun, Fang](#)

Central South University

[Feiyi, He](#)

Central South University

[Zhaoying, Li](#)

Central South University

[Yayun, Zhang](#)

Central South University

[Xiongfei, Zeng](#)

Beijing Institute of Electronics Technology and Application

13:30-13:55, Paper D2AT7.5

[Discrete Semantic Embedding Hashing for Scalable Cross-Modal Retrieval](#)[Liu, Junjie](#)

Guangdong University of Technology

[Fei, Lunke](#)

Guangdong University of Technology

[Jia, Wei](#)

Hefei University of Technology

[Zhao, Shuping](#)

Guangdong University of Technology

[Wen, Jie](#)

Harbin Institute of Technology

[Teng, Shaohua](#)

Guangdong University of Technology

[Wei, Zhang](#)

GDUT

D2AT8

Room T8

[Neural Networks and Their Applications \(3\)](#)

Regular Session

Chair: [Su, Steven](#)

University of Technology Sydney

Co-Chair: [Tajima, Yoshiyuki](#)

Graduate School of Engineering Science, Yokohama National University

13:30-13:55, Paper D2AT8.1

[DeepMMSA: A Novel Multimodal Deep Learning Framework for Non-Small Cell Lung Cancer Survival Analysis](#)[Wu, Yujiao](#)

University of Technology Sydney

[Ling, Steve](#)

University of Technology Sydney

[Su, Steven](#)

University of Technology Sydney

[Jie, Ma](#)

University of Technology Sydney

[Huang, Xiaoshui](#)

University of Sydney

13:30-13:55, Paper D2AT8.2

[Multimodal Sentiment Analysis Based on Attention Mechanism and Tensor Fusion Network](#)[Zhang, Kang](#)

Qilu University of Technology (Shandong Academy of Sciences)

[Geng, Yushui](#)

Qilu University of Technology (Shandong Academy of Sciences)

[Zhao, Jing](#)

Qilu University of Technology (Shandong Academy of Sciences)

[Li, Wenxiao](#)

Qilu University of Technology (Shandong Academy of Sciences)

[Liu, Jianxin](#)

Qilu University of Technology (Shandong Academy of Sciences)

13:30-13:55, Paper D2AT8.3

Self-Temporal Extension with Multi-View Feature Learning for Unsupervised Domain Adaptive Person Re-Identification[Hong, Jiajing](#)

Peking University

[Zhang, Yang](#)

Peking University

[Zhu, Yuesheng](#)

Peking University

13:30-13:55, Paper D2AT8.4

Alzheimer's Disease Detection and Classification Using Transfer Learning Technique and Ensemble on Convolutional Neural Networks[Sadat, Sayed Us](#)

BRAC University

[Shomee, Homaira Huda](#)

BRAC University

[Awwal, Alvina](#)

BRAC University

[Nur Amin, Sadia](#)

BRAC University

[Reza, Md Tanzim](#)

BRAC University

[Parvez, Mohammad Zavid](#)

BRAC University

13:30-13:55, Paper D2AT8.5

Ordinal Regression Based on the Distributional Distance between Labels[Tajima, Yoshiyuki](#)Graduate School of Engineering Science, Yokohama National
Univer[Hamagami, Tomoki](#)

Yokohama National University

D2AT9

Room T9

Shared Control Theory and Applications (SCT-A)

Regular Session

Chair: [Varga, Balint](#)

Karlsruhe Institute of Technology (KIT), Campus South

Co-Chair: [Hasbach, Jonas David](#)Fraunhofer Institute for Communication, Information
Processing and Ergonomics FKIE

13:30-13:55, Paper D2AT9.1

Personalized Design and Experimental Validation of a Limited Information Cooperative Shared-Controller for Vehicle-Manipulators (I)[Varga, Balint](#)

Karlsruhe Institute of Technology (KIT), Campus South

[Inga, Jairo](#)

Karlsruhe Institute of Technology (KIT)

[PV Sören Hohmann, Pv](#)

KIT

13:30-13:55, Paper D2AT9.2

Human-Machine Intelligence: Frigates Are Intelligent Organisms (I)[Hasbach, Jonas David](#)Fraunhofer Institute for Communication, Information
Processing A[Witte, Thomas](#)Fraunhofer Institute for Communication, Information
Processing A

13:30-13:55, Paper D2AT9.3

[Cooperative Patterns or How to Support Human-Cyber-Physical Systems Cooperation \(!\)](#)[Pacaux-Lemoine, Marie-Pierre](#)

Lamih - Cnrs Umr 8201

[Habib, Lydia](#)Univ. Valenciennes, CNRS, UMR 8201 LAMIH, F-59313
Valenciennes,[Berdal, Quentin](#)

LAMIH, Université Polytechnique Des Hauts-De-France

[Trentesaux, Damien](#)

University of Valenciennes and Hainaut Cambresis

13:30-13:55, Paper D2AT9.4

Human-Machine Patterns for System Design, Cooperation and Interaction in Socio-Cyber-Physical Systems: Introduction and General Overview (I)[Flemisch, Frank](#)

RWTH Aachen University/Fraunhofer

13:30-13:55, Paper D2AT9.5

[Skill-Level-Based Hybrid Shared Control for Human-Automation Systems](#)[Byeon, Sooyung](#)

Purdue University

[Sun, Dawei](#)

Purdue University

[Hwang, Inseok](#)

Purdue University

D2AT10

Room T10

[Machine Learning \(6\)](#)

Regular Session

Chair: [Tatsumi, Keiji](#)

Osaka University

Co-Chair: [Adams, Stephen](#)

University of Virginia

13:30-13:55, Paper D2AT10.1

[Multiclass Support Vector Machines for Determination of Reinforcement Degree in Constructing Large-Scale Structures Based on Data Characteristics](#)[Tatsumi, Keiji](#)

Osaka University

[Masui, Ryoua](#)

Osaka University

[Tsujioka, Shunsuke](#)

Osaka University

[Kusunoki, Yoshifumi](#)

Osaka Prefecture University

[Yun, Yeboon](#)

Kansai University

13:30-13:55, Paper D2AT10.2

[Pareto-Optimal Active Learning with Cost](#)[Adams, Stephen](#)

University of Virginia

[Cody, Tyler](#)

Virginia Tech

[Beling, Peter](#)

University of Virginia

13:30-13:55, Paper D2AT10.3

[On the Evaluation of Competence Measures for Time Series Forecasting](#)[Moura, Thiago Jose Marques](#)

IFPB

[Cavalcanti, George](#)

Universidade Federal De Pernambuco

[Oliveira, Luiz](#)

UFPR

13:30-13:55, Paper D2AT10.4

Simulation Failure-Robust Bayesian Optimization for Estimating Black-Box Model Parameters[Chakrabarty, Ankush](#)

Mitsubishi Electric Research Labs

[Bortoff, Scott](#)

Mitsubishi Electric Research Laboratories

[Chris Laughman, Chris](#)

Mitsubishi Electric Research Laboratories

13:30-13:55, Paper D2AT10.5

Random Forest Q-Learning for Feedback Stabilization of Probabilistic Boolean Control Networks[Bajaria, Pratik](#)

Veermata Jijabai Technological Institute

[Yerudkar, Amol](#)

University of Sannio

[Del Vecchio, Carmen](#)

Università Degli Studi Del Sannio

D2BT1

Room T1

Computational Intelligence (1)

Regular Session

Chair: [Feng, Liang](#)

Chongqing University

Co-Chair: [Hu, Xiao-Min](#)

Guangdong University of Technology

13:55-14:20, Paper D2BT1.1

Evolutionary Multitasking Via Artificial Neural Networks[Chen, Xia](#)

CHONGQING UNIVERSITY

[Huang, Yuxiao](#)

Chongqing University

[Zhou, Wei](#)

Chongqing University

[Feng, Liang](#)

Chongqing University

13:55-14:20, Paper D2BT1.2

Multimodal Bare-Bone Niching Differential Evolution in Feature Selection[Hu, Xiao-Min](#)

Guangdong University of Technology

[Guo, Zi-Wen](#)

Guangdong University of Technology

13:55-14:20, Paper D2BT1.3

OLOC: Online Learning Recommender System Based on Online Clustering[Zarei, Maryam](#)

Kharazmi University

[Nazemian, Ali](#)

Sharif University of Technology

13:55-14:20, Paper D2BT1.4

Novel Pruning of Dendritic Neuron Models for Improved System Implementation and Performance[Wen, Xiaohao](#)

Macau University of Science and Technology

[Zhou, Mengchu](#)

New Jersey Institute of Technology

[Luo, Xudong](#)

Guangxi Normal University

[Huang, Lukui](#)

Thammasat University

[Wang, Ziyue](#)

Macau University of Science and Technology

13:55-14:20, Paper D2BT1.5

RISC-VTF: RISC-V Based Extended Instruction Set for Transformer[Jiao, Qiang](#)[Hu, Wei](#)[Liu, Fang](#)[Dong, Yong](#)

Wuhan University of Science and Technology

Wuhan University of Science and Technology

Wuhan University

Wuhan University of Science and Technology

D2BT2

Room T2

Cooperative and Intelligent Systems

Regular Session

Chair: [Roos, Stefan](#)

Dr. Ing. H.c. F. Porsche AG

Co-Chair: [Atharv Tendolkar, Atharv](#)

Manipal Institute of Technology

13:55-14:20, Paper D2BT2.1

A Methodology for Intelligent Offloading Decision in Mobile Cloud Computing Environments[Melo, Henning Barly Summer](#)

UFRPE

[Medeiros, Robson Wagner Albuquerque](#)

Federal Rural University of Pernambuco

[Lins, Fernando Antonio Aires](#)

Federal Rural University of Pernambuco

13:55-14:20, Paper D2BT2.2

The Fractional Accumulative Time-Delay GM (1, N) model and Its Application[Song, Jiakang](#)

Nanjing University of Aeronautics and Astronautics

13:55-14:20, Paper D2BT2.3

SBOF: An End-To-End Framework for Simulative Black-Box Optimization of Hybrid Perceptive Functions[Roos, Stefan](#)

Dr. Ing. H.c. F. Porsche AG

[Schmidt, Julian](#)

Mercedes-Benz AG

[Stork, Wilhelm](#)

Karlsruhe Institute of Technology (KIT)

13:55-14:20, Paper D2BT2.4

Estuarine-Star (smart Estuarine Aquaculture Management with Sensor Network)[Atharv Tendolkar, Atharv](#)

Manipal Institute of Technology

[Choraria, Amit](#)

Manipal Institute of Technology

[Surathkal, Shreesha](#)

Manipal Institute of Technology

[Arjun hariharan, Arjun](#)

Manipal Institute of Technology

[Pai M.M., Manohara](#)

Manipal Institute of Technology

[Pai M.M., Radhika](#)

Manipal Institute of Technology

[K.S., Adithya](#)

Manipal Institute of Technology

13:55-14:20, Paper D2BT2.5

A Balanced Shadow-Following Coverage Path Planning Approach under Energy Constraints[Wang, Huan](#)

National University of Defense Technology

[Shi, Dianxi](#)

National Innovation Institute of Defense Technology

[Wu, Yunlong](#)

National Innovation Institute of Defense Technology

[Li, Lin](#)

National University of Defense Technology

[Li, Ning](#)
[Xu, Jiachi](#)

National University of Defense Technology
 National University of Defense Technology

D2BT3

Room T3

Driving Simulation Methods & Advanced Driver Assistance Systems (ADAS)

Regular Session

Chair: [Kusakari, Yuta](#)
 Co-Chair: [Saito, Yuichi](#)

Tokyo Metropolitan University
 University of Tsukuba

13:55-14:20, Paper D2BT3.1

Effect of Human–Machine Interface of a Vehicle on Right-Turn Maneuver at Intersections Using a Driving Simulator (I)

[Kusakari, Yuta](#)
[Oikawa, Shoko](#)
[Matsui, Yasuhiro](#)
[Kubota, Naoyuki](#)

Tokyo Metropolitan University
 Tokyo Metropolitan University
 National Traffic Safety and
 Environment Laboratory
 Tokyo Metropolitan University

13:55-14:20, Paper D2BT3.2

Design of Haptic Protection with an Adaptive Level of Authority Based on Risk Indicators under Hands-On Partial Driving Automation (I)

[Saito, Yuichi](#)
[Muslim, Husam](#)
[Itoh, Makoto](#)

University of Tsukuba
 Tsukuba University
 University of Tsukuba

13:55-14:20, Paper D2BT3.3

Subjective Evaluation of Filter and Optimization-Based Motion Cueing Algorithms for a Hybrid Kinematics Driving Simulator

[Biemelt, Patrick](#)
[Böhm, Sabrina](#)
[Gausemeier, Sandra](#)
[Trächtler, Ansgar](#)

Heinz Nixdorf Institute, University of
 Paderborn
 Heinz Nixdorf Institute, University of
 Paderborn
 Heinz Nixdorf Institute, University of
 Paderborn
 Heinz Nixdorf Institute, University of
 Paderborn

13:55-14:20, Paper D2BT3.4

An MPC-Based Motion Cueing Algorithm Using Washout Speed and Grey Wolf Optimizer

[Chalak Qazani, Mohamad Reza](#)
[Asadi, Houshyar](#)
[Mohamed, Shady](#)
[Abu Alqumsan, Ahmad](#)
[Rahimzadeh, Ghazal](#)
[Lim, Chee Peng](#)
[Nahavandi, Saeid](#)

Institute for Intelligent Systems
 Research and Innovation (IISRI)
 Deakin University
 Senior Research Fellow, Deakin
 University
 Deakin University
 Deakin University, IISRI
 Deakin University
 Deakin University

13:55-14:20, Paper D2BT3.5

[Shared Decision-Making Forward an Autonomous Navigation for Intelligent Vehicles](#)[Ahmad Shour, Ahmad](#)Université De Technologie De
Compiègne, CNRS, Heudiasyc
(Heurist)[Pousseur, Hugo](#)Université De Technologie De
Compiègne, CNRS, Heudiasyc
(Heurist)[Victorino, Alessandro Correa](#)Sorbonne Universités - Université De
Technologie De Compiègne -[Cherfaoui, Veronique](#)Université De Technologie De
Compiègne, CNRS, Heudiasyc
(Heurist)**D2BT4**

Room T4

[Intelligent Transportation Systems \(II\)](#)

Regular Session

Chair: [Schwalb, Edward](#)

Schwalb Consulting

Co-Chair: [Hou, Xiangting](#)

Nanyang Technological University

13:55-14:20, Paper D2BT4.1

[Dynamic Time-Constrained Path Recommendation with User's Preference](#)[Wu, Yixi](#)

Tongji University

13:55-14:20, Paper D2BT4.2

[Time-Dependent Ant Colony Optimization Algorithm for Solving the Fastest Traffic Path Finding Problem in a Dynamic Environment](#)[Elleuch, Wiam](#)

National School of Engineers of Sfax

[Wali, Ali](#)

National School of Engineers of Sfax

[Alimi, Adel](#)

University of Sfax

13:55-14:20, Paper D2BT4.3

[Collision Mitigation in the Presence of Uncertainty](#)[Parseh, Masoumeh](#)

KTH Royal Institute of Technology

[Asplund, Fredrik](#)

KTH Royal Institute of Technology

13:55-14:20, Paper D2BT4.4

[Bayesian-Based Absolute Positions Estimation for the Nearby Vehicle through Vehicle-To-Vehicle Communications](#)[Hou, Xiangting](#)

Nanyang Technological University

[Luo, Linbo](#)

Xidian University, School of Cyber Engineering

[Cai, Wentong](#)

Nanyang Technological University

13:55-14:20, Paper D2BT4.5

[A Two-Level Abstraction ODD Definition Language: Part II](#)[Schwalb, Edward](#)

Schwalb Consulting

[Irvine, Patrick](#)

WMG, University of Warwick

[Zhang, Xizhe](#)
[Khastgir, Siddhartha](#)
[Jennings, Paul](#)

University of Warwick
 WMG, University of Warwick, UK
 WMG, University of Warwick

D2BT5

Room T5

Optimization (2)

Regular Session

Chair: [Faiza, Ajmi](#)

Ecole Centrale De Lille

Co-Chair: [Mouhoub, Malek](#)

University of Regina

13:55-14:20, Paper D2BT5.1

[Friends and Enemies Agents Collaboration Protocol to Optimize Multi-Skills Patient Scheduling in Emergency Department](#)

[Faiza, Ajmi](#)
[Ajmi, Faten](#)
[Ben Othman, Sarah](#)
[Zgaya-Biau, Hayfa](#)
[Renard, Jean-Marie](#)
[Gregoire, Smith](#)
[Hammadi, Slim](#)

Ecole Centrale De Lille
 University of Lille
 Ecole Centrale De Lille
 Lille University
 University of Lille
 CHU of Lille
 Ecole Centrale De Lille

13:55-14:20, Paper D2BT5.2

[Weighted Constrained CP-Nets: An Extension of Constrained CP-Nets with Weighted Constraints](#)

[Alkhiri, Hassan](#)
[Mouhoub, Malek](#)

University of Regina
 University of Regina

13:55-14:20, Paper D2BT5.3

[Online Multimodal Transportation Planning Using Deep Reinforcement Learning](#)

[Farahani, Amirreza](#)
[Genga, Laura](#)
[Dijkman, Remco](#)

Eindhoven University of Technology
 Eindhoven University of Technology
 Eindhoven University of Technology

13:55-14:20, Paper D2BT5.4

[A Truncated Newton Method-Based Symmetric Non-Negative Latent Factor Model for Large-Scale Undirected Networks Representation](#)

[Li, Weiling](#)
[Luo, Xin](#)

Dongguan University of Technology
 Chinese Academy of Sciences

13:55-14:20, Paper D2BT5.5

[Discrete-Time Recurrent Neural Network for Solving Multi-Linear M-Tensor Equation](#)

[Wu, Huanmei](#)
[Wang, Shuqiao](#)
[Du, Xiujuan](#)
[Jin, Long](#)

Lanzhou University
 Qinghai Normal University
 Qinghai Normal University
 Lanzhou University

D2BT6

Room T6

Intelligent Power and Energy Systems (2)

Regular Session

Chair: [Gao, Dianzhu](#)

Central South University

Co-Chair: [Rabelo, Ricardo A. L.](#)

Federal University of Piauí

13:55-14:20, Paper D2BT6.1

Establishing a Hybrid Pieceswise Linear Model for Air Quality Prediction Based Missingness Challenges[Zhu, Huilin](#)

Waseda University

[Ren, Yanni](#)

Waseda University

[Hu, Jinglu](#)

Waseda University

13:55-14:20, Paper D2BT6.2

Condition Monitoring and Failure Prognostic of Wind Turbine Blades[Rezamand, Milad](#)

University of Windsor

[Kordestani, Mojtaba](#)

University of Windsor

[Orchard, Marcos](#)

University of Chile

[Carriveau, Rupp](#)

University of Windsor

[Ting, David](#)

University of Windsor

[Saif, Mehrdad](#)

University of Windsor

13:55-14:20, Paper D2BT6.3

An Optimal Pulse Heating Strategy for Lithium-Ion Battery Considering Both Capacity Fade and Heating Time[Jiang, Honglang](#)

Central South University

[Huang, Zhiwu](#)

Central South University

[Liu, Yongjie](#)

Central South University

[Gao, Dianzhu](#)

Central South University

[Gao, Zhiwei](#)

Central South University, School of Automation

[Li, Heng](#)

Central South University

[Liu, Weirong](#)

Central South University

[Peng, Jun](#)

Central South University

13:55-14:20, Paper D2BT6.4

Optimal Charging of Supercapacitors with Limited Charging Time[Li, Heng](#)

Central South University

[Bai, Lu](#)

Central South University

[Gao, Dianzhu](#)

Central South University

[Peng, Jun](#)

Central South University

[Huang, Zhiwu](#)

Central South University

13:55-14:20, Paper D2BT6.5

Towards Sustainability Using an Edge-Fog-Cloud Architecture for Demand-Side Management[Veloso, Artur Felipe da Silva](#)

University Federal of Piauí

[Moura, Mário C. L.](#)

Federal University of Piauí

[Mendes, Douglas](#)

Federal University of Piauí

[Reis Júnior, Jose](#)
[Rabelo, Ricardo A. L.](#)
[Rodrigues, Joel](#)

Federal University of Piauí
 Federal University of Piauí
 Federal University of Piauí

D2BT7

Room T7

Image Processing/Pattern Recognition (VI)

Regular Session

Chair: [Yang, Mengning](#)

ChongQing University

Co-Chair: [Kharrat, Asma](#)

Higher Institute of Computer Sciences and Multimedia (ISIMS), University of Sfax

13:55-14:20, Paper D2BT7.1

EStarGAN: Enhanced StarGAN for Multi-Style High-Definition Image Translation[Zhang, Xin](#)

ChongQing University

[Yang, Mengning](#)

ChongQing University

[Chai, Haiyang](#)

Chongqing University

13:55-14:20, Paper D2BT7.2

Localized Feature Aggregation Module for Semantic Segmentation[Furukawa, Ryouichi](#)

Meijo University

[Hotta, Kazuhiro](#)

Meijo University

13:55-14:20, Paper D2BT7.3

Analyzing the Influence of the Arabic Handwriting Types on a Writer Identification[Kharrat, Asma](#)

Higher Institute of Computer Sciences and Multimedia (ISIMS), Un

[Kallel, Ilhem](#)

REGIM-Lab., ENIS, University of Sfax

[Kanoun, Slim](#)

MIRACL Lab, University of Sfax

13:55-14:20, Paper D2BT7.4

Identifying Irregular Objects in Scenes: Semantic Segmentation Network Based on Multi-Path Irregular Convolution[Wang, Min](#)

Hohai University

[Yue, Weixiang](#)

HoHai University

13:55-14:20, Paper D2BT7.5

Learning-Based Template Matching for Robot Arm Grasping[Le, Minh-Tri](#)

National Cheng Kung University

[Lien, Jenn-Jier](#)

National Cheng Kung University

D2BT8

Room T8

Neural Networks and Their Applications (4)

Regular Session

Chair: [Akhroufi, Moulay](#)

University of Moncton

Co-Chair: [Srinivasan, Ramya](#)

Fujitsu

13:55-14:20, Paper D2BT8.1

Efficient Deep Neural Network for an Automated Detection of COVID-19 Using CT Images

[Chetoui, Mohamed](#)

University

[Akhroufi, Moulay](#)

University of Moncton

13:55-14:20, Paper D2BT8.2

[*Quantifying Confounding Bias in AI Generated Art: A Case Study*](#)[Srinivasan, Ramya](#)

Fujitsu

[Uchino, Kanji](#)

Fujitsu Laboratories of America, Inc

13:55-14:20, Paper D2BT8.3

[*Using Deep Learning for Fast Dose Refinement in Proton Therapy*](#)[Spezialetti, Matteo](#)

University of L'Aquila

[Lapenna, Fulvio](#)

University of L'Aquila

[Caianiello, Pasquale](#)

University of L'Aquila

[Fracchiolla, Francesco](#)

Santa Chiara Hospital of Trento

[Muciaccia, Federico](#)

Sapienza University of Rome

[Placidi, Giuseppe](#)

University of L'Aquila

[Russo, Giorgio](#)

Institute of Molecular Bioimaging and Physiology, Cefalù, Palerm

[Mignosi, Filippo](#)

University of L'Aquila

13:55-14:20, Paper D2BT8.4

[*Deep Learning Models for Strawberry Yield and Price Forecasting Using Satellite Images*](#)[Gastli, Mohamed Sadok](#)

University of Waterloo

[Nassar, Lobna](#)

University of Waterloo

[Karray, Fakhreddine](#)

University of Waterloo

13:55-14:20, Paper D2BT8.5

[*Box-Driven Weakly Supervised Images Semantic Segmentation Algorithm Based on Attention Model*](#)[Liu, Jianxin](#)

Qilu University of Technology (Shandong Academy of Sciences)

[Geng, Yushui](#)

Qilu University of Technology (Shandong Academy of Sciences)

[Zhao, Jing](#)

Qilu University of Technology (Shandong Academy of Sciences)

[Li, Wenxiao](#)

Qilu University of Technology (Shandong Academy of Sciences)

[Zhang, Kang](#)

Qilu University of Technology (Shandong Academy of Sciences)

D2BT9

Room T9

[Simulation Analysis & Internet of Things \(IOT\)](#)

Regular Session

Chair: [Savaglio, Claudio](#)

Universita Della Calabria,

Co-Chair: [Morris, Alexis](#)

OCAD University

13:55-14:20, Paper D2BT9.1

[*IoT Platforms and Services Configuration through Parameter Sweep: A Simulation-Based Approach \(I\)*](#)[Savaglio, Claudio](#)

Universita Della Calabria,

[Marozzo, Fabrizio](#)

Universita Della Calabria

[Barbieri, Alessandro](#)

Universita Della Calabria

13:55-14:20, Paper D2BT9.2

[A Hybrid Quality-Of-Experience Taxonomy for Mixed Reality IoT \(XRI\) Systems](#)[Tsang, Tara](#)

OCAD University

[Morris, Alexis](#)

OCAD University

13:55-14:20, Paper D2BT9.3

[Simulation Concept of Production Environments – an Employee-Oriented Approach](#)[Tropschuh, Barbara](#)

Technical University of Munich; Institute for Machine Tools And

[März, Lothar](#)

Stremmer AG

[Hagemann, Florian](#)

MAN Bus & Truck SE

[Schaplewski, Nico](#)

MAN Bus & Truck SE

13:55-14:20, Paper D2BT9.4

[Dynamic Stress Profile Generation for Crisis Situations Training](#)[Pelissero-Witoslawski, Luca](#)

Heudiasyc | Umr Cnrs 7253

[Lourdeaux, Domitile](#)

CNRS, Heudiasyc UMR 7253

[Lenne, Dominique](#)

UTC

13:55-14:20, Paper D2BT9.5

[Investigation on Accepted Package Delivery Location a User Study-Based Approach](#)[Kannan, Shyam Sundar](#)

Purdue University

[Min, Byung-Cheol](#)

Purdue University

D2BT10

Room T10

[Machine Learning \(7\)](#)

Regular Session

Chair: [Kato, Sota](#)

Meijo University

Co-Chair: [Ravi, Ambareesh](#)

University of Waterloo

13:55-14:20, Paper D2BT10.1

[Automatic Preprocessing and Ensemble Learning for Cell Segmentation with Low Quality](#)[Kato, Sota](#)

Meijo University

[Hotta, Kazuhiro](#)

Meijo University

13:55-14:20, Paper D2BT10.2

[AutoEncoder Regularization Using Support Vector Data Description for Anomaly Detection](#)[Ravi, Ambareesh](#)

University of Waterloo

[Karray, Fakhreddine](#)

University of Waterloo

13:55-14:20, Paper D2BT10.3

[A Constrained Generative Approach to Generalized Zero-Shot Object Recognition](#)[Das, Debasmit](#)

Qualcomm

[Lee, C.S. George](#)

Purdue University

13:55-14:20, Paper D2BT10.4

[Sentiment Analysis in Arabic Social Media Using Deep Learning Models](#)[Yafoz, Ayman](#)[Mouhoub, Malek](#)

King Abdulaziz University

University of Regina

13:55-14:20, Paper D2BT10.5

[Identifying Ski Roughness Using Data Driven Approaches](#)[Al-Jubouri, Bassma](#)[de Wijn, Astrid S.](#)

The Norwegian University of Science and Technology (NTNU)

The Norwegian University of Science and Technology (NTNU)

D2CT1

Room T1

[Computational Intelligence \(2\)](#)

Regular Session

Chair: [Yang, Jijiang](#)Research Center of Digital Health Engineering, Department of Automation,
Tsinghua UniversityCo-Chair: [Chalak Qazani, Mohamad Reza](#)

Institute for Intelligent Systems Research and Innovation (IISRI)

14:25-14:50, Paper D2CT1.1

[A Fast and Reliable Approach for Driving Style Customization in Autonomous Vehicles](#)[Chalak Qazani, Mohamad Reza](#)

Institute for Intelligent Systems Research and Innovation (IISRI)

[Asadi, Houshyar](#)

Deakin University

[Lim, Chee Peng](#)

Deakin University

[Mohamed, Shady](#)

Senior Research Fellow, Deakin University

[Nahavandi, Darius](#)

Deakin University

[Khosravi, Abbas](#)

Deakin University

[Nahavandi, Saeid](#)

Deakin University

[Bhasin, Navneet](#)

Ford of Australia

14:25-14:50, Paper D2CT1.2

[EXplainable and Individualizable for Physiotherapeutic Decision Support for the Elderly](#)[de Albuquerque Campos, Mariana](#)

University of Pernambuco

[Caldas, Rafael](#)

University of Pernambuco

[Buarque de Lima Neto, Fernando](#)

University of Pernambuco

14:25-14:50, Paper D2CT1.3

[Assessing the Significance of Co-Occurring Terms in Goods and Services Tax in India Using Co-Occurrence Graphs and Attention Based Deep Learning Models](#)[B., Chandra](#)

Adjunct Professor, School of IT, IIT Delhi

[Dikshit, Pankaj](#)

Research Student, School of IT, IIT Delhi

14:25-14:50, Paper D2CT1.4

[Effect of Neural Decay Factors on Prediction Performance in Chaotic Echo State Networks](#)[Ebato, Yudai](#)

Chiba Institute of Technology

[Nobukawa, Sou](#)

Chiba Institute of Technology

[Nishimura, Haruhiko](#)

University of Hyogo

14:25-14:50, Paper D2CT1.5

[*MwUnet: A Semantic Segmentation Deep Learning Method for the Ultrasonic Image of Hydronephrosis in Children \(I\)*](#)[Peng, Haoran](#)

Beijing University of Technology

[Yu Guan, Yu](#)

Beijing University of Technology

[Jianqiang, Li](#)

Beijing University of Technology

[Xu, Xi](#)

Beijing University of Technology

[Wen, Pengceng](#)

Beijing University of Technology

[Yang, Jijiang](#)

Research Center of Digital Health Engineering, Department of Aut

[Jia, Yanhe](#)

Beijing Information Science & Technology University

[Xie, Xianghui](#)

Beijing Children's Hospital, Capital Medical University, Nationa

[Li, Minglei](#)

Beijing Children's Hospital, Capital Medical University, Nationa

[Wang, Xiaoman](#)

Beijing Children's Hospital, Capital Medical University, Nationa

[Xin, Yue](#)

Beijing Children's Hospital, Capital Medical University, Nationa

[He, Yuzhu](#)

National Children's Hospital of Urology, Capital University, Bei

D2CT2

Room T2

[Data Driven Techniques for Pattern Recognition](#)

Regular Session

Chair: [Weber, Christian](#)

University of Siegen

Co-Chair: [Homaifar, Abdollah](#)

North Carolina A&T State University

14:25-14:50, Paper D2CT2.1

[*A Supervised Feature Selection Method for Mixed-Type Data Using Density-Based Feature Clustering \(I\)*](#)[Yan, Xuyang](#)

North Carolina A&T State University

[Sarkar, Mrinmoy](#)

North Carolina A&T State University

[Biniam tadesse Gebru, Biniam tadesse](#)North Carolina Agricultural and Technology State
University[Nazmi, Shabnam](#)

North Carolina A&T State University

[Homaifar, Abdollah](#)

North Carolina A&T State University

14:25-14:50, Paper D2CT2.2

[*DA-2-Net: Diverse Adaptive Attention Convolutional Neural Network \(I\)*](#)[Girma, 27405](#)

NCAT

[Homaifar, Abdollah](#)

North Carolina A&T State University

[Mamoud, Mahmoud](#)

North Carolina a and T Stat University

[Yan, Xuyang](#)

North Carolina A&T State University

[Sarkar, Mrinmoy](#)

North Carolina A&T State University

14:25-14:50, Paper D2CT2.3

[*Clustering Wafer Defect Patterns within the Semiconductor Industry Based on Wafer Maps, Using an Agile Unsupervised Deep Learning Approach \(I\)*](#)[Weber, Christian](#)

University of Siegen

[Tripuramallu, Akash](#)

University of Siegen

[Czerner, Peter](#)

Elmos Semiconductor SE

[Fathi, Madjid](#)

Institute of Based System & Knowledge Management

14:25-14:50, Paper D2CT2.4

[*Attack Pattern Recognition in the Internet of Things Using Complex Event Processing and Machine Learning \(I\)*](#)[Roldán-Gómez, José](#)

University of Castilla-La Mancha

[Boubeta-Puig, Juan](#)

University of Cádiz

[Castelo, Juan Manuel](#)

University of Castilla-La Mancha

[Carrillo-Mondéjar, Javier](#)

University of Castilla-La Mancha

[Martínez, José Luis](#)

University of Castilla-La Mancha

14:25-14:50, Paper D2CT2.5

[*A Robust Completed Local Binary Pattern \(RCLBP\) for Surface Defect Detection \(I\)*](#)[Gyimah, Nana Kankam](#)North Carolina Agricultural and Technical State
University[Girma, Abenezer](#)

NCAT

[Mahmoud, Mahmoud Nabil](#)North Carolina Agricultural and Technical State
University[Nateghiboroujeni, Shamila](#)North Carolina Agricultural and Technical State
University[Homaifar, Abdollah](#)

North Carolina A&T State University

[Opoku, Daniel](#)Kwame Nkrumah University of Science and
Technology**D2CT3**

Room T3

[Emotional State Classification Methods \(ESCM\)](#)

Regular Session

Chair: [Algumaei, Mohammed](#)

Deakin University

Co-Chair: [Grekow, Jacek](#)

Bialystok University of Technology

14:25-14:50, Paper D2CT3.1

[*Wavelet Packet Energy Features for EEG-Based Emotion Recognition \(I\)*](#)[Algumaei, Mohammed](#)

Deakin University

[Hettiarachchi, Imali Thanuja](#)

Deakin University

[Veerabhadrapa, Rakesh](#)

Deakin University

[Bhatti, Asim](#)

Deakin University

14:25-14:50, Paper D2CT3.2

[*Generating Musical Sequences with a Given Emotion*](#)[Grekow, Jacek](#)

Bialystok University of Technology

14:25-14:50, Paper D2CT3.3

[*Multi-Task Active Learning for Simultaneous Emotion Classification and Regression*](#)[Jiang, Xue](#)

Huazhong University of Science and Technology

[Meng, Lubin](#)

Huazhong University of Science and Technology

[Wu, Dongrui](#)

14:25-14:50, Paper D2CT3.4

[*A Deep Convolutional Neural Network Model for Classification of Emotions from Electroencephalography Data*](#)[Veerabhadrapa, Rakesh](#)

Deakin University

[Hettiarachchi, Imali Thanuja](#)

Deakin University

[Algumaei, Mohammed](#)

Deakin University

[Bhatti, Asim](#)

Deakin University

14:25-14:50, Paper D2CT3.5

[*Detecting Lies: Finding the Degree of Falsehood from Observers' Physiological Responses*](#)[Chu, Ruimin](#)

The Australian National University

[Rahman, Jessica Sharmin](#)

The Australian National University

[Caldwell, Sabrina](#)

The Australian National University

[Zhu, Xuanying](#)

The Australian National University

[Gedeon, Tom](#)

Australian National University

D2CT4

Room T4

[**Intelligent Learning in Control Systems \(I\)**](#)

Regular Session

Chair: [Yogi, Subhash Chand](#)

IIT Kanpur

Co-Chair: [Shirvani, Shirin](#)

University of Texas at Arlington

14:25-14:50, Paper D2CT4.1

[*Multi-Pronged Safe Bayesian Optimization for High Dimensions*](#)[De Blasi, Stefano](#)

Bosch Rexroth AG

[Neifer, Alexander](#)

Bosch Rexroth AG

[Gepperth, Alexander](#)

UAS Fulda

14:25-14:50, Paper D2CT4.2

[*Optimal Bounded Inversion for Nonminimum Phase Nonhyperbolic Systems*](#)[Ye, Linqi](#)

Tsinghua University

[Wang, Yaqi](#)

Tsinghua University

[Meng, Deshan](#)

Sun Yat-Sen University, Shenzhen

[Wang, Xueqian](#)

Tsinghua University

[Liang, Bin](#)

Tsinghua University

14:25-14:50, Paper D2CT4.3

[*Universal Tracking Controller with Disturbance Rejection*](#)[Ye, Linqi](#)

Tsinghua University

14:25-14:50, Paper D2CT4.4

[*An Intelligent Robust Control Strategy for an Uncertain Quadrotor*](#)[Yogi, Subhash Chand](#)

IIT Kanpur

[Behera, Laxmidhar](#)

IIT Kanpur

14:25-14:50, Paper D2CT4.5

[*A Deep Reinforcement Learning Approach to Learning Tree Edit Policies on Binary Trees*](#)[Shirvani, Shirin](#)

University of Texas at Arlington

[Huber, Manfred](#)

The University of Texas at Arlington

D2CT5

Room T5

[Optimization \(3\)](#)

Regular Session

Chair: [Saini, Naveen](#)

Endicott College of International Studies, Woosong University, South Korea

Co-Chair: [Pressigout, Muriel](#)

INSA Rennes / IETR - UMR 6164

14:25-14:50, Paper D2CT5.1

[*Distance Covariance: A Nonlinear Extension of Riemannian Geometry for EEG-Based Brain-Computer Interfacing*](#)[Xu, Jiachen](#)

University of Vienna

[Markham, Alex](#)

University of Vienna

[Meunier, Anja](#)

University of Vienna

[Raggam, Philipp](#)

Research Group Neuroinformatics, Faculty of Computer Science, Un

[Grosse-Wentrup, Moritz](#)

University of Vienna

14:25-14:50, Paper D2CT5.2

[*MEABRS: A Multi-Objective Evolutionary Framework for Software Bug Report Summarization*](#)[Shastri, Anuj](#)

Indian Institute of Technology, Patna

[Saini, Naveen](#)

Endicott College of International Studies, Woosong University, S

[Sriparna, Saha](#)

Indian Institute of Technology Patna

[Mishra, Santosh Kumar](#)

Indian Institute of Technology Patna

14:25-14:50, Paper D2CT5.3

[*High-Reliability and Energy-Saving DAG Scheduling in Heterogeneous Multi-Core Systems Based on Task Replication*](#)[Yu, Han](#)

Wuhan University of Science and Technology

[Hu, Wei](#)

Wuhan University of Science and Technology

[Liu, Jing](#)

Wuhan University of Science and Technology

[Gan, Yu](#)

Wuhan University of Science and Technology

14:25-14:50, Paper D2CT5.4

[*Plane-Based Accurate Registration of Real-World Point Clouds*](#)[Favre, Ketty](#)

Univ Rennes / CNRS - IETR - UMR 6164

[Pressigout, Muriel](#)

INSA Rennes / IETR - UMR 6164

[Marchand, Eric](#)

Université De Rennes 1

[Morin, Luce](#)

INSA Rennes / CNRS - IETR - UMR 6164

14:25-14:50, Paper D2CT5.5

[*Online Adaptive Optimal Control of Discrete-Time Linear Systems Via Synchronous Q-Learning*](#)

[Li, Xinxing](#)

Information Science Academy, China Electronics Technology Group

[Wang, Xueyuan](#)

Information Science Academy, China Electronics Technology Group

[Zha, Wenzhong](#)

Information Science Academy, China Electronics Technology Group

D2CT6

Room T6

Model-Based Systems Engineering (II)

Regular Session

Chair: [Kamath, Archit Krishna](#)

Indian Institute of Technology Kanpur

Co-Chair: [Yu, Hongjun](#)

Harbin Engineering University

14:25-14:50, Paper D2CT6.1

[*Vision Augmented 3 DoF Quadrotor Control Using a Non-Singular Fast-Terminal Sliding Mode Modified Super-Twisting Controller*](#)[Kamath, Archit Krishna](#)

Indian Institute of Technology Kanpur

[Yogi, Subhash Chand](#)

IIT Kanpur

[Behera, Laxmidhar](#)

IIT Kanpur

[Nahavandi, Saeid](#)

Deakin University

14:25-14:50, Paper D2CT6.2

[*Steering Control and Path Planning of Two-Wheel Vehicle with Hazard Avoidance*](#)[Yu, Hongjun](#)

Harbin Engineering University

14:25-14:50, Paper D2CT6.3

[*A Recommender System Based on Model Regularization Wasserstein Generative Adversarial Network*](#)[Wang, Qingxian](#)

University of Electronic Science and Technology of China

[Huang, Qing](#)

University of Electronic Science and Technology of China

[Zhang, Xuerui](#)

Chongqing Key Laboratory of Big Data and Intelligent Computing,

[Ma, Kangkang](#)

University of Electronic Science and Technology of China

14:25-14:50, Paper D2CT6.4

[*Internet of Robotic Things: A Comparison of Message Routing Strategies for Cloud-Fog Computing Layers Using M/M/c/K Queuing Networks*](#)[Feitosa, Leonel](#)

Federal University of Piauí (UFPI)

[Santo, Lucas](#)

Federal University of Piauí (UFPI)

[Gonçalves, Glauber](#)

Federal University of Piauí (UFPI)

[Tuan Anh, Nguyen](#)

Konkuk University

[Lee, Jae-Woo](#)

Konkuk University

[Silva, Francisco Airton](#)

Federal University of Piauí

14:25-14:50, Paper D2CT6.5

[*Reliability-And-Availability Sensitivity Analysis on Convergent Network Infrastructures: Methodology and Case Study*](#)[Camboim, Kadna](#)

UFAPE

[Sousa, Erica](#)

Federal Rural University of Pernambuco

[Guimarães, Almir](#)

Universidade Federal De Alagoas

[Araujo, Jean](#)
[Maciel, Paulo](#)

Universidade Federal Do Agreste De Pernambuco
 UFPE

D2CT7

Room T7

[Image Processing/Pattern Recognition \(VII\)](#)

Regular Session

Chair: [Serrano-Rubio, Juan Pablo](#)

Tecnológico Nacional De Mexico/ITS De Irapuato (Instituto Tecnológico Superior De Irapuato)

Co-Chair: [Dong, Yong](#)

Wuhan University of Science and Technology

14:25-14:50, Paper D2CT7.1

[Cloud Landscape Images Segmentation Using Artificial Neural Networks and Amazon Web Services for Ecological Applications](#)[Vidal-Espitia, Ulises](#)

Tecnológico Nacional De Mexico/ITS De Irapuato

[Serrano-Rubio, Juan Pablo](#)

Tecnológico Nacional De Mexico/ITS De Irapuato

[D.M. Ruiz, Mateo](#)

The Barn Owl Trust

[Herrera-Guzmán, Rafael](#)

Pure Mathematics Department, Center for Research in Mathema

14:25-14:50, Paper D2CT7.2

[Software/Hardware Co-Design Optimization for Sparse Convolutional Neural Networks](#)[Hu, Wei](#)

Wuhan University of Science and Technology

[Dong, Yong](#)

Wuhan University of Science and Technology

[Liu, Fang](#)

Wuhan University

[Jiao, Qiang](#)

Wuhan University of Science and Technology

14:25-14:50, Paper D2CT7.3

[Collision Detection: An Improved Deep Learning Approach Using SENet and ResNext](#)[Aditya, Aloukik](#)

Lakehead University

[Zhou, Liudu](#)

Lakehead University

[Vachhani, Hrishika Dhirendrabhai](#)

LAKEHEAD UNIVERSITY

[Chandrasekaran, Dhivya](#)

Lakehead University

[Mago, Vijay](#)

Lakehead University

14:25-14:50, Paper D2CT7.4

[A New Multi-Focus Image Fusion Framework Based on Focus Measures](#)[Kahol, Aditya](#)

Indian Institute of Technology Jodhpur, India

[Bhatnagar, Gaurav](#)

Indian Institute of Technology Jodhpur, India

14:25-14:50, Paper D2CT7.5

[Interaction Aware Relational Representations for Video Prediction](#)[Tamaru, Rei](#)

Japan Advanced Institute of Science and Technology

[Siritanawan, Prarinya](#)

Japan Advanced Institute of Science and Technology

[Kotani, Kazunori](#)

Japan Advanced Institute of Science and Technology

D2CT8

Room T8

Neural Networks and Their Applications (5)

Regular Session

Chair: [Horiuchi, Yuuki](#)

The University of Tokyo

Co-Chair: [Zhang, Xiaotong](#)

School of Software

14:25-14:50, Paper D2CT8.1

Less-Individual Motion Features for Near-Future Prediction by Using Domain Confusion[Horiuchi, Yuuki](#)

The University of Tokyo

[Makino, Yasutoshi](#)

The University of Tokyo

14:25-14:50, Paper D2CT8.2

Class-Based Core Feature Extraction Network for Few-Shot Classification[Xianchao, Zhang](#)

Dalian University of Technology

[Yifei Shuang, Yifei](#)

Dalian University of Technology

[Xiaotong Zhang, Xiaotong](#)

School of Software

[Liu, Han](#)

Dalian University of Technology

14:25-14:50, Paper D2CT8.3

Forest Fires Segmentation Using Deep Convolutional Neural Networks[Rafik Ghali, Ghali](#)

University of Carthage

[Akhoulfi, Moulay](#)

University of Moncton

[Jmal, Marwa](#)

TELNET Holding

[Souidene Mseddi, Wided](#)

École Polytechnique De Tunisie

[Attia, Rabah](#)

École Polytechnique De Tunisie

14:25-14:50, Paper D2CT8.4

TSTrack: Tracking by Detector with Target Guidance and Self-Attention[Liu, Teng](#)

Qilu University of Technology

[Li, Aimin](#)

Qilu University of Technology

[Li, Jiachuan](#)

Qilu University of Technology

14:25-14:50, Paper D2CT8.5

Monocular Depth Estimation Using Synthetic Data for an Augmented Reality Training System in Laparoscopic Surgery[Schreiber, Andre](#)

University of Arizona

[Hong, Minsik](#)

University of Arizona

[Rozenblit, Jerzy W.](#)

University of Arizona

D2CT9

Room T9

VR and AR Applications

Regular Session

Chair: [Kang, Hui](#)

Jilin University

Co-Chair: [Kanak, Alper](#)

ERGTECH Research Center

14:25-14:50, Paper D2CT9.1

An Image Registration Method Based on Improved TLD and Improved ORB for Mobile Augmented Reality

[Liu, Xuejie](#)

College of Computer Science and Technology, Jilin University, Cha

[Yuan, Xin](#)

College of Computer Science and Technology, Jilin University, Cha

[Kang, Hui](#)

Jilin University

[Kang, Heng](#)

ZICT Technology Co. , Ltd

[Yu, Chaoyu](#)

Jilin University

14:25-14:50, Paper D2CT9.2

[*An IoT-Based Triangular Methodology for Plastic Surgery Simulation Enriched with Augmented and Virtual Reality*](#)[Kanak, Alper](#)

ERGTECH Research Center

[Arif, Ibrahim](#)

ERGTECH Research Center

[Terzibas, çağrı](#)

Ergtech

[Demir, Ömer Faruk](#)

Ergtech

[Ergun, Salih](#)

Ergunler San Tic Ltd Sti

14:25-14:50, Paper D2CT9.3

[*WareVR: Virtual Reality Interface for Supervision of Autonomous Robotic System Aimed at Warehouse Stocktaking*](#)[Kalinov, Ivan Alexeevich](#)

Skolkovo Institute of Science and Technology

[Trinitatova, Daria](#)

Skolkovo Institute of Science and Technology

[Tsetserukou, Dzmitry](#)

Skoltech

14:25-14:50, Paper D2CT9.4

[*Predicting Baseball Players' On-Field Performance with Visual Motion Acuity Tests in a Computer Simulation*](#)[Kane, Steve](#)

WellStar Healthcare System

[Zhu, Ying](#)

Georgia State University

[Gru, Emilio](#)

Wellstar Healthcare

[Lourie, Gary](#)

Wellstar Healthcare

14:25-14:50, Paper D2CT9.5

[*Cybersickness Measurement and Evaluation During Flying a Helicopter in Different Weather Conditions in Virtual Reality*](#)[Al-ashwal, Wadhah](#)

DEAKIN UNIVERSITY

[Asadi, Houshyar](#)

Deakin University

[Mohamed, Shady](#)

Senior Research Fellow, Deakin University

[Alsanwy, Shehab](#)

Deakin University

[Kooijman, Lars](#)

Deakin University

[Nahavandi, Darius](#)

Deakin University

[Abu Alqumsan, Ahmad](#)

Deakin University

[Nahavandi, Saeid](#)

Deakin University

D2CT10

Room T10

[Machine Learning \(8\)](#)

Regular Session

Chair: [Su, Jianbo](#)

Prof

Co-Chair: [Wei, Ziqi](#)

Tsinghua University

14:25-14:50, Paper D2CT10.1

[Learning Robotic Skills Via Self-Imitation and Guide Reward](#)[Ran, Chenyang](#)

Shanghai Jiao Tong University

[Su, Jianbo](#)

Prof

14:25-14:50, Paper D2CT10.2

[A Novel Multi-Class Classification Architecture Combining Population-Based Sampling and Multi-Expert Classifier for Imbalanced Data](#)[Jiang, Haochen](#)

Tsinghua University

[Wei, Ziqi](#)

Tsinghua University

[Liu, Lin](#)

Tsinghua University

[Yuan, Xiulong](#)

Tsinghua University

[Chen, Jun](#)

Baidu Corporation

14:25-14:50, Paper D2CT10.3

[Shared Trained Models Selection and Management for Transfer Reinforcement Learning in Open IoT](#)[Noguchi, Hirofumi](#)

Nippon Telegraph and Telephone Corporation

[Isoda, Takuma](#)

NTT DOCOMO

[Arai, Seisuke](#)

Nippon Telegraph and Telephone Corporation

14:25-14:50, Paper D2CT10.4

[From Objects to a Whole Painting](#)[Wang, Fei](#)

China University of Petroleum (East China)

[Liu, Baodi](#)

College of Information and Control Engineering, China University

[Liu, Weifeng](#)

China University of Petroleum (East China)

14:25-14:50, Paper D2CT10.5

[Modeling Object's Affordances Via Reward Functions](#)[Lima Baima, Renan](#)

Institute of Computing Unicamp

[Colombini, Esther Luna](#)

Unicamp

D2DT1

Room T1

[Cybernetics for Informatics](#)

Regular Session

Chair: [M, Syed ali](#)

Thiruvalluvar University

Co-Chair: [Nobukawa, Sou](#)

Chiba Institute of Technology

14:50-15:15, Paper D2DT1.1

[Cyber Secure Consensus of Discrete-Time Fractional-Order Multi-Agent Systems with Distributed Delayed Control against Attacks](#)[G, Narayanan](#)

Thiruvalluvar University

[M, Syed ali](#)

Thiruvalluvar University

[Ahamad, Shahanawaj](#)

University of Hail

14:50-15:15, Paper D2DT1.2

Evaluation of Ability of Chaotic Resonance under Noises in Neural Systems Comprising Excitatory-Inhibitory Neurons[Nobukawa, Sou](#)

Chiba Institute of Technology

[Wagatsuma, Nobuhiko](#)

Toho University

[Nishimura, Haruhiko](#)

University of Hyogo

[Inagaki, Keiichiro](#)

Chubu University

[Yamanishi, Teruya](#)

Fukui University of Technology

14:50-15:15, Paper D2DT1.3

Distributed Evolutionary Design of High Frequency Focused Ultrasound Treatment Plans[Chlebik, Jakub](#)

Brno University of Technology

[Jaros, Jiri](#)

Brno University of Technology

14:50-15:15, Paper D2DT1.4

Top-K Ranking Deep Contextual Bandits for Information Selection Systems[Jade Freeman, Jade](#)

CCDC Army Research Laboratory

[Rawson, Michael](#)

University of Maryland

14:50-15:15, Paper D2DT1.5

Invalid Scenarios of External Cluster Validity Indices: An Analysis Using Bell Polynomial[Mishra, Sumit](#)

Indian Institute of Information Technology Guwahati

[Moulik, Sanjay](#)

IIIT Guwahati

[Prakash, Ved](#)

IIIT Guwahati

D2DT2

Room T2

Decision Support Systems

Regular Session

Chair: [Silva, Wesley](#)

Universidade Federal De Pernambuco

Co-Chair: [Ferreira, Rodrigo](#)

Universidade Federal De Pernambuco

14:50-15:15, Paper D2DT2.1

A Group Decision Support System to Share Responsibilities towards a Circular Economy Transition for Solid Waste Management in Developing Countries (I)[Silva, Wesley](#)

Universidade Federal De Pernambuco

[Costa Morais, Danielle](#)

Federal University of Pernambuco

14:50-15:15, Paper D2DT2.2

Multicriteria Model for Key Performance Indicators Selection Applied in a Transportation Company (I)[Silva Junior, Carlos Eugenio Batista](#)

Universidade Federal De Pernambuco

[Ferreira, Rodrigo](#)

Universidade Federal De Pernambuco

[Daher, Suzana](#)

Universidade Federal De Pernambuco

14:50-15:15, Paper D2DT2.3

PM2Sim: The Automated Creation of a Simulation Model from Process Mining

[Ferronato, Jair Jose](#)

Pontifícia Universidade Católica Do Paraná

[Scalabrin, Edson Emilio](#)

Pontifícia Universidade Católica Do Paraná

14:50-15:15, Paper D2DT2.4

[*Selective Frequency Drift Detectors Based on Multiple Hysteresis Jump Resonance*](#)[Bucolo, Maide](#)

Università Degli Studi Di Catania

[Buscarino, Arturo](#)

Università Degli Studi Di Catania

[Fortuna, Luigi](#)

Università Degli Studi Di Catania

[Famoso, Carlo](#)

University of Catania

[Gagliano, Salvina](#)

University of Catania

14:50-15:15, Paper D2DT2.5

[*Distributed and Modular Automotive Power Network Management Based on Auction Theory*](#)[Schürmann, Tobias](#)

FZI Research Center for Information Technology

[Rafles, Alrissyadani](#)

FZI Research Center for Information Technology

[Schwab, Stefan](#)

FZI Research Center for Information Technology

[PV Sören Hohmann, Pv](#)

KIT

D2DT3

Room T3

[Eye Tracking \(ET\)](#)

Regular Session

Chair: [Wang, Zishan](#)

The University of New South Wales

Co-Chair: [Chen, Siyuan](#)

UNSW

14:50-15:15, Paper D2DT3.1

[*An Investigation of Automatic Saccade and Fixation Detection from Wearable Infrared Cameras \(I\)*](#)[Wang, Zishan](#)

The University of New South Wales

[Epps, Julien](#)

UNSW Sydney

[Chen, Siyuan](#)

UNSW

14:50-15:15, Paper D2DT3.2

[*What Does the Eye Best Tell? an Investigation of Eye Activity for Emotion, Cognitive Load and Task Transition Recognition \(I\)*](#)[Chen, Siyuan](#)

UNSW

[Epps, Julien](#)

UNSW Sydney

14:50-15:15, Paper D2DT3.3

[*Eye Tracking Analytics for Mental States Assessment – a Review*](#)[Li, Fan](#)

The Hong Kong Polytechnic University

[Xu, Gangyan](#)

The Hong Kong Polytechnic University

[Feng, Shanshan](#)

Inception Institute of Artificial Intelligence

14:50-15:15, Paper D2DT3.4

[*Algorithms for Reading Line Classification*](#)

[Sun, Xiaohao](#)

Department of ECE, University of Windsor

[Balakumar Balasingam, Balakumar](#)

University of Windsor

D2DT4

Room T4

Intelligent Learning in Control Systems (II)

Regular Session

Chair: [Thomas, Jonathan](#)

University of Bristol

Co-Chair: [Showalter, Ian](#)

Carleton University

14:50-15:15, Paper D2DT4.1

[Cooperative Fuzzy Adaptive Control for Stochastic Nonlinear Multi-Agent Systems Using Artificial Potential Functions](#)[Baghbani, Fahimeh](#)

Semnan University

[Parsa, Pooya](#)

Ferdowsi University of Mashhad

[Akbarzadeh-T., Mohammad-R.](#)

Ferdowsi University of Mashhad

14:50-15:15, Paper D2DT4.2

[Use of Orthogonal Functions for Model Predictive Control of Biomechanical Sit-To-Stand](#)[Iqbal, Kamran](#)

University of Arkansas at Little Rock

14:50-15:15, Paper D2DT4.3

[Network Maintenance Planning Via Multi-Agent Reinforcement Learning](#)[Thomas, Jonathan](#)

University of Bristol

[Perez Hernandez, Marco](#)

University of Cambridge

[Parlikad, Ajith Kumar](#)

University of Cambridge

[Piechocki, Robert](#)

University of Bristol

14:50-15:15, Paper D2DT4.4

[The Behavioural and Topological Effects of Measurement Noise on Evolutionary Neurocontrollers](#)[Showalter, Ian](#)

Carleton University

[Schwartz, Howard](#)

Carleton University

[Givigi, Sidney](#)

Queen's University

14:50-15:15, Paper D2DT4.5

[Fault Detection and Diagnosis in Steel Industry: A One Class-Support Vector Machine Approach](#)[Russo, Luigi](#)

Unisannio

[Sarda, Kisan](#)

University of Sannio

[Luigi Glielmo, Luigi](#)

Università Del Sannio

[Acernese, Antonio](#)

Università Degli Studi Del Sannio

D2DT5

Room T5

Smart Manufacturing

Regular Session

Chair: [Hu, Biao](#)

Beijing University of Chemical Technology

Co-Chair: [Guo, Xiwang](#)

Liaoning Petrochemical University

14:50-15:15, Paper D2DT5.1

Probability-Based Path Planning for Multi-Robot Systems with Stochastic Behavior in a Grid Map (I)[Hu, Biao](#)

Beijing University of Chemical Technology

[Wang, Haonan](#)

Beijing University of Chemical Technology

[Cao, Zhengcai](#)

Beijing University of Chemical Technology

14:50-15:15, Paper D2DT5.2

Multi-Objective Optimizer with Collaborative Resource Allocation Strategy for U-Shaped Stochastic Disassembly Line Balancing Problem (I)[Xu, Song](#)

Liaoning Petrochemical University

[Guo, Xiwang](#)

Liaoning Petrochemical University

[Liu, Shixin](#)

Northeastern University

[Qi, Liang](#)

Shandong University of Science and Technology

[Qin, Shujin](#)

Shangqiu Normal University

[Zhao, Ziyang](#)

Northeastern University

[Tang, Ying](#)

Rowan University

14:50-15:15, Paper D2DT5.3

Multi-Objective Discrete Chemical Reaction Optimization Algorithm for Multiple-Product Partial U-Shaped Disassembly Line Balancing Problem (I)[Wang, WenChang](#)

Liaoning Petrochemical University

[Guo, Xiwang](#)

Liaoning Petrochemical University

[Liu, Shixin](#)

Northeastern University

[Qin, Shujin](#)

Shangqiu Normal University

[Qi, Liang](#)

Shandong University of Science and Technology

[Zhao, Ziyang](#)

Northeastern University

[Tang, Ying](#)

Rowan University

14:50-15:15, Paper D2DT5.4

A Hybrid Metaheuristic Algorithm with Novel Decoding Methods for Flexible Flow Shop Scheduling Considering Human Fatigue (I)[Du, Hangming](#)

Tongji University

[Qiao, Fei](#)

Tongji University

[Wang, Junkai](#)

Tongji University

[Lu, Hong](#)

Tongji University

14:50-15:15, Paper D2DT5.5

Predictive Maintenance of an Electro-Injector through Machine Learning Algorithms (I)[Mangini, Agostino Marcello](#)

Polytechnic of Bari

[Roccotelli, Michele](#)

Polytechnic University of Bari

[Rinaldi, Alessandro](#)

Polytechnic University of Bari

[Fanti, Maria Pia](#)

Polytecnic of Bari, Italy

D2DT6

Room T6

Model-Based Systems Engineering (III)

Regular Session

Chair: [Purohit, Shatad](#)

University of Southern California

Co-Chair: [Winter, Asher](#)

Deakin University

14:50-15:15, Paper D2DT6.1

Augmenting MBSE with Digital Twin Technology: Implementation, Analysis, Preliminary Results and Findings (I)[Madni, Azad](#)

University of Southern California

[Purohit, Shatad](#)

University of Southern California

14:50-15:15, Paper D2DT6.2

Semi-Active Assistive Exoskeleton System for Elbow Joint (I)[Winter, Asher](#)

Deakin University

[Mohajer, Navid](#)

Deakin University

[Nahavandi, Darius](#)

Deakin University

14:50-15:15, Paper D2DT6.3

An Efficient Scheduling Algorithm for Interdependent Tasks in Heterogeneous Multi-Core Systems[Fan, Zhichao](#)

Wuhan University of Science and Technology

[Hu, Wei](#)

Wuhan University of Science and Technology

[Guo, Hong](#)

Wuhan University of Science and Technology

[Liu, Jing](#)

Wuhan University of Science and Technology

[Gan, Yu](#)

Wuhan University of Science and Technology

14:50-15:15, Paper D2DT6.4

New Symbolic Model and Equivalences Checking for Open Automata[Wang, BiYang](#)

East China Normal University

[Madelaine, Eric](#)

Inria/I3S

[Zhang, Min](#)

East China Normal University

14:50-15:15, Paper D2DT6.5

Time Series Similarity Analysis Framework in Fresh Produce Yield Forecast Domain[Jafari, Fatemeh](#)

University of Waterloo

[Nassar, Lobna](#)

University of Waterloo

[Karray, Fakhreddine](#)

University of Waterloo

D2DT7

Room T7

Neural Networks and Their Applications (10)

Regular Session

Chair: [Arai, Satoshi](#)

Yokohama National University

Co-Chair: [Rahman, Md Anisur](#)

Charles Sturt University

14:50-15:15, Paper D2DT7.1

Non-Strict Attentional Region Annotation to Improve Image Classification Accuracy[Arai, Satoshi](#)

Yokohama National University

[Shirakawa, Shinichi](#)

Yokohama National University

[Nagao, Tomoharu](#)

Yokohama National University

14:50-15:15, Paper D2DT7.2

[*A Study on Reward and Punishment Learning Using a Data-Driven Approach*](#)[Sadat, 1216](#)

BRAC University

[Salim, Farhana Binta](#)

BRAC University

[Ema, Maria Islam](#)

BRAC University

[Mahmud, Anita](#)

BRAC

[Parvez, Mohammad Zavid](#)

BRAC University

[Rahman, Md Anisur](#)

Charles Sturt University

14:50-15:15, Paper D2DT7.3

[*Hyperparameter Choice As Search Bias in AlphaZero*](#)[Weiner, Eric](#)

Harvey Mudd College

[Montanez, George](#)

Harvey Mudd College

[Trujillo, Aaron](#)

Harvey Mudd College

[Molavi, Abtin](#)

Harvey Mudd College

14:50-15:15, Paper D2DT7.4

[*Rumor Detection on Social Media with Out-In-Degree Graph Convolutional Networks*](#)[Song, Shihui](#)

Huazhong University of Science and Technology

[Huang, Yafan](#)

Huazhong University of Science and Technology

[Lu, Hongwei](#)

Huazhong University of Science and Technology

14:50-15:15, Paper D2DT7.5

[*Edge Attention Network for Image Deblurring and Super-Resolution*](#)[Han, Jong-Wook](#)

Yonsei University

[Choi, Jun-Ho](#)

Yonsei University

[Kim, Jun-Hyuk](#)

Yonsei University

[Lee, Jong-Seok](#)

Yonsei University

D2DT8

Room T8

[Neural Networks and Their Applications \(6\)](#)

Regular Session

Chair: [Kamabattula, Sree Ram](#)

The University of Texas at Arlington

Co-Chair: [Yang, Wenyan](#)

Peking University

14:50-15:15, Paper D2DT8.1

[*Generation and Analysis of Feature-Dependent Pseudo Noise for Training Deep Neural Networks*](#)[Kamabattula, Sree Ram](#)

The University of Texas at Arlington

[Musini, Kumudha](#)

University of Texas at Arlington

[Devarajan, Venkat](#)

The University of Texas at Arlington

[Namazi, Babak](#)

University of Texas Southwestern Medical Center

[Sankaranarayanan, Ganesh](#)

UT Southwestern Medical Center at Dallas

14:50-15:15, Paper D2DT8.2

[Secure Federated Learning Model Verification: A Client-Side Backdoor Triggered Watermarking Scheme](#)[Liu, Xiyao](#)

Central South University

[Shao, Shuo](#)

Central South University

[Yang, Yue](#)

Central South University

[Wu, Kangming](#)

Central South University

[Yang, Wenyuan](#)

Peking University

[Fang, Hui](#)

Loughborough University

14:50-15:15, Paper D2DT8.3

[CTHGAT: Category-Aware and Time-Aware Next Point-Of-Interest Via Heterogeneous Graph Attention Network](#)[Wang, Chenchao](#)

East China Normal University

[Peng, Chao](#)

East China Normal University

[Wang, Mengdan](#)

East China Normal University

[Yang, Rui](#)

East China Normal University

[Wu, Wenhan](#)

East China Normal University

[Rui, Qilin](#)

East China Normal University

[Xiong, Naixue](#)

Northeastern State University

14:50-15:15, Paper D2DT8.4

[Biobjective Optimization Problems in Simple Neural Networks As Binary Associative Memories](#)[Saito, Toshimichi](#)

HOSEI University

[Togawa, Tomoyuki](#)

HOSEI University

14:50-15:15, Paper D2DT8.5

[An Ensemble Method for the Heterogeneous Neural Network to Predict the Remaining Useful Life of Lithium-Ion Battery](#)[Zhang, Hengshan](#)

Xi'an University of Posts and Telecommunications

[Wu, Di](#)

Xi'an University of Posts and Telecommunications

[Wang, Zhongmin](#)

Xi'an University of Posts and Telecommunications

[Chen, Yanping](#)

Xi'an University of Posts and Telecommunications

D2DT9

Room T9

[Wearables & Human Motion Analysis \(W-HMA\)](#)

Regular Session

Chair: [Adama, David Ada](#)

Nottingham Trent University

Co-Chair: [Zhao, Wenbing](#)

Cleveland State University

14:50-15:15, Paper D2DT9.1

[A Centralised Cloud-Based Monitoring System for Older Adults in a Community \(I\)](#)[Yahaya, Salisu Wada](#)

Nottingham Trent University

[Lotfi, Ahmad](#)

Nottingham Trent University

[Mahmud, Mufti](#)

Nottingham Trent University

[Adama, David Ada](#)

Nottingham Trent University

14:50-15:15, Paper D2DT9.2

[Person Identification Based on Static Features Extracted from Kinect Skeleton Data](#)[Zhao, Wenbing](#)

Cleveland State University

[Yang, Shunkun](#)

Beihang University

[Qiu, Tie](#)

Tianjin University

[Luo, Xiong](#)

University of Science and Technology Beijing

14:50-15:15, Paper D2DT9.3

[Evaluation of Policy Capturing to Model Judgements of Medical Experts for Triage Applications](#)[Marois, Alexandre](#)

Thales Research and Technology Canada

[Kopf, Maelle](#)

Thales Research and Technology Canada

[Salvan, Laura](#)

Thales Research and Technology Canada

[Lafond, Daniel](#)

Thales Canada

[Archambault, Patrick](#)

Université Laval

[Pollock, Neal W.](#)

Universite Laval

[Gagnon, Jean-François](#)

Thales Research and Technology

14:50-15:15, Paper D2DT9.4

[Field Trial of a Wearable Itch Monitoring System for the Self-Management of Atopic Dermatitis](#)[Kim, Jee-Eun](#)

Toyo University

[Lee, Jongin](#)

BORN to BE Co

[Bessho, Masahiro](#)

Toyo University

[Sakamura, Ken](#)

Toyo University

14:50-15:15, Paper D2DT9.5

[SceneRecog: A Deep Learning Scene Recognition Model for Assisting Blind and Visually Impaired Navigate Using Smartphones](#)[Kuriakose, Bineeth](#)

Oslo Metropolitan University

[Shrestha, Raju](#)

Oslo Metropolitan University

[Sandnes, Frode Elka](#)

Oslo Metropolitan University

D2DT10

Room T10

[Machine Learning \(9\)](#)

Regular Session

Chair: [Burns, Nicholas](#)

University of Texas at Arlington

Co-Chair: [Christodoulou, Evripidis](#)

Cyprus University of Technology

14:50-15:15, Paper D2DT10.1

[An Automatic Calibration Technique for Force Sensors in a Dynamic Smart Floor Environment](#)[Burns, Nicholas](#)

University of Texas at Arlington

[Daniel, Kathryn](#)

University of Texas at Arlington

[Huber, Manfred](#)

The University of Texas at Arlington

[Zaruba, Gergely](#)

Wichita State University

14:50-15:15, Paper D2DT10.2

Evaluating the Effect of Weather on Tourist Revisit Intention Using Natural Language Processing and Classification Techniques

[Christodoulou, Evripidis](#)

[Gregoriades, Andreas](#)

[Pampaka, Maria](#)

[Herodotou, Herodotos](#)

Cyprus University of Technology

Cyprus University of Technology

The University of Manchester

Cyprus University of Technology

14:50-15:15, Paper D2DT10.3

Deep Representation Learning Using Multilayer Perceptron and Stacked Autoencoder for Recommendation Systems

[Khani Yengikand, Amir](#)

[Meghdadi, Majid](#)

[Ahmadian, Sajad](#)

[Jalali, Seyed Mohammad Jafar](#)

[Khosravi, Abbas](#)

[Nahavandi, Saeid](#)

University of Zanjan

University of Zanjan

Kermanshah University of Technology

Deakin University

Deakin University

Deakin University

14:50-15:15, Paper D2DT10.4

Empirical Studies of Three Commonly Used Process Mining Algorithms

[Peng, Wenyu](#)

[Zhang, Zhenyu](#)

[Hildebrant, Ryan](#)

[Ren, Shangping](#)

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