



IEEE CyberSciTech / PICom / DASC / CBDCom 2022

Calabria, Italy

Program Agenda

Program at a Glance

D1 Day 1 - Sept 12				
Track	T1	T2	T3	T4
	8:30-9:00 Opening / Registration			
	9:00-10:00 Keynote 1 - Rajkumar Buyya			
	10:00-10:30 Coffee Break			
S1	D1S1T1 (CST 1)	D1S1T2 (PICOM 1)	D1S1T3 (DASC 1)	D1S1T4 (CST-SS 1)
S2	D1S2T1 (CST 2)	D1S2T2 (PICOM 2)	D1S2T3 (DASC 2)	D1S2T4 (CST-SS 2)
	13:00-14:30 Lunch			
	14:30-15:30 Keynote 2 - Mengchu Zhou			
S3	D1S3T1 (CST 3)	D1S3T2 (CBDCOM 1)		D1S3T4 (CST 4)
	16:30-17:00 Coffee Break			
S4	D1S4T1 (CST 5)	D1S4T2 (CBDCOM 2)		
	19:00-20:00 Welcome Reception			

D2 Day 2 - Sept 13				
Track	T1	T2	T3	T4
	8:30-9:00 Registration			
	9:00-10:00 Keynote 3 - Mauro Conti			
	10:00-10:30 Coffee Break			
S1	D2S1T1 (DASC 5)	D2S1T2 (PICOM 3)	D2S1T3 (DASC 3)	D2S1T4 (CST-SS 3)
S2	D2S2T1 (DASC 6)	D2S2T2 (PICOM 4)	D2S2T3 (DASC 4)	D2S2T4 (CST-SS 4)
	13:00-14:30 Lunch			
	14:30-15:30 Round Table (Moderator: Giancarlo Fortino) Networked Cyber-Physical Systems 5.0 (Factories of the Future)			
S3	D2S3T1 (CST 8)	D2S3T2 (CBDCOM 3)	D2S3T3 (PICOM 5)	D2S3T4 (CST 9)
	16:30-17:00 Coffee Break			
S4	D2S4T1 (CST 10)	D2S4T2 (CBDCOM 4)	D2S4T3 (CST 11)	D2S4T4 (CST 12)

D3 Day 3 - Sept 14				
Track	T1	T2	T3	T4
	8:30-9:00 Registration			
	9:00-10:00 Keynote 4 - Maria Pia Fantl			
	10:00-10:30 Coffee Break			
S1	D3S1T1 (CST 13)	D3S1T2 (CST-SS 5)	D3S1T3 (CST 6)	D3S1T4 Project Presentation - Radioamica (10:30-11:30)
S2	D3S2T1 (CST 14)	D3S2T2 (CST-SS 6)	D3S2T3 (CST 7)	D3S2T4 Special Keynote - Mauro Martino (12:00-13:00)
	13:00-14:30 Lunch			
	14:30-15:30 Keynote 5 - Andrea Omicini			
	15:30-16:00 Coffee Break			
	16:00-night Social Event			

D4 Day 4 - Sept 15				
Track	T1	T2	T3	T4
	8:30-9:00 Registration			
	9:00-10:00 Keynote 6 - Lorenzo Masia			
	10:00-10:30 Coffee Break			
S1	D4S1T1 (CST 15)	D4S1T2 (CST-SS 7)	D4S1T3 (DASC 7)	D4S1T4 (DASC 9)
S2	D4S2T1 (CST 16)	D4S2T2 (CST-SS 8)	D4S2T3 (DASC 8)	
	13:00-13:30 Conference Closing Session			

The 7th IEEE Cyber Science and Technology Congress (CyberSciTech 2022)

D1S1T1 - CST1

Main Track - Session 1

Chair: Giancarlo Fortino

- 21 Ajay D M. Privacy Preservation using Federated Learning and Homomorphic Encryption: A Study
- 26 Cheng Miao, Pan Wang, Zixuan Wang and Zeyi Li. A Trusted Classification Method of Encrypted Traffic Based on Attention Mechanism
- 29 Yueyu Dong, Fei Dai and Mingming Qin. A Privacy-Preserving Deep Learning Scheme for Edge-enhanced Smart Homes
- 31 Xiansheng Wang and Ke Yan. Fault Detection and Diagnosis of HVAC System Based on Federated Learning
- 36 Ziyao Wang and Jie Xu. SSD Failure Prediction Based on Classification Models and Data Engineering

D1S2T1 - CST2

Main Track - Session 2

Chair: Malik Al-Essa

- 61 Joonatan Ovaska, Karo Saharinen and Tuomo Sipola. Analysing Theses of Cyber Security Higher Education
- 73 Rūta Pirta-Dreimane, Agnė Brilingaitė, Evita Roponena and Karen Parish. Multi-dimensional Cybersecurity Education Design: A Case Study
- 88 Dehua Zhou, Yingwei Yu, Di Wu, Qingqing Gan, Zexiao Chen and Botong Xu. SecureAstraea: A Self-balancing Privacy-preserving Federated Learning Framework
- 158 Malik Al-Essa, Giuseppina Andresini, Annalisa Appice and Donato Malerba. An XAI-based adversarial training approach for cyber-threat detection
- 114 Youzhi Zhang, Sayak Chakrabarty, Rui Liu, Andrea Pugliese and V.S. Subrahmanian. A New Dynamically Changing Attack on Review Fraud Systems and a Dynamically Changing Ensemble Defense

D1S1T4 - CST-SS 1

Special Session on Computing and Applications for Cyber Internet of Things

Chair: Raffaele Gravina

- 189 Lin Yang, Can Deng, Zhilong Bie, Yu Chen, Xiuwen Fu and Giancarlo Fortino. A Framework for Digital Crop Growing Modeling based on Agricultural Internet of Things
- 218 Yu Su. UAV-based 5G Air-to-Ground Integrated Wireless Network Coverage
- 219 Zhong Wang, Zhiwen Wen, Qianxin Xia and Weijun Cai. Deep Reinforcement Learning Based Multi-UUV Cooperative Control for Target Capturing
- 220 Zheng Liu, Sihong Wu, Taile Chen and Yongxin Liu. Underwater Path Planning of UUV Based on UDWA
- 221 Yongxin Liu, Zheng Liu, Sihong Wu and Taile Chen. Active acoustic self guided torpedo parallel heading firing based on favorable advance angle

D1S2T4 - CST-SS 2

The International Workshop on Adaptive Cyber Learning 2022

Chair: Claudio Savaglio

- 8 Yang Yan, Hui Wang, Guangjie Liu and Wenbo Huang. SPOC Project Teaching Research based on STEAM Education Concept — Takes the secondary vocational school “Data Structure” course as an example
- 17 Wenbo Huang, Feng Guo and Yang Yan. Retinal Vessel Segmentation Algorithm Based on Attention Mechanism
- 28 Stefanie Amiruzzaman and Md Amiruzzaman. Explore the Relationships Between Students’ Academic Performance, Use of Twitter, and Academic Majors using Hierarchical Linear Modeling
- 129 I-Chin N. Chiang and Tony C. T. Kuo. An exploratory research of of tertiary English course performance in Taiwan from the perspectives of ACE accreditation for e-learning courses
- 168 Jiaqi Wang, Jian Chen and Qun Jin. i-Comments: On-screen Individualized Comments for Online Learning Support

D1S3T1 - CST 3

Main Track - Session 3

Chair: Lorenzo Carnevale

- 105 Kai Peng, Haoqi Zhang, Bohai Zhao and Peichen Liu. Edge-Cloud Collaborative Computation Offloading for Federated Learning in Smart City
- 44 Lorenzo Carnevale, Alessandro Ortis, Giancarlo Fortino, Sebastiano Battiato and Massimo Villari. From Cloud-Edge to Edge-Edge Continuum: the Swarm-Based Edge Computing Systems
- 107 Christian Sicari, Lorenzo Carnevale, Antonino Galletta and Massimo Villari. OpenWolf: A Serverless Workflow Engine for Native Cloud-Edge Continuum
- 141 Bin Chen, Huan Xu and Fei Dai. Modeling Interactions among Cyber-Physical Services

D1S3T4 - CST4

Main Track - Session 4

Chair: Michael Zipperle

- 77 Michael Zipperle, Florian Gottwalt, Yu Zhang, Omar Hussain, Elizabeth Chang and Tharam Dillon. A Conceptual Framework for Automated Rule Generation in Provenance-based Intrusion Detection Systems
- 82 Oscar Famous Darteh, Qi Liu, Xiaodong Liu, Ibrahima Bah, Francis Mawuli Nakoty and Amevi Acakpovi. Emerging Simulation Frameworks for Analyzing Smart Grid Cyberattack: A Literature Review
- 96 Dehua Zhou, Zexiao Chen, Di Wu, Yingwei Yu, Qingqing Gan and Botong Xu. HEND-FL: Accurate Federated Learning Using Homomorphic Encryption and a New Distributed Protocol
- 112 Jielin Jiang, Chao Cui, Boheng Wang, Yan Cui and Li Ma. A Roberts cross operator combined with mathematical morphology algorithm for fabric defect detection

D1S4T1 - CST5

Main Track - Session 5

Chair: Francesco Pupo

- 164 Zhaoan Dong, Lijun Gao, Yueyang Li, Zili Zhou, Sifeng Wang and Lianyong Qi. A Team Crowdsourcing Method Combining Competition and Collaboration
- 165 Zhaoan Dong, Yueyang Li, Lijun Gao and Zili Zhou. A Crowdsourcing Truth Inference Algorithm Based on Hypergraph Neural Networks
- 166 Yuqing Wang, Yuwen Liu, Yihong Yang, Lingzhen Kong and Ying Miao. A Locality-Sensitive Hashing-based Automatic Group Identification Approach in Group Recommendation
- 183 Ziqi Huang, Tiandong Xi, Marcel Fey and Christian Brecher. AI-Driven Digital Process Twin via Networked Digital Process Chain

D3S1T3 - CST6

Main Track - Session 6

Chair: Antonella Guzzo

- 64 Xinyu Ren and Shaoxin Yuan. GCN-LSTM Combined Model for Urban Link Mean Speed Prediction in the Regional Traffic Network
- 94 Zhiyun Yang, Ru Ji, Qi Liu, Fei Dai, Yiwen Zhang, Quanwang Wu and Xiaodong Liu. An Improved LSTM-based Method Capturing Temporal Correlations and Using Attention Mechanism for Radar Echo Extrapolation
- 100 Jiangyi Hu, Wenqing Yang, Huafei Yang, Shanming Wei and Zhen Sun. Named Entity Recognition Method for Power Equipment Based on BERT-BiLSTM-CRF
- 27 Haowen Yu and Liming Chen. A Joint Loss based Deep Learning Model for Enhanced Image Inpainting
- 30 Hao Zhang and Ke Yan. WT-BiLSTM Based Transfer Learning Method for Solar Irradiance Prediction

D3S2T3 - CST7

Main Track - Session 7

Chair: Qimeng Li

- 38 Jiapeng Li, Hua Huang, Fengtao Hu and Yangding Ou. Classification of Ceramics Based on Improved AlexNet Convolutional Neural Network
- 24 Shaowei Huang, Xiangping Wu, Ke Wang, Xiaopeng Li and Qingqing Gao. Multi-axis Gating MLP with Bidirectional Feature Extraction for Sequence Recommendation
- 40 Jiawei Sun, Hao Wu, Qi Liu, Xiaodong Liu and Jianhao Ma. Dense-FCN: A Deep Learning Approach for Weather Radar Beam Blockage Correction
- 45 Yuanyuan Jin, Shiyu Tao, Qi Liu and Xiaodong Liu. A BiLSTM-CRF Based Approach to Entity Extraction of Word Segmentation in Chinese

D2S1T4 - CST-SS 3

The 1st International Workshop on COMMunity-OrieNted WEARrable Computing Systems

Chair: Giancarlo Fortino

- 81 Jhon Freddy Rodriguez Leon, Francesco Lago, Eduardo Castillo Castañeda and Giuseppe Carbone. Preliminary design of a magnetic-locking system for specific exoskeleton-assisted holding tasks
- 173 Giorgio Audrito and Marco Ottina. Aggregate Drone Monitoring of Wildfires
- 176 Andrea Basso, Daniele Bortoluzzi and Gianluca Torta. Implementation of an IoT Wearable Prototype on a Standard AI Architecture
- 195 Giulia Apicella, Giuseppe D'Aniello, Giancarlo Fortino, Matteo Gaeta, Raffaele Gravina and Luca Giuseppe Tramuto. A Situation-aware Wearable Computing System for Human Activity Recognition
- 236 Roberto Casadei, Danilo Pianini, Gianluca Aguzzi, Giorgio Audrito, Gianluca Torta, Marco Ottina, Ferruccio Damiani and Mirko Viroli. Towards Automated Engineering for Collective Adaptive Systems: Vision and Research Directions
- 187 Daniela Lo Presti, Francesca De Tommasi, Chiara Romano, Martina Pulcinelli, Mariangela Pinnelli, Carlo Massaroni, Blandina Lanni, Massimiliano Carassiti, Giancarlo Fortino and Emiliano Schena. A quantitative assessment of team members physiological traits and interactions for the development of Collective Intelligence in a clinical scenario

D2S2T4 - CST-SS 4

Special Session on Cyber Social Computing and Cyber-Enabled Applications

Chair: Michele Ianni

- 39 Ying Shen, Kangyang Li, Zihui Xu, Zhenzhou Wang and Jianxin Ge. Research on Energy Digital Twin Quality Model Based on Data Driven
- 59 Ye-Bin Yang, Jiu-Lei Jiang and Peng Zou. Importance Node Evaluation of Temporal Networks Based on the W-SAM Model
- 146 Jinyue Wang and Chao Yang. Financial Fraud Detection Based on Ensemble Machine Learning

D2S3T1 - CST 8

Main Track - Session 8

Chair: Giuseppe D'Aniello

- 49 Mengqin He, Jin Xu, Zhigeng Pan, Jingwei Lin, Wenmin Lin and Chaojian Zhang. CmpQTS: Comparative Visual Analysis of Quantitative Timing Strategies
- 111 Youmei Zhou, Jingjing Chen, Xiyu Zhang, Xiao Liu and Hao Lei. How to Support the Decision-Making Process of Community Regeneration proposed by Evolutionary Game and Reinforcement Learning? A case study in Shanghai
- 160 Ruwei Zhang. A hybrid music recommendation method based on music genes and collaborative filtering
- 174 Yeshan Wu, Yishui Zhu, Luyang Wang and Bo Wu. Design of Emergency Rescue System Prototype Based on Metaverse

D2S3T4 - CST 9

Main Track - Session 9

Chair: Antonella Guzzo

- 155 Guozhi Liu, Fei Dai, Bi Huang, Lecheng Li, Shuai Wang and Zhenping Qiang. Towards Accurate Latency Prediction of DNN Layers Inference on Diverse computing Platforms
- 89 Wenqing Yang, Xiaochao Li, Peng Wang, Jun Hou, Qianmu Li and Nan Zhang. A Joint Knowledge Graph Reasoning Method
- 208 Ryan Hare, Nidhi Patel, Ying Tang and Pankti Patel. A Graph-based Approach for Adaptive Serious Games
- 161 Sifeng Wang, Anran Li, Zhaoan Dong and Shengxiang Li. TaskRec: Using Causal Graph to Debias in Task Recommendation System

D2S4T1 - CST 10

Main Track - Session 10

Chair: Giuseppe Guido

- 177 Sina Shaffiee Haghshenas, Giuseppe Guido, Alessandro Vitale and Saeid Jafarzadeh Ghouschi. Quantitative and Qualitative Analysis of Internet of Things (IoT) in Smart Cities and its Applications
- 63 Vahid Heydari. Removing Target Defense for Internet-Controlled Systems
- 131 Zhongyang Wang, Yu-Feng Yu, Benchang Zheng and Feng Liu. Correlation Filtering Tracking Method Based on Unsupervised Domain Adaptive
- Shengxiang Li, Sifeng Wang, Zhaoan Dong, Anran Li, Lianyong Qi and Chao Yan.
- 163 PSBCNN : Fine-grained image classification based on pyramid convolution networks and SimAM

D2S4T3 - CST 11

Main Track - Session 11

Chair: Giuseppe Franzè, Agostino Mangini

- 159 Giuseppe Olivieri, Gaetano Volpe, Agostino Marcello Mangini and Maria Pia Fanti. A District Energy Management Approach Based on Internet of Things and Blockchain
- 51 JiuJun Cheng, Mengnan Hou, Mengchu Zhou, Guiyuan Yuan and Qichao Mao. An Autonomous Vehicle Group Formation Method based on Risk Assessment Scoring
- 226 Francesco Giannini, Giuseppe Franzè, Francesco Pupo and Giancarlo Fortino. Autonomous Vehicles in Smart Cities: a Deep Reinforcement Learning Solution
- 53 Yingchun Ye, Junxuan Zhang and Zeyi Li. Infrared and visible image fusion method based on dual domain enhancement in low illumination environment

D2S4T4 - CST 12

Main Track - Session 12

Chair: Qimeng Li

- 99 Xibei Jia and Zhichao Lian. A Semantic Segmentation Algorithm Based on Contrastive Learning Using Aligned Feature Samples
- 93 Yan Cui, Jielin Jiang, Xiaoyan Jiang and Yue Dai. A Novel Efficient Discriminative Projection Learning for Big Data

- 122 Changsheng Wu and Huihui Wang. A Fast Distributed Accelerated Gradient Algorithm for Big Data Classification
- 91 Pengwei Li, Shihua Wu, Zhukai Jiang and Zhichao Lian. Local Alignment with Global Semantic Consistence Network for Image–Text Matching

D3S1T1 - CST 13

Main Track - Session 13

Chair: Michele Ianni

- 103 Zheming Zuo, Zhichao Lian and Zihui Wei. A GAN-Based Framework For High-Fidelity Face Swapping
- 41 Youning Wang, Zhiyun Yang, Qi Liu and Xiaodong Liu. An Input Sampling Scheme to Radar Echo Extrapolation For RNN-Based Models
- 23 Qingqing Gao, Xiangping Wu, Ke Wang, Shuang Wang and Shaowei Huang. Adaptive Retinex image defogging algorithm based on the depth of field information
- 37 Danhui Wu, Tong Lu and Xia Li. An improved attention mechanism based YOLOv4 structure for lung nodule detection
- 35 Hui Zhang, Tong Lu, Tieqiang Li and Xia Li. A Modified Generative Adversarial Network for Reconstruction of Compressed Sensing MRI

D3S2T1 - CST 14

Main Track - Session 14

Chair: Antonio Esposito

- 225 Walid Brahim and Jianhua Ma. Accuracy Assessment and Improvement of FMCW Radar-based Vital Signs Monitoring under Practical Scenarios
- 121 Beniamino Di Martino, Antonio Esposito and Gennaro Junior Pezzullo. Towards an Intelligence system to support Diseases' Diagnoses and improve Health treatments
- 148 Martina Savoia, Diletta Chiaro, Fabio Giampaolo, Salvatore Cuomo and Francesco Piccialli. The BIOCHIP project: A Deep Learning approach for multiwell segmentation
- 123 Guoxia Xu, Hao Wang, Marius Pedersen, Hu Zhu and Meng Zhao. Multi-label Abdominal Image Segmentation with Partially Labeled Data: A Prototypical Consistent Learning Perspective

D3S1T2 - CST-SS 5

The 3rd International Workshop on Impact of Internet of Things on Daily Life - Part 1

Chair: Wu Bo, Qimeng Li

- 75 Bo Wu, Koshiro Tosa and Kiminori Sato. A Walk-through Type Authentication System Design via Gaze Detection and Color Recognition
- 76 Ran Dong, Shaowen Ni, Bo Wu, Shingo Hayano, Dongsheng Cai and Soichiro Ikuno. Analyzing Jo-Ha-Kyu Mechanism in Japanese Traditional Performing Art Ningyo Joruri
- 98 Riheng Zhang, Min Tan, Xiaoyang Mao, Zhigang Gao and Xiaoling Gu. Adaptive Destruction Learning for Fine-grained Visual Classification
- 140 Hong Chen. Using a Ubiquitous Personal Online Datastore for Aggregating and Sharing IoT Data to Smart City
- 149 Zijun Wang, Bo Wu and Qun Jin. Design of a Vision Blind Spot Detection System Based on Depth Camera

D3S2T2 - CST-SS 6

The 3rd International Workshop on Impact of Internet of Things on Daily Life - Part 2

Chair: Francesco Pupo

- 151 Hu Mo, Zhang Yunchao and Liu Ximeng. Research on Information Coordination Mechanism of Multi-participants in Community-based Elderly Care by Blockchain
- 153 Ruichen Cong, Shun Kanega and Nozomi Fujikawa. Infrared Distance Sensor-based Parking Space Reservation System for People with Disabilities
- 186 Xuan Huang, Bo Wu and Shoji Nishimura. A Pose Detection based Continuous Authentication System Design via Gait Feature Analysis
- 204 Yi Zhou, Yishui Zhu, Luyang Wang and Yu Guo. Research on fuel consumption model of heavy Truck based on improved BP neural Network
- 210 Dingjie Wu, Xuanzhang He, Yao Zhang, Junjie Zhu, Xinyuan Zhang, Minchao Ye and Zhigang Gao. Binary Function Similarity Detection Based On Graph Neural Network With Self-Attention Mechanism

D4S1T1 - CST 15

Main Track - Session 15

Chair: Edward Dawam

- 145 Megha Quamara, Gabriel Pedroza and Brahim Hamid. Facilitating safety and security co-design and formal analysis in multi-layered system modeling
- 13 Yipeng Ji, Haotian Yang and Zhixin Sun. Improved Carnivorous Plant Algorithm based on Hybrid Strategy and its application
- 42 Ziwen Zhang, Yang Li and Qi Liu. High Resolution Remote Sensing Water Image Segmentation Based on Dual Branch Network
- 47 Jianhao Ma, Jiawei Sun, Qi Liu and Xiaodong Liu. A Precipitation Prediction Method Based on UNet and Attention Mechanism
- 95 Edward Dawam and Xiaohua Feng. Traffic Light Detection and Recognition in Autonomous Vehicles (AVs)

D4S2T1 - CST 16

Main Track - Session 16

Chair: Enrica Tricomi

- 106 Peichen Liu, Kai Peng and Bohai Zhao. A Cybertwin-Driven Intelligent Offloading Method for IoV Applications Using DRL in Smart Cities
- 32 Xinyu Li, Ning Jin and Ke Yan. A Multi-domain Sentiment Classification model based on Adversarial Multi-task learning and attention mechanisms
- 172 Nicola Lotti, Enrica Tricomi, Francesco Missiroli, Xiaohui Zhang and Lorenzo Masia. Machine Learning techniques in soft robotic suits for whole body assistance
- 156 Yuxuan Zuo, Zhenping Qiang, Fei Dai, Xiaofeng Shao, Shiqi Su and Zhihong Liang. Supply Chain Financial System Based on Blockchain Technology

D4S1T2 - CST-SS 7

Late breaking innovation track - Part 1

Chair: Qimeng Li

- 227 Yahong Yang, Pan Wang, Zixuan Wang and Zeyi Li. A Survey of Quantitative Comparative Research on Intrusion Detection Algorithms in Wireless Sensor Networks
- 229 Yao Qigui, Zhang Xiaojian and Wang Qi. A fast and accurate method for identifying the equipment fingerprint of distribution secondary system
- 230 Jixiang Gan, Li Pan, Yuanyuan Jin, Qi Liu and Xiaodong Liu. A Load Forecasting Approach Based on Graph Convolution Neural Network
- 231 Yang Li, Hui Lu, Qi Liu, Zhiyun Yang, Zihao Wu and Xiaodong Liu. PUNet: Convolutional Networks based on Parallel Feature Fusion
- 232 Mei Zhang, Hui Li and Fei Dai. Analyzing Realizability of BPMN Choreographies

D4S2T2 - CST-SS 8

Late breaking innovation track - Part 2

Chair: Antonella Guzzo

- 233 Jingfei Zhu, Zhichao Lian and Zhukai Jiang. A Spatio-Temporal Graph Transformer Network for Multi-Pedestrian Trajectory Prediction
- 234 Xiaojie Xu and Xiuwen Fu. Analysis on cascading failure of directed-undirected interdependent networks with different coupling modes
- 235 Maheesha Dhashantha Silva, Qi Liu and Oscar Famous Darteh. A Recent Review of NILM Framework: Development and Challenges
- 130 Taiyu Yan and Yu-Feng Yu. Discriminative Correlation Filter for Visual Tracking based on Asymmetric Relative Entropy

The 20th IEEE International Conference on Pervasive Intelligence and Computing (PICom 2022)

D1S1T2 - PICOM 1

Computational Intelligence, Intelligent Networks, Middleware and Applications - Part 1

Chair: Flavia Delicato

- 109 Cristian Sestito, Stefania Perri and Robert Stewart. Design-Space Exploration of Quantized Transposed Convolutional Neural Networks for FPGA-based Systems-on-Chip
- 199 Berke Ataseven, Alireza Madani, Beren Semiz and M. Emre GURSOY. Physical Activity Recognition using Deep Transfer Learning with Convolutional Neural Networks
- 147 Shiming Zan, Yu Pang, Raffaele Gravina, Enling Cao, Ye Li and Weilin Zang. A Deep Reinforcement Learning Based Approach for Intelligent Reconfigurable Surface Elements Selection
- 152 Xiyue Wang and Wei Li. MTFed-NILM: Multi-Task Federated Learning for Non-Intrusive Load Monitoring
- 124 Irfanullah Khan, Antonio Guerrieri, Giandomenico Spezzano and Andrea Vinci. Occupancy Prediction in Buildings: An approach leveraging LSTM and Federated Learning

D1S2T2 - PICOM 2

Computational Intelligence, Intelligent Networks, Middleware and Applications - Part 2

Chair: Paulo Pires

- 171 Maria Pia Canino, Eugenio Cesario, Andrea Vinci and Shabnam Zarin. Exploiting mobility data to forecast Covid-19 spread
- 175 Diego Avellaneda, Diego Mendez and Giancarlo Fortino. BLE-based Indoor Positioning Platform Utilizing Edge Tiny Machine Learning
- 190 Sandra Costanzo, Alexandra Flores and Giovanni Buonanno. Machine Learning Methods for Microwave Imaging in Cancer Detection
- 206 Cláudio Farias, Flavia Delicato, Henrique Serdeira and Victor Prado. Design and Implementation of UFRJ Nautilus' AUV Lua - A tinyML approach
- 97 Carlo Mastroianni, Luigi Scarcello and Jacopo Settino. Quantum Computing Approach for Energy Optimization in a Prosumer Community

D2S1T2 - PICOM 3

Pervasive Computing, Activity/Affect Recognition, Smart Object, Environment, System and City - Part 1

Chair: Wei Li

- 102 Pietro Manzoni, Andrés Calandin Vega, Jose Giner Perez de Lucia, Jose Luis Poza Lujan, José M Cecilia and Carlos Calafate. Raising citizens and institutions awareness of environmental problems using smart sensing technologies
- 56 Jiahui Tang, Yu Pang, Hao Wang, Ye Li and Fangmin Sun. Wearable IMU Based Gait Quality Quantitative Evaluation Method

- 184 Mouad Rahmouni, Majdoulayne Hanifi, Claudio Savaglio, Giancarlo Fortino and Mounir Ghogho. An AIoT Framework for Precision Agriculture
- 202 Federico Fausto Santoro, Corrado Santoro, Eleonora Arena and Andrea Canino. A Solar Module Power Production Model Predictor for Automated Solar Module Manufacturing
- 113 Gabriele Penzotti, Davide Tarasconi, Stefano Caselli and Michele Amoretti. Seamless Sensor Data Acquisition for the Edge-to-Cloud Continuum

D2S2T2 - PICOM 4

Pervasive Computing, Activity/Affect Recognition, Smart Object, Environment, System and City - Part 2

Chair: Andrea Vinci

- 217 Agostino Forestiero, Antonio Francesco Gentile and Davide Macrì. A blockchain based approach for Fog infrastructure management leveraging on Non-Fungible Tokens
- Nicolas Tsapatsoulis, Harris Partaourides, Christos Christodoulou and Constantinos Djouvas. Quo Vadis Computer Science? The topics of the influential papers during the period 2014-2021
- 108 Mohammad Shirdel, Michele Segata, Giuseppe Di Fatta and Antonio Liotta. Event Detection in Financial Markets
- 143 Oscar T.-C. Chen, Yen-Cheng Lu and Yu-Xuan Chang. Lightweight Model by Iterative Momentum Pruning Scheme for Channel Reduction
- Giuseppe Coviello, Kunal Rao, Ciro Giuseppe De Vita, Gennaro Mellone and Srimat Chakradhar. DataXc: Flexible and efficient communication in microservices-based stream analytics pipelines

D2S3T3 - PICOM 5

Workshop on Digital Twins for Business Processes (DT4BP) - Trustworthiness of Machine Learning in Adversarial Environments (TMLAE)

Chair: Fabrizio Fornari

- 20 Lukas Schweiger, Rodolfo Andres Benedech and Jürg Meierhofer. Development approach for value-creating service process twins based on service design methods
- 169 Flavio Corradini, Arianna Fedeli, Andrea Polini and Barbara Re. Towards a Digital Twin Modelling Notation
- 197 Flavio Corradini, Sara Pettinari, Barbara Re, Lorenzo Rossi and Francesco Tiezzi. An Approach to Support Digital Process Twin
- 133 Kiran Karra, Chace Ashcraft and Cash Costello. SanitAIs: Unsupervised Data Augmentation to Sanitize Trojaned Neural Networks

The 20th IEEE International Conference on Dependable, Autonomic & Secure Computing (DASC 2022)

D1S1T3 - DASC 1

Dependable, Autonomic & Secure Computing: Theory - Part 1

Chair: Claudio Savaglio

- 83 Michele Mastroianni and Francesco Palmieri. Energy-aware Optimization of Data Centers and Cybersecurity Issues
- 179 Abdul Ghafoor Abbasi, Peter Altmann and Anna Rydberg. Towards a verifiable and secure data sharing platform for livestock supply chain
- 192 Lelio Campanile, Mauro Iacono and Michele Mastroianni. Towards privacy-aware software design in small and medium enterprises
- 6 Haotian Yang, Enliang Wang, Cai Yue and Zhixin Sun. Research on fire rescue path optimization of unmanned equipment based on improved slime mold algorithm

D1S2T3 - DASC 2

Dependable, Autonomic & Secure Computing: Theory - Part 2

Chair: Michele Mastroianni

- 71 Naoki Matsushashi, Chisa Takano and Masaki Aida. Fragmentation Phenomena of Online Community Described by the Fundamental Equation of Online User Dynamics
- 201 Pinar Erbil and M. Emre Gursoy. Detection and Mitigation of Targeted Data Poisoning Attacks in Federated Learning
- 203 Zuhail Ozturk, Haluk Topcuoglu and Mahmut Kandemir. Paralellism-Based Techniques for Slowing Down Soft Error Propagation
- 205 Kumar Priyansh, Ritu Dimri, Fahim Islam Anik, Mst Shapna Akter, Hossain Shahriar, Zakirul Alam Bhuiyan and Nazmus Sakib. DuRBIN: A Comprehensive Approach to Analysis and Detection of Emerging Threats due to Network Intrusion
- 209 Pratibha singh, Hamman Samuel, Fehmi Jaafar and Darine Ameyed. Enhancing Biometric Security with Combinatorial and Permutational Multi-Fingerprint Authentication Strategies

D2S1T3 - DASC 3

Dependable, Autonomic & Secure Computing: Applications - Part 1

Chair: Mauro Conti

- 1 Anthony Melaragno and William Casey. Change Point Detection with Machine Learning for Rapid Ransomware Detection
- 9 Alexander Dörflinger, Benedikt Kleinbeck, Mark Albers, Harald Michalik and Martin Moya. A Framework for Fault Tolerance in RISC-V
- 14 Trupil Limbasiya, Arijit Karati and Debasis Das. SELECT: Secure and Lightweight Context-Aware Mechanism for Smart Vehicular Networks
- 16 Chloe Vonderlinden, Joesph Walton, Tony Melaragno and William Casey. The Visualization of Ransomware Execution
- 48 Alessandro Brighente, Mauro Conti and Harsha Vasudev. MeLSeC: A Method for Lightweight and Secure Communication in Internet of Vehicles

D2S2T3 - DASC 4

Dependable, Autonomic & Secure Computing: Applications - Part 2

Chair: Antonio Celesti

- Bahman Arasteh, Mohammad Reza Sattari and Reza Shokri Kalan. Fuzuli: Automatic
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Social Event (September 14, 2022)

Location: Hotel Eurolido, Falerna (CZ), Italy

16.00-19.30: Sightseeing of Tropea town “the Pearl of the Tyrrhenian Sea”

20.00-20.30: Presentation of the Book “Io Amo” (“I love”) written by Maestro Gianfranco Fasano

20.30-22.30: Social Dinner

22.30-23.00: Musical Corner: Maestro Gianfranco Fasano & “guest star” Carlo Antonio Fortino (Winner of All Together Now Kids 2021)

23.00-23.30: Conference Awards

23.30-00.00: Conference Cake & Champaign Final Toast