2021 International Conference on Computers and Automation (CompAuto 2021)

Virtual Conference 7 – 9 September 2021



IEEE Catalog Number: CFP21BL2-POD ISBN: 978-1-6654-2372-4

Copyright © 2021 by the Institute of Electrical and Electronics Engineers, Inc. All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

*** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP21BL2-POD

 ISBN (Print-On-Demand):
 978-1-6654-2372-4

 ISBN (Online):
 978-1-6654-2371-7

Additional Copies of This Publication Are Available From:

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-0400

Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



2021 International Conference on Computers and Automation (CompAuto) CompAuto 2021

Table of Contents

Preface	viii
Committees	
Reviewers	x
Machine Learning and Intelligent Computing	
Solar Radiation Forecasting in Saudi Arabia using Machine Learning Budoor Alwated (Effat University, Saudi Arabia) and Tayeb Brahimi (Effat University, Saudi Arabia)	1
Energy Usage Prediction Based on Multi-System Data for Public Buildings usin Learning Methods	
Rain Prediction In Australia With Active Learning Algorithm	14
Comparisons of LSTM and Other Machine Learning Approaches on Predicting Regarding to Social Media Posts	
Dynamic Model Distributing Optimization for Mobile Edge Computing Changxu Wang (Alibaba Group, China), Na Jiang (Alibaba Group, China), and Libao Chen (Alibaba Group, China)	24
Kernel Choices in One-Class Support Vector Machines for Novelty Detection . Yihong Zheng (Qingdao University of Science & Technology, China), Zhekuan Zhou (Wiseman's House Clifton College, UK), Zhaoyang Li (Bachuan Quantum Middle School, China), and Dongzhe Li (Chongqing BI Academy, China)	29

Design and Application on Business Data Lineage as a Part of Metadata Management
Computer and Information Science
Comparison and Analysis of the Positive and Negative Words in the Websites Among Australia, UK and Canada
Design and Implementation of Virtual Characters' Expression of Interactive Storytelling
A DAE-Based Approach for Improving the Grammaticality of Summaries
Overlapping Community Detection Based on Node Correlation in Directed Complex Networks 54 Junqiang Liu (Lanzhou University, China), Chenxi Ma (Lanzhou University, China), Yufan Liao (Lanzhou University, China), and Li Liu (Lanzhou University, China)
Dissemination of Cultural Heritage: Design and Implementation of a VR Environment for the Preservation of art and Culture in Pujilí - Ecuador. 61 Ricardo Plasencia (Armed Forces University ESPE, Ecuador), Gabriela Herrera (Armed Forces University ESPE, Ecuador), Lucas Garces (Armed Forces University ESPE, Ecuador), and Edison Espinosa (Armed Forces University ESPE, Ecuador)
On-Demand Trajectory Prediction Based on Adaptive Interaction Car Following Model With Decreasing Tolerance 67 Zhanhui Zhou (Shanghai Jiao Tong University, China), Jiawen Wu (University of Nottingham, China), Zhuo Cao (University of New South Wales, Australia), Zhangcong She (John's Hopkins University, USA), Jiahuai Ma (Dalian Jiaotong University, China), and Xuanhao Zu (University of New South Wales, Australia)
Food System Model Promotion Research Under Hunger
Using Spyder to Construct a Digits Recognition System
Control System and Automation
ROS-Based Formation Control and Collaborative Tracking of Multi-Vehicle Systems

Neural Network-Cascade UDE Based Tracking Control of Leader-Follower Agents With Compound	
Uncertainties Tong Li (AVIC Chengdu Aircraft Design and Research Institute, China), Weihao Li (University of Electronic Science and Technology of China, China), Zhiqiang Li (University of Electronic Science and Technology of China, China), Mengji Shi (University of Electronic Science and Technology of China, China), Boxian Lin (University of Electronic Science and Technology of China, China), and Zixuan Liu (University of Electronic Science and Technology of China, China)	. 93
Design of an Automated System for the Production of Chicha de Jora	100
Simulating the Key Design Parameters of Oil Field Development Muhammad Usman Tahir (China University of Petroleum (East China), China), Hongtao Zhou (China University of Petroleum (East China), China), Asadullah Memon (Mehran UET SZAB Campus, Pakistan), Wei David Liu (China University of Petroleum (East China), China), Shahid Ali (Institute of Geology University of the Punjab, New Campus, Pakistan), and Ubedullah Ansari (Mehran University of Engineering and Technology, Pakistan)	104
Study of the Locomotion of a Hexapod using CoppeliaSim and ROS Joana Coelho (University of Minho, Portugal), Rafaela Sá (University of Minho, Portugal), Tiago Ribeiro (University of Minho, Portugal), Fernando Ribeiro (University of Minho, Portugal), Bruno Dias (University of Minho, Portugal), Gil Lopes (University Institute of Maia, Portugal), and Paulo Flores (University of Minho, Portugal)	109
PID Controller and Kalman Filter of Two-Wheel Buggy Movement	117
Optimization of Adaptable Prediction and Event-Triggered Replanning using Non-Model Based Methods	121
Multi-Physics Analysis of a Loudspeaker for the Elderly	126
Author Index	131