

# **2021 8th International Conference on Computational Science/Intelligence and Applied Informatics (CSII 2021)**

**Zhuhai, China  
13 – 15 September 2021**



**IEEE Catalog Number: CFP21R31-POD  
ISBN: 978-1-6654-0273-6**

**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:	CFP21R31-POD
ISBN (Print-On-Demand):	978-1-6654-0273-6
ISBN (Online):	978-1-6654-0272-9

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

# 2021 8th International Conference on Computational Science/Intelligence and Applied Informatics (CSII) **CSII 2021**

## Table of Contents

Conference Organizing Committee Members .....	viii
Message from the Conference Chairs .....	xi
Message from the Program Chairs .....	xii

### Regular Session

Multi-Objective Scheduling Model for OpenStack-Based Cloud .....	1
<i>Haiyan Zhang (Beijing Institute of Technology, China), Kai-Yung Lin (Beijing Institute of Technology, China), and Huahang Huang (Beijing Institute of Technology, China)</i>	
Video Captioning via Two-Stage Attention Model and Generative Adversarial Network .....	6
<i>Wencai Yan (Zhengzhou University, China), Lin Qi (Zhengzhou University, China), Yun Tie (Zhengzhou University, China), and Cong Jin (Communication University of China, China)</i>	
Knowledge Graph-Based Sequence Recommendation .....	12
<i>Yujuan Zhang (State Key Laboratory of Media Convergence and Communication, China; Communication University of China, China), Jing Zhou (State Key Laboratory of Media Convergence and Communication, China; Communication University of China, China), and Weiguo Lin (State Key Laboratory of Media Convergence and Communication, China; Communication University of China, China)</i>	
Quality Detection Method for Controller Process Based on Mask R-CNN Network Model .....	18
<i>Xinlei Ma (Gree Electric Appliances, Inc. of Zhuhai, China), Yanyu Chen (Gree Electric Appliances, Inc. of Zhuhai, China), Shaobin Li (Gree Electric Appliances, Inc. of Zhuhai/Data Science Research Institute, City University of Macau, China), Wencai Du (Data Science Research Institute, City University of Macau, China), Zehan Tan (Gree Electric Appliances, Inc. of Zhuhai, China), Qinggu Li (Gree Electric Appliances, Inc. of Zhuhai, China), Yaqi Ma (Gree Electric Appliances, Inc. of Zhuhai, China), and Haiyan Deng (Gree Electric Appliances, Inc. of Zhuhai, China)</i>	

Research on Quality Control of Intelligent Injection Molding System Based on Process Monitoring .....	23
<i>Han Wang (Data Science Research Institute, City University of Macau, China), Shasha Lv (Gree Electric Appliances, Inc. of Zhuhai, China), Shaobin Li (Data Science Research Institute, City University of Macau, China), Wencai Du (Data Science Research Institute, City University of Macau, China), Qinggu Li (Gree Electric Appliances, Inc. of Zhuhai, China), and Bo Wang (Gree Electric Appliances, Inc. of Zhuhai, China)</i>	
Research on High-Speed Object Tracking Based on Circle Migration Estimation Neighborhood .....	29
<i>Zehan Tan (Fudan University, China), Weidong Yang (Fudan University, China), Shaobin Li (City University of Macau, China), Yanyu Chen (Gree Electric Appliances, Inc. of Zhuhai, China), Xinlei Ma (Gree Electric Appliances, Inc. of Zhuhai, China), and Shuai Wu (Fudan University, China)</i>	
Applying Data Mining Technology on Inflation Prediction in the United States .....	34
<i>Ruijian Zhang (Purdue University, USA)</i>	

## **The 3rd International Workshop on Smart Media Theory and Application (SMTA 2021)**

Design and Implementation of Standard Compliance Testing for Chinese News Markup Language ..	38
<i>Yanfeng Wang (Communication University of China, China) and Pengzhou Zhang (Communication University of China, China)</i>	
An Enhanced Expression Recognition Based on Sparse Representation Using Data Normalization...	43
<i>Xiaofang Jin (Communication University of China) and Yijia Xiao (Communication University of China)</i>	
Facial Expression Recognition Based on K-SVD Dictionary Learning and OMP Compression Perceptual Reconstruction .....	49
<i>Xiaofang Jin (Communication University of China) and Ziyi Sha (Communication University of China)</i>	
Design and Realization of Practice Teaching Platform for Integrated Media Based on Cloud Architecture .....	55
<i>Xin Zhang (Department of Laboratory and Equipment Management, Communication University of China, Beijing, China)</i>	
Analysis of Airport Taxi Related Problems .....	60
<i>Yuping Li (Zhengzhou Normal University, Henan) and Jinnuo Zhang (University of Sheffield, UK)</i>	
Design of Intelligent Teaching Audio System .....	65
<i>Xiaolong Ben (Communication University of China)</i>	
Graph Classification Model Based on Graph Neural Networks and Graph Distance .....	69
<i>Xiaoling Li (Communication University of China, China), Zixuan Guan (Communication University of China, China), Qian Xu (Communication University of China, China), Shenze Huang (Communication University of China, China), and Junxian Wang (Communication University of China, China)</i>	

**Author Index** ..... 75