IEEE ISPCE-CN 2020

Program

IEEE International Symposium on Product Compliance Engineering-Asia 2020

6-8 November, 2020,
Hong Kong (6-8 November, 2020)/
Chongqing (6-8 November, 2020), China
http://www.dl2link.com/ISPCE-CN2020/index.html

Organised by   **IEEE Product Safety Engineering Society**

Co-Organised by   **CityU (City University of Hong Kong)**
                                CQU (Chongqing University, Chongqing)

Technical Sponsors:

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Dear Guests and colleagues of the ISPCE-CN 2020,

It is my great pleasure to invite and welcome you to the IEEE 2020 ISPCE-CN Symposium (ISPCE-CN 2020) organized by the Product Safety Engineering Society of the IEEE. ISPCE-CN 2020 will be held on 6-8 November, 2020 in Chongqing.

ISPCE-CN 2020 will fully dedicate to the theme "Product Safety for Smart City". Topics of ISPCE-CN 2020 cover (1) Emerging IoT technologies such as 5G, NB IoT, LoRa, Sigfox, RFID, NFC etc for safety applications e.g. landslides, IoTree, IoT water, ...(2) Drones for building applications, healthcare, automobiles, road toll (3) artificial intelligence, robotics, stems, V2X, etc. (4) Mobile communication, transportation, energy efficiency (5) Public safety, critical communication (6) Internet of Things, Spectrum Policy (7) Inherently safer products and equipment (8) Product Safety services (9) Training and continuing education (10) Regulations and standards (11) Risk management (12) Workplace product safety (13) System and Software safety (14) Human factors, product compliance, smart sensors compliance. There will be Regular Sessions, Special Sessions, Tutorials and Visits. I am sure professionals and engineers may exchange ideas and learn from one another.

Please make yourself available for these three days of conference for informative scientific and technological presentations and discussions with professionals and colleagues.

The Organizing Committee (OC) does not only provide you the chance to enjoy an informative and stimulating atmosphere but also set up a first-class conference program. I want to make you aware that the City of Hong Kong and Chongqing are wonderful and professional environments for smart city development and thus are excellent venues for professional exchange. The OC is thoughtful to include the authentic food, welcome reception and conference dinner into the registration fee.

I am confident that we will have an excellent time during these three days at ISPCE-CN 2020 and that at the end of the conference we will learn new knowledge and ideas. Please join us at ISPCE-CN 2020!

Best wishes,

Dr. Haijun Zhang
General Chair, ISPCE-CN 2020

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Tentative Rundown on 6 November 2020 (Friday)

Time	Event
9:00-12:00	Registration
14:00-17:00	Technical visit to Chongqing University of Posts and Telecommunications
18:00-20:00	Welcome Reception

Tentative Rundown on 7 November 2020 (Saturday)

Time	Event	Conference ID	Password
8:00-8:15	Opening Ceremony (Host: Prof. Haijun Zhang) Prof. Stefan Mozar, AU Prof. Mike Nichols, US Prof. Kim-Fung Tsang, HK	945 233 208	2020
8:15-9:00	Keynote A: Prof. Zhao Zhang, Hefei University of Technology, China (Chair: Kai Liu)		
9:00-10:00	Session 1: Paper Report, Chair: Mingbo Zhao		
10:00-11:00	Session 2: Paper Report, Chair: Prof. Kai Liu, Chongqing University, China		
11:00-12:00	Session 3: Paper Report, Chair: Qiang Jia		
12:00-14:00	**Lunch Break**		
14:00-14:45	Keynote B: Prof. Tianyong Hao, South China Normal University, China (Chair: Zhou Wu)	914 303 344	2020
14:45-15:45	Session 4: Paper Report, Chair: Choujun Zhan		
15:45-17:00	Session 5: Paper Report, Chair: Jing Zhu		
17:00-17:15	**Award Session**		
17:15-17:30	Closing Ceremony		
18:00-21:30	**Banquet**		

Tencent Meeting download links:

Domestic version: https://meeting.tencent.com/download-center.html
International Version:https://voovmeeting.com/download-center.html

03 Program Overview

Tentative Rundown on 8 November 2020 (Sunday)

Time	Event
9:00-12:00	Technical visit to Chongqing University
14:00-17:00	Offline Discussion Venue: Chongqing University and City University of HK
END	

Keynote A

Title: Robust Low-Rank Representation Learning:
From Shallow to Deep Models
Speaker: Prof. Zhao Zhang, Hefei University of Technology
Date & Time: November 7th (Saturday), 8:15-9:00
Tencent Meeting ID: 945 233 208   **Password:** 2020
Host: Haijun Zhang

Keynote Abstract:

Representation learning mainly explores the technologies that can automatically discover potential compact expressions and explanatory factors from original complex visual data for feature detection or classification. Because the visual data in real world generally have the issues of high dimensionality, complicated content information, redundant information and unfavorable features, it is still an important and challenging research topic to effectively represent, understand and classify them. The presenter mainly focuses on the study of representation learning and its application in visual data analysis and image processing, which mainly discusses how to extract or capture useful feature subspaces from complex visual data to achieve efficient representation and understanding. In this talk, the speaker will introduce their recent progresses on robust representation learning by low-rank coding (from shallow to deep models), including some applications to image processing and pattern recognition.

Session 1

1. **Learning Knowledge Graph Embedding with Entity Descriptions based on LSTM Networks**

   Chen Wenrui, Hong Dongpao and Zheng Chao

2. **Person Re-Identification by Scalable Manifold Ranking with User Side Information Enhancement in Surveillance System**

   Yichen Lin and Mingbo Zhao

3. **DrtNet: An Improved RetinaNet for Detecting Beverages in Unmanned Vending Machines**

   Donghai Li, Haibin Zhou, Guojian Li, Biao Yang, Feng Gao and Haijun Zhang

4. **Impact of COVID-19 Lockdown on Human Activity and Air Quality in China**

   Choujun Zhan, Wei Jiang, Jianbin Li, Huiming Xu and Wei Sha

5. **Data Mining of Weibo for Public Sentiment Evolution regarding COVID-19**
   Li Li, Wei Zhao, Wenjia Mao, Chun Ye, Xianghua Chu and Zhengrong Chu

Session 2

1. **A Convex-based Computation Offloading Mechanism in Vehicular Edge Computing**

   Penglin Dai, Kaiwen Hu, Huanlai Xing and Kangli Zhao

2. **A Novel Message Dissemination Scheme Based on Pub/Sub Model and Vehicular Fog Computing**

   Bingyi Liu, Ze Wang and Xinhai Chen

3. **Fault Location Method of Distribution Network Based on Multi-Source Information**

   Tao Niu, Xingong Cheng, Yongfeng Zhang and Zhanwen Lu

4. **A Secure Data Request and Sharing Model Based on Consortium Blockchain in Vehicular Edge Computing Environment**

   Lang Zhang, Hao Zhang, Chunhui Liu and Kai Liu

5. **Multi-objective vehicle path planning method for recycling process of used electrical and electronic products**
   Cuili Yang, Zhanhong Wu, Honggui Han and Xiaowen Bi

Session 3

1. **An Improved Random Forest Model Combined with Bootstrap and Undersampling for Classification of Urban Management Cases**

   Xiaowen Huang, Senbao Shi, Xiaotian Li, Zihao Guo, Li Li and Xianghua Chu

2. **Multi-defect detection for magnetic tile based on SE-U-Net**

   Xincheng Cao, Bin Yao and Binqiang Chen

3. **A Study of Six Neighborhood Selection Methods for Multiobjective Neighborhood Field Optimization Algorithm**

   Xin Zhang, Liang Han, Yupeng Li, Ruiqing Xing and Xiu Zhang

4. **Event-Based Synchronization of Nonlinear Dynamical Networks With Switching Topologies**

   Kwaku Ayepah, Mei Sun and Qiang Jia

5. **High-efficient Multi-carrier Combination and Division Algorithm for Multi-service DRoF System**

   Wen Li, Xuefeng Wang, Xiaobin Liu, Yuanhang Chen, Aixin Chen and Yidong Yao

Keynote B

Title: Large Scale Clinical Trial Text Processing and Mining
Speaker: Prof. Tianyong Hao, South China Normal University
Date & Time: November 7th (Saturday), 14:00-14:45
Tencent Meeting ID: 914 303 344   **Password:** 2020
Host: Haijun Zhang

Keynote Abstract:

Clinical trials generate highly relevant evidences for effective disease treatments. The extraction of necessary information from a large scale clinical trial text through natural language processing for patient characteristic aggregation remains a research problem due to the complex of the investigator-authored free-text. By collaborating with a research group at Columbia University Medical Center, our research group has made some progresses on several research topics. This talk will introduce the recent research on: an extensible approach for automated semantic tag mining, clinical trial clustering by similar eligibility criteria, disease named entity recognition, temporal expression extraction and normalization, transgender identification for enhancing clinical trial recruitment, and measurable quantitative information extraction and normalization.

Session 4

Date & Time: November 7th (Saturday), 14:45-15:45
Tencent Meeting ID: 914 303 344   **Password:** 2020
Chair: Choujun Zhan

1. **Multi-label Sentiment Analysis Base on BERT with modified TF-IDF**
    Zeyi Jin, Xin Lai and Jingjing Cao

2. **Image Encryption Algorithm of Hyper-chaotic System Based on Spiral Scrambling**
    Peng Zhang, Mo Chen and Jian-Guang Zhang

3. **Bearing performance degradation assessment by using LMD and CFS clustering without cluster number selection**
    Fan Xu and Zhou Wu

4. **A Novel AI-based Internal Temperature Prediction Algorithm for VRLA Battery**
    Tsz Chun Lai, Hao Wang, Liu Yucheng, Yang Wei, Kim Fung Tsang, Yuk Tak Chow and Yaqing He

5. **The IDex Case Study on the Safety Measures of AIoT-based Railway Infrastructures**
    Chung Kit Wu, Yaqing He, Kim Fung Tsang and Stefan Mozar

6. **E-commerce Sales Forecast Based on Ensemble Learning**
    Choujun Zhan, Jianbin Li, Wei Jiang, Wei Sha and Yijing Guo

7. **Critical Study on the Feasiblity of Smart Laboratory Coats**
    Chi Chung Lee and George Chan

Session 5

1. **A Study on the ways to solve Hazardous Chemical Emission from 3D Printing Process**
   Shu-Lun Mak, Fanny Tang, C H Li, Tanya Wu and C W Lai

2. **A Study on light intensity in Public-use underground carpark**
   Shu-Lun Mak, Fanny Tang, C H Li and C W Lai

3. **Sustainable Management on Recycling Waste Plastic in Polymer-modified Asphalt Pavement and Roads**
   W.F Tang, S.L Mak and C.H Li

4. **How HK Construction Inspector would enhance the offsite Quality Inspection in China Manufacturing Plant for MiC Projects?**
   Chi Ho Li, Shu Lun Mak, Wai Fan Tang, Yuhan Chen and Siu Kei Lam

5. **Development of IoT-based Smart Recycling Machine to collect the wasted Non-woven Fabric Face Mask (NFM)**
   Chi Ho Li, Shu Lun Mak, Wai Fan Fanny Tang, Siu Kei Lam and Ming Yan Wu

6. **Development of Sand-Free Plastering Solutions for Green Building**
   W.F Tang, S.L Mak and C.H Li

7. **A Method to Improve the Stability of Constant Current Source**
   Shangming Sang, Rongwei Feng, Hongliang Chen and Nan Wu

Award Session

Date & Time: November 7th (Saturday), 17:00-17:15

Tencent Meeting ID: 914 303 344   **Password:** 2020

Chair: Zhou Wu

Closing Ceremony

Date & Time: November 7th (Saturday), 17:15-17:30

Tencent Meeting ID: 914 303 344   **Password:** 2020

Chair: Haijun Zhang

Thank you for attending the IEEE ISPCE-CN 2020!

香港城市大学
City University of Hong Kong