

The 8th IEEE/ACIS International Conference on Big Data, Cloud Computing, and Data Science Engineering (BCD 2023)



December 14-16, 2023
University of Social Science and Humanities - Vietnam National University
Ho Chi Minh City, Viet Nam

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Prof. Phan Nhu Quynh, University of Social Sciences and Humanities

Program at a Glance
Thursday, December 14, 2023

Time	12/14	
	Event	Location
18:00 ~ 20:00	Welcome Reception Dinner Banquet (BCD & EAIM)	ELISA FLOATING RESTAURANT*

*** ELISA FLOATING RESTAURANT :**

No 5, Nguyen Tat Thanh Street, Ward 13, District 4, Ho Chi Minh City

Program at a Glance
Friday, December 15, 2023

Time	12/15	
	Event	Location
09:00 ~ 16:00	Registration	USSH** D Building 1 st Floor Lobby
09:00 ~ 10:15	BCD Session 1 BCD Session 2 BCD Session 3	USSH D-306 USSH D-307 USSH D-201
10:30 ~ 12:00	Opening Ceremony(BCD & EAIM) BCD Keynote 1 EAIM Keynote 1, EAIM Keynote 2	USSH D Building 1st Floor (Van Khoa Hall)
12:00 ~ 13:00	Lunch	
13:00 ~ 14:15	BCD Session 4 BCD Session 5 BCD Session 6	USSH D-306 USSH D-307 USSH D-301
14:15 ~ 14:30	Break	
14:30 ~ 15:45	BCD Session 7 BCD Session 8 BCD Session 9	USSH D-306 USSH D-307 USSH D-301
15:45 ~ 16:00	Break	
16:00 ~ 17:15	BCD Session 10 BCD Session 11 BCD Session 12	USSH D-306 USSH D-307 USSH D-301

**** USSH (The University of Social Sciences and Humanities-VNUHCM):**

10-12 Dinh Tien Hoang Street, Ben Nghe Ward, District 1, Ho Chi Minh City, Viet Nam.

Program at a Glance
Saturday, December 16, 2023

Time	12/16	
	Event	Location
9:00 ~ 11:00	Registration	USSH** D Building 1 st Floor Lobby
09:30 ~ 10:45	BCD Session 13	USSH D-306
11:00 ~ 12:00	Closing Ceremony	USSHD Building 1st Floor (Van Khoa Hall)

Keynote 1

Development of tablet defect detection model using biaxial planes discrete scanning algorithm

Hsiung-Cheng Lin

Tenured Distinguished Professor
National Chin-Yi University of Technology, Taiwan
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Abstract

Oral administration is the most broadly used dosage form for drug delivery in a disease treatment. However, the tablet imperfections known as visual defects may significantly impact the efficacy and therapeutic effect. Accordingly, the tablet defect identified before bottling is a crucial issue in the pharmaceutical industry. Presently, the defect checking usually relies on either manual sampling, visual image processing or combination of deep learning methods in the manufactory. Nevertheless, currently it still lacks both simple and effective mechanism to tackle this problem in industry. For this reason, the tablet defect detection model is developed using a biaxial planes discrete scanning algorithm based on simple algebraic calculation. Therefore, actual tablet shape can be quickly identified, and the defect status can be thus evaluated accurately. Initially, the standard tablet shape is formed using biaxial planes discrete scanning process from both front and side views respectively. Second, analog output signal generated from the image sensor is transformed into a series digital code in an array. Third, every tablet for investigation is processed following up the same steps as the standard tablet does. Finally, the defect status is determined using similarity gap and square mean error (SME) between the standard tablet and detected one. The experimental results reveals that the defect tablet has a significantly big similarity gap over the standard one up to 20% and 100% in front and side views, respectively. On the other hand, the square mean error (MSE) reaches 7903 and 5393 in front and side views, respectively. It verifies that the proposed model can effectively justify the defect status in term of rapidness, accuracy and robustness.

Biography

Hsiung-Cheng Lin graduated from National Taiwan Normal University for his bachelor degree in 1986, Taiwan. He received Master and PhD degree from Swinburne University of Technology, Australia, in 1995 and 2002 respectively. Between 2011 to 2021, he received a special talent reward from the National Science Council, Taiwan. Also, he was honored as World's Top 2% Scientists 2021- Lifetime scientific influence leaderboard (1960-2021) (Scopus). He has been working as guest editors in international journals such as Applied Sciences, Sensors, Algorithms, Journal of Robotics, Sensors & materials, etc. He is currently a tenured distinguished professor in the Department of Electronic Engineering at National Chin-Yi University of Technology, Taiwan. His special fields of interest include system integration, automatic measurement, signal processing and analysis, power electronics, and neural network, etc.

Program in Detail
Friday, December 15, 2023

■ 09:00 ~ 16:00 - Registration

USSH** D Building 1st Floor Lobby

■ 9:00 ~ 10:15 - BCD Session 1

USSH D-306

Artificial Intelligence

Session Chair: Jongbae Kim

Time	Title	Author(s)
09:00 - 10:15	Leak Detection and Classification of Water Pipeline Data using LSTM Auto-Encoder with Xavier Initialization	Lee Daehee, Choo Hyunseung, Jeong Jongpil
	Can a Large Language Model Generate Plausible Business Cases from Agent-Based Simulation Results	Takamasa Kikuchi Yuji Tanaka Masaaki Kunigami Hiroshi Takahashi Takao Terano
	CNN-LSTM-AE Based Predictive Maintenance Using STFT for Rotating Machinery	Seokhyun Gong, Jongpil Jeong, Chanyoung Kim, Wonmin Choi, Jungsoo Park, Jongheon Kim, Taeyong Kim
	CNN-BiLSTM Based Federated Learning for Field Worker Safety	Namji Kim, Jongpil Jeong
	From ML-Infused Algorithms to Financial Agents, transforming Algorithmic Trading Excellence: A Comprehensive Study	Tanaya Patil

■ 9:00 ~ 10:15 - BCD Session 2

USSH D-307

Data Analysis Applications

Session Chair: Minh Triet Tran

Time	Title	Author(s)
09:00 - 10:15	Audio spectrogram transformer-based audio classification using voice data of dementia patients	Younjeong Lee, Jongpil Jeong, Chanho Park
	Building a Shapley FinBERTopic System to Interpret Topics and Articles Affecting Stock Prices	Yoshihiro Nishi Hiroshi Takahashi
	Design and Implementation of AI Machine Vision Inspection System with Multi-Optical Images for OLED Film Manufacturing	Tae-yong Kim, Jongpil Jeong, Seongjin Oh, Somin Lee, Sungkook Lee, Sangyoon Hwang
	Improving Network Intrusion Detection Using Supervised Learning for Feature Selection	Hamed Sanusi, Zheni Utic Jongyeop Kim
	BaNaVA: A cross-platform AI mobile application for preserving the Bahnaric languages	Tho Quan Thanh, Giang Dinh Lu, Duc Nguyen Quang, Hai Vu Hoang, Quy Nguyen Tran, Khoa Tran Ngoc Dang, Minh Tran Duy

■ **9:00 ~ 10:15 - BCD Session 3**
Digital Services & Management

USSH D-201
Session Chair: Quan Thanh Tho

Time	Title	Author(s)
09:00 ~ 10:15	A Comparative Study of Transformers Embeddings for Question Answering in Arabic Private Documents	Essam Al Daoud, Ghassan Samara Laith Al Daoud
	Analyzing the Growth Patterns of GitHub Projects to Construct Best Practices for Project Managements	Kaito Kaide Haruaki Tamada
	Tourist route recommendation framework with potential travel purposes	Hiroaki Tsukamoto Motoi Iwashita
	A Consideration on countermeasure for avoiding congestion at tourist sites	Kohki Inaba Motoi Iwashita
	Overview of Computerized Adaptive Testing	Nguyet Phan Thi Thu, Tu Truong Phan Cam

■ **10:30 ~ 12:00 - Opening Ceremony (BCD & EAIM) BCD Keynote 1,**
EAIM Keynote 1, EAIM Keynote 2

USSH D Building 1st Floor
(Van Khoa Hall)

■ **12:00 ~ 13:00 Lunch**

■ **13:00 ~ 14:15 - BCD Session 4**
Artificial Intelligence

USSH D-306
Session Chair: Jongbae Kim

Time	Title	Author(s)
13:00 - 14:15	Zero-Shot Sentiment Analysis Exploring BART Models	Isidoros Perikos, Michael Paraskevas, Konstantinos Kyritsis, Nikolaos Spatiotis
	A study of the architecture and security mechanisms of MyData in South Korea	Jongmo Hwang Seungbok Ahn, Seockho Jang
	A Consideration of Trust Evaluation for Individual System Developers	Takuya Iwami, Motoi Iwashita
	Exploring The Correlation between MyData Systems and Use Intentions: From The Perspective of TAM and IS Success Models	Seockho Jang, Jongmo Hwang, Seungbok Ahn
	Hyper Parameter Classification on Deep Learning Model for Cryptocurrency Price Prediction	Jongyeop Kim, Jongho Seol Tasnim Akter Onisha Yiming Ji

■ 13:00 ~ 14:50 - BCD Session 5

USSH D-307

Data Analysis Applications

Session Chair: Minh Triet Tran

Time	Title	Author(s)
13:00 - 14:15	DRL Model for Distributed Agent-based IoT on Multi-Access Edge Computing for Accident Forecast	Jongho Seol, Jongyeop Kim Abhilash Kancharla
	Predicting the Movement of Index (Bank Nifty) Using Day's First Support & Resistance with Pivot Points Standard Indicator	Vaibhav Aggarwal, Ansh Arora, Dr. Pankaj Kumar
	On the Generation of Distinct Gray Codes for Load-balancing in Hypercubes	Bossard Antoine
	Balancing the Odds: SVM-FSMOTE for Improved Student Employability Prediction	Cherry Casuat, Yolanda Austria, Alan Sillacay
	Analysis of data from drones for surveillance and threat identification in maritime areas	Isidoros Perikos, Michael Paraskevas, Fotis Lampropoulos

■ 13:00 ~ 14:50 - BCD Session 6

USSH D-301

Software Engineering

Session Chair: Phan Nhu Quynh

Time	Title	Author(s)
13:00 - 14:15	A Study on the Development Direction of the Aircraft for Korean-Urban Air Mobility	Soohong Min
	A Study on the Intention to Use Use OpenSource Middleware - Focused on the Technology Acceptance Model (TAM)	Hyongyong Lee, In Mo Yeo, Hyuna Kim
	The Mediation Effects in the Relationship between Service Recovery and Customer Loyalty: The Role of Co-creation Experience and Switching Cost	Bum Seok Kim, Jin-Han Kim, Woosub Kim
	Design of linux based transactional NAND flash memory file system	Jongmo Hwang, Seockho Jang, Yoonhee Kim
	A Regional Depopulation in South Korea: Analysis of Interregional Migration and Economic Factors	Youngsu Kim, Jongbae Kim, In Mo Yeo, Hyongyong Lee

■ 14:15 ~ 14:30 - Break

■ 14:30 ~ 15:45 - BCD Session 7

Digital Services & Management

USSH D-306

Session Chair: Jongbae Kim

Time	Title	Author(s)
14:30 - 15:45	Real-time Measurement of Elevator Rope Slippage Using Streaming Images Tracking Model	Hsiung-Cheng Lin, Yan-Hao Peng
	A Study on the Performance of Domestic Venture Capital Funds	In Mo Yeo Youngkun Yang Youngsu Kim
	A Study on Factors Influencing the Survival of Self-employment -Focus on franchise convenience store	Youngsu Kim Youngkun Yang In Mo Yeo
	A study on purchase intention for oxygen-generating air purifiers	Chaeyoul Leem, Sangsoo Ha Chungku Han
	Factors affect the intention to use Virtual Reality (VR) settings for Video Calls on OTT platforms of Da Nang, Ha Noi, and Ho Chi Minh citizens.	Huyen Vo Khanh, Tra Le Thi Hong, Tai Nguyen Van, Huy Nguyen Dac Trung, My Nguyen Thi Diem, Trong Van Hung

■ 14:30 ~ 15:45 - BCD Session 8

Information Systems / Application / Computational Science

USSH D-307

Session Chair: Minh Triet Tran

Time	Title	Author(s)
14:30 - 15:45	A Novel XY-Plane Positioning Based on Point Approximation for Wafer Stage Control	Seongjin Oh, Jongpil Jeong, Chae-gyu Lee, Tae-yong Kim, Yongju Na, Se-hyeon Ryu
	Design and Implementation Of An Eye Fatigue Analysis System To Prevent Safety Accidents For Field Workers	Jieun Lee, Jongpil Jeong, Namji Kim, Jihyeon Park, Tae-yong Kim , Jiwan Park
	An Efficient Clustering Algorithm for Large-scale Point Cloud Data: HNSW-based DBSCAN	Jiwan Park, Jongpil Jeong, Seongjin Oh, Tae-yong Kim Jieun Lee
	A study on the Configuration Plan for an Integrated System for Integrated Information Security Management	Seungbok Ahn, Seockho Jang Jongmo Hwang
	A Study on the Adoption and Usage of Open Source Software by Korean Financial Institutions	Heeyoung Kim, Hyongyong Lee Hyuna Kim

■ 14:30 ~ 15:45 - BCD Session 9

USSH D-301

Knowledge Discovery

Session Chair: Phan Nhu Quynh

Time	Title	Author(s)
14:30 - 15:45	A Study on Intention to accept overseas development	Hyongyong Lee, Euntack Im Myeong Seok Oh
	A Study on the Airworthiness Certification of the Electric Vertical Take-Off and Landing Aircraft	Soohong Min
	Stock Valuation using a Simple DEA Approach	Bum Seok Kim
	Approach and Strategy for Economic Cooperation between South and North Korea : Based on the Case Study of the Kaesong Industrial Complex	Insun Kang
	Empirical study on factors affecting the success factors of selfemployed people in each region	Youngsu Kim, Jongbae Kim and Youngkun Yang

■ 16:00 ~ 17:00 - BCD Session 10

USSH D-306

Business Intelligence

Session Chair: Jongbae Kim

Time	Title	Author(s)
16:00 - 17:00	The Effect of ESG Management on Corporate Reputation	Jangwoo Kim, Hyongyong Lee Dorjtsembe Zul-Erdene
	Influence of ESG Activities on Buying Intentions : Focusing on the Mediating Roles of Corporate Reputation, Brand Image, and Perceived Quality	Huiryang Eom, Heeyoung Kim and Hyuna Kim
	Utilizing Monitoring Systems for Information Management in Rooftop Solar Photovoltaic Plants	Thoa Ninh
	A Study on the Effect of Green Patent Data on ESG(Environmental, Social, Governance) Environment Indicators	Hyunyoung Kwak, Sungtaek Lee

■ 15:45 ~ 16:00 - Break

■ 16:00 ~ 17:00 - BCD Session 11

USSH D-307

Cloud Computing / IoT

Session Chair: Minh Triet Tran

Time	Title	Author(s)
16:00 - 17:00	A Study on the Intention to Use the Urban Air Mobility Passenger Transportation Service	Soohong Min
	Dashboard-camera-based Safe Driving Support System	Ulziibayar Sonom-Ochir, Stephen Karungaru, Kenji Terada, Altangerel Ayush
	A Study on the Intention to Use Home Network Services	Sungbyeong An, Yoon-je Sung, Sae-Yeon Lee
	Factors Influencing Vietnamese Learners' Intent to Continue Using Online Learning Platforms	Phan Nhu Quynh

■ 16:00 ~ 17:45 - BCD Session 12

USSH D-301

Data Mining

Session Chair: Phan Nhu Quynh

Time	Title	Author(s)
16:00 - 17:45	A Comprehensive Study on the Intention to Use OpenSource DBMS - An In-depth Analysis Centered on the Technology Acceptance Model (TAM)	Hyongyong Lee, Youngkun Yang and Youngsu Kim
	Estimating of Confidence Interval in B/C Analysis	Bum Seok Kim
	A study on the progress and future directions for MyData in South Korea	Jongmo Hwang, Jungsun Oh and Heeyoung Kim

Program in Detail

Saturday, December 16, 2023

■ 9:00 ~ 11:00 – Registration

USSH** D Building 1st Floor Lobby

■ 9:30 ~ 10:45 - BCD Session 13

USSH D-306

Digital Transformation

Session Chair: Van Hung Trong

Time	Title	Author(s)
09:30 ~ 10:45	Polyp Instance Segmentation in Colonoscopy Images: A Benchmark	Tan-Cong Nguyen, Kim Anh Phung, Thao Thi Phuong Dao, Ju Shen, Tam V. Nguyen, Minh-Triet Tran
	A Cloud-based Multi-agent Simulation of African Swine Fever in Hanoi Region	Linh Manh Pham, Trương Nguyễn Xuân
	Machine Learning for Agricultural Price Prediction: A Case of Coffee Commodity in Vietnam Market	Thuan Nguyen Le Ngoc, Dieu Tin Lam, Thong Chanh Doan, Trang Nguyen Hai Minh, Nam Phuong Nguyen, Hien Manh Nguyen, Thanh Ngoc Nguyen, Linh Duc Tran, Nhat-Quang Tran
	Unlocking the Potential: an evaluation of Text-to-Speech Models for the Bahnar Language	Lu Giang Dinh, Tho Quan Thanh, Duc Nguyen Quang, Hai Vu Hoang, Quy Nguyen Tran
	Simulation of the Health Monitoring and Disease Warning System on the Pig Herd with a Cloud-based GAMA Platform	Trương Nguyễn Xuân, Linh Manh Pham, Quang Hung Bui

■ 11:00 ~ 12:00 - Closing Ceremony

USSH D Building 1st Floor (Van Khoa Hall)