The Sixth International Conference on Smart Vehicular Technology, Transportation, Communication and Applications (VTCA 2024)

April 16-18, 2024, Kaohsiung, Taiwan
(Kaohsiung Software Technology Park)

Conference Program

(Onsite/Online Hybrid)

Time Zone for the Conference Program: GMT +08:00
Please visit https://voovmeeting.com/for VooV Meeting clients

VTCA 2024 Official Website: http://bit.nkust.edu.tw/~vtca24

Conference Program

Time	April 16, 2024 (Tuesday)
09:00-09:50	**Registration** Conference saloon, 1F
09:50-10:00	**Opening** Conference saloon, 1F VooV Meeting ID: 963-845-863 https://meeting.tencent.com/dm/NP7t6NOnJWDS
10:00-11:00	**Keynote Speech (I)** *Prof. Yao Zhao* Conference saloon, 1F VooV Meeting ID: 963-845-863 https://meeting.tencent.com/dm/NP7t6NOnJWDS
11:00-11:20	Break
11:20-12:00	**Session 01** Conference saloon, 1F VooV Meeting ID: 963-845-863 https://meeting.tencent.com/dm/NP7t6NOnJWDS
12:00-14:00	Lunch
14:00-17:00	**Session 02** VooV Meeting ID: 378-355-729 https://meeting.tencent.com/dm/1BurYRingB4z
17:30-20:00	Welcome Reception

Time	April 17, 2024 (Wednesday)
09:00-10:00	**Keynote Speech (II)** *Prof. Lyuchao Liao* Conference Room 301, 3F VooV Meeting ID: 823-713-738 https://meeting.tencent.com/dm/CEGgfKJuoINu
10:00-10:30	Break
10:30-11:30	**Keynote Speech (III)** *Prof. SK Hafizul Islam* Conference Room 301, 3F VooV Meeting ID: 823-713-738 https://meeting.tencent.com/dm/CEGgfKJuoINu
12:00-14:00	Lunch
14:00-17:00	**Session 03** VooV Meeting ID: 687-574-130 https://meeting.tencent.com/dm/xxncYw8Du4R1
17:30-20:00	Banquet

Time	April 18, 2024 (Thursday)
09:00-12:00	**Session 04** VooV Meeting ID: 102-779-526 https://meeting.tencent.com/dm/Lfm9KSqTscAx
12:00-14:00	Lunch
14:00-15:00	**Keynote Speech (VI)** *Prof. Jingchun Geng* VooV Meeting ID: 603-492-870 https://meeting.tencent.com/dm/JL0RkF2Lo5cZ
15:00-15:30	Break
15:30-16:30	**Keynote Speech (V)** *Prof. Liyuan Zhao* VooV Meeting ID: 603-492-870 https://meeting.tencent.com/dm/JL0RkF2Lo5cZ
16:30-16:40	Ending

Keynote Speech

Keynote Speech (I): Weakly Supervised & Interactive Image Segmentation
Speaker: Prof. Yao Zhao, Beijing Jiaotong University, China

Keynote Speech (II): The Next Horizon: Telematics to Autonomous Vehicles in the Connected Age
Speaker: Prof. Lyuchao Liao, Fujian University of Technology, China

Keynote Speech (III): Identity-based Deniable Authentication for Mobile Ad Hoc Networks
Speaker: Dr. SK Hafizul Islam, Indian Institute of Information Technology Kalyani, India

Keynote Speech (IV): Theory and Practice of the Train Headway and Design of Block Section for High-speed Railway
Speaker: Dr. Jingchun Geng, CHINA RAILWAY ECONOMIC AND PLANING RESEARCH INSTITUTE

Keynote Speech (V): Modeling urban land use transportation using big data and machine learning methods
Speaker: Dr. Liyuan Zhao, Huazhong University of Science and Technology

Paper Presentation

Session 01

1. VTCA-2024-136
    Identification of Multi-class Attacks in IoT with LSTM
    Yu-Xian Lee, Chin-Shiuh Shieh, Mong-Fong Horng, Thanh-Lam Nguyen,
    Ying-Chieh Chao

2. VTCA-2024-142
    A GPT-based chatbot for Security Log Parsing
    Xian-Fu Zhou, Chun-Chih Lo, Chin-Shiuh Shieh, Yuh-Ming Cheng,
    Mong-Fong Horng

3. VTCA-2024-144
    A Study of Handover Quality Prediction in 5G Networks with Deep Learning
    Tang-Chi Lo, Chun-Chih Lo, Chin-Shiuh Shieh, Mong-Fong Horng

Session 02

1. VTCA-2024-040
    A Novel Hybrid DE-GOA Algorithm for Global Optimization Problems
    Yu Li, Qing-Yong Yang, Jia Zhao, Tien-Szu Pan, Jeng-Shyang Pan

2. VTCA-2024-072
    Genetic Algorithm: Unleashing Power of Evolutionary Computing in Problem
    Solving and Optimization
    Jeng-Shyang Pan, Trong-The Nguyen, Thi-Kien Dao, Thi-Minh-Phuong Ha

3. VTCA-2024-076
    Jira's Collaboration: Survey Insights on Optimizing Team Planning, Tracking, and
    Release Management
    Jeng-Shyang Pan, Thi-Kien Dao, Trong-The Nguyen, Trinh-Dong Nguyen,
    Thi-Xuan-Huong Nguyen

4. VTCA-2024-098
    Optimal Placement of Pressure Sensors in Water Supply Network with Gaining-
    Sharing-Knowledge Based Algorithm
    Li-Fa Liu, Shu-Chuan Chu, Tien-Szu Pan, Jeng-Shyang Pan

5. VTCA-2024-102
    Rafflesia Optimization Algorithm for Wireless Sensor Networks
    Jeng-Shyang Pan, Xin-Yi Zhang, Shu-Chuan Chu, Junzo Watada

6. VTCA-2024-118
    A Novel Gannet Optimization Algorithm with QUasi-Affine TRansformation

Evolutionary

Ji-kang Tao, Shu-Chuan Chu, Qingyong Yang, Jeng-Shyang Pan

7. VTCA-2024-120

An adaptive image fusion method based on Rafflesia Optimization Algorithm

Jeng-Shyang Pan, Huai-Jian Xu, Shu-Chuan Chu, Shi-Huang Chen

8. VTCA-2024-135

Research on Improvement of Harris Hawks Algorithm Based on Multi Strategy Optimization

Lin-yuan Lei, Shu-Chuan Chu, Jian-po Li, Vaclav snasel, and Jeng-Shyang Pan

9. VTCA-2024-140

Food digestion algorithm for engineering optimization problems

Shu-Chuan Chu, Xiao-Qi Liu, Ling-ping Kong, Jeng-Shyang Pan, Václav Snášel

10. VTCA-2024-016

Multi-objective Firefly Algorithm with Dynamic Reflection Guidance and Bi-dimensional Variants

Zhi-Yang Zeng, Shui-Ping Kang, Jia-Zhen Hou, Xiu-Mei Tian

11. VTCA-2024-031

Hybrid Kernel Function Fuzzy Least Squares Projection Twin Support Vector Machine by Wolf Pack Algorithm

Hai-peng Zhu, Jia Zhao, Si-wei Peng, Yuan-min Li, Jia-cheng Li, Bao-hong Liu

12. VTCA-2024-082

An Binary Particle Swarm Optimization with Learning from Neighbors for Multi-objective Feature Selection

Xiaofeng Wang, Jianhua Liu, Yuxiang Chen, Jian Zhu, Zhichun Xie

Session 03

1. VTCA-2024-052

   Machine Vision Defect Detection System Designed with Halcon

   Mir Mehraj Ahmad, Lyuchao Liao, Jishi Zheng, Ali Shan, Jindun Zeng

2. VTCA-2024-068

   GPF-YOLO: A real-time vehicle object detection algorithm based on improved YOLOv8

   Yu-Xin Guo, Fu-Quan Zhang

3. VTCA-2024-132

   Optimizing Deep Kernel Mapping Network for Remote Sensing Hyperspectral Image Classification

   Jing Liu and Kechao Wang

4. VTCA-2024-IS-01-01

   Using computer vision to evaluate physical rehabilitation training in Internet of Things environments

   Lingfeng Huang, Lunan Liu, Shengwen Huang, Yeh-Cheng Chen

5. VTCA-2024-096

   Whispers of the Fan: An Interactive Installation Artwork Based on Arduino Sensors Integrated with Touch Designer

   Linling Xu, Chengfeng Zheng, Shutang Liu, Yue Wang, Chang Xu, Xu Wang, Fuquan Zhang

6. VTCA-2024-088

   Integration Teaching Research of Advanced Mathematics and Computational Mathematics Courses under the Framework of Applied Research Projects

   Chao-Fan Xie, Fuquan Zhang

7. VTCA-2024-130

   The Study of Organizational Commitment and Organizational Culture on Employee Satisfaction: on Vocational High School of Dongguan City

   Fang Luo, Sheng-Lun Shen and Rong Ye

8. VTCA-2024-058

   Research on Style Transfer Algorithm of JinCang Embroidery Based on CNN

   Miao-miao Kang, Ke-ke Sun, Tian-tian Xu

9. VTCA-2024-104

   Deciphering the Educational Process: An SVM Approach to Business English Teaching Analytics

   Rui Cong, Wei Sun

10. VTCA-2024-125

    Applying Emotion Recognition on Classroom Interaction

    Shih-Pang Tseng, Yaxin Wang, Chun-Cheng Wei, Yi-Chang Chen

11. VTCA-2024-112

    Research on the Coupling and Coordinated Development of Digital Economy and Dongguan Advanced Manufacturing Industry

    Jingjing Zhan

12. VTCA-2024-055

    Prediction Study of Mine Water Inflow Based on Chaos Theory

    Longqing Shi, XinHang Zhu, Jin Han

13. VTCA-2024-062

    Lightweight Semi-Supervised Semantic Segmentation Using Pixel-level Contrastive Learning

    Qingqing Su, AnHong Wang, Jing Zhang, Lijun Zhao, Yan Fang

14. VTCA-2024-116

    Prior Mask-Based Deep Neural Network For Silicon Wafer Defect Detection

    Chang Wang, AnHong Wang*, AnAn Ren, Hao Jing, Kai Hu

Session 04

1. VTCA-2024-007

   Research on the connection of through trains based on the deadline of goods transportation

   Shengdong Li, Qiangfeng Zhang, Xia Zhou, Chuijiang Guo, Li Shi

2. VTCA-2024-011

   Improved column generation algorithm for passenger service-like railway container transportation optimization

   Song Pu

3. VTCA-2024-036

   A Train Rescheduling Approach under Disruptions in Urban Rail Transit Systems

   Peng Qiu, Xuze Ye, Yongxin Li, Miaomiao Lv

4. VTCA-2024-048

   Vulnerability Assessment of Subway Station Operation Based on AHP-Matter Element Model

   Li Lu, Xiuze Zheng

5. VTCA-2024-080

   Research on Compiling Method of The Old and New Alternate Passenger Train Diagram

   Lv Miao-miao, Li Ke, Pan Jin-shan, Sun Yan-fei

6. VTCA-2024-086

   Research on Dynamic Compilation and Optimization of Train Operation Diagram Based on Multi-system Regional Rail Transit

   Mingqi Weng, Xinyue Li, Hongxia Lv

7. VTCA-2024-090

   The Influence of Using Artificial Intelligence Multimedia Devices in Vehicles on Driving Safety

   Shutang Liu, Jiadong Wang, Minggui Li, Ruoting Xie, Linling Xu, Chengdong Chen, Jiayan Huang

8. VTCA-2024-100

   Study on the dynamic preparation and optimization of multi-standard rail transit train operation scheme

   Zhanbao QI, Yanhao WANG, Jinshan PAN

9. VTCA-2024-106

   Remaining Charging Time Estimation for Lithium-Ion Batteries Based on CNN-GRU

   Si-Rui Lin, Fu-min Zou, Xiang Yu, Feng Guo

10. VTCA-2024-108

Coordinated Optimization Research of Multi-Standard Rail Transit Train Operation Plans Based on Capacity Matching

Wang Zhewei, Liu Zhen, Guo Xiuyun

11. VTCA-2024-110

Research on Adjustment of High-Speed Railway Train Operation Plan Based on Passenger Flow Demands

SHEN Zexi, WANG Jiajun, PAN Jinshan, LI Xueting

12. VTCA-2024-114

Study of Instrumental Standard Curve Fitting with Relative Error Constraints

Zhenhua Gan, Dongyu He, Fumin Zou*, Feng Guo, Jinyang Li, Yuankun Bai, Bangda Chen, Shuting Chen

13. VTCA-2024-127

Research on Comprehensive Evaluation of New and Old Alternate Train Diagrams

Lv Miao-miao, Sun Yan-fei

14. VTCA-2024-128

Traffic Sign Detection and Recognition in Complex Scenes

Ming Zhang, Dequ Chen, Rong Hu, Weilong Dai

15. VTCA-2024-138

The application and practice of computer operating systems in communication security in the transportation industry

Cui Zhan

16. VTCA-2024-146

Research on the benefit and efficiency evaluation of the high-speed railway operation plan oriented to the railway network

MEI Tianci, LAI Jun, ZHANG Zhenchen, PAN Jinshan*, ZHAN Cui

17. VTCA-2024-023

Secure Big Data Analytics using Cloud Storage for Internet of Vehicles

Prakash Tekchandani, Saurabh Agrawal, and Ashok Kumar Das