The 2nd International Conference on Computer Science and Application Engineering

第二届计算科学与应用国际会议

CSAE2018

Conference Program

October 22-24, 2018 in Hohhot, China

http://www.csaeconf.org/

The 2nd International Conference on Computer Science and Application Engineering (CSAE2018)

The purpose of CSAE2018 is to provide a timely platform to conduct a recap of the latest technologies and industry milestones, and promote computer science and application engineering to a wider audience. Your participation in the meeting includes attending sessions in your area of interest, and an opportunity to network with others scientists working in the field.

On behalf of CSAE organizing committee, we cordially thank you for attending this conference to share your experience and research results.

Conference Schedule

Date	Time	Program	Place
October 22	10:00-18:00	Author Registration	The hotel lobby
October 23	9:00-10:30	Keynote Speech	Jiaxi Hall
	10:30-10:50	Coffee Break	
	10:50-12:00	Keynote Speech	
	12:00	Lunch	cafeteria
	14:00-16:00	Oral Presentation	Jiaxi Hall
	16:00-16:20	Coffee Break	
	16:10-17:00	Poster Presentation	
	17:00-18:30	Oral Presentation	
	18:30	Dinner	cafeteria
October 24	08:20-17:00	One-Day Tour	Whistling Dune Bay

Note: The exact time may be adjusted according to the actual situation.

Part I. Keynote Presentation

Keynote Presentation 9:00-10:30, Tuesday, October 23, 2018

Speaker	Speech Title	Affiliation
Ali Emrouznejad	Big Data & Smart Cities Evaluation	Aston University, United Kingdom
Xiaohua Feng	Security Audit in Mobile Apps Security Design	University of Bedfordshire, United Kingdom
Hesheng Wang	Visual Servoing of Robots	Shanghai Jiao Tong University, China
Michael D Fischer	Socially Emergent Ethics for Autonomous Devices (SEEDS)	University of Kent at Canterbury, UK & Yale University, US

Coffee Break 10:30-10:50, Tuesday, October 23, 2018

10:30-10:50	Coffee Break & Take photograph collectives	Jiaxi Hall

Keynote Presentation 10:50-12:00, Tuesday, October 23, 2018

Speaker	Speech Title	Affiliation
Jimmy Liu	Artificial Intelligence and Ocular Medical Image Processing	Ningbo Institute of Industrial Technology, Chinese Academic of Sciences, China
Shaoping Wang	Reliability Assessment of Aircraft Cyber-Physical System	Beihang University, China
Feng Shao	Data Mining for 3D Image Quality Assessment	Ningbo University, China

PartⅡ. Oral Presentations

Oral Presentation 14:00-16:00, Tuesday, October 23, 2018

ID	Paper Title	Speaker	Affiliation
CSAE27738	Recommendation Method for Service Selection Algorithm Based on User Preference	Ryuichi Takahashi	Ibaraki University
CSAE22840	A Fast Scale Adaptive Kernel Correlation Filter Tracker via Reliable Key Points	Changqing Pan	Nanjing University of Posts and Telecommunications
CSAE28978	An Efficient Algorithm of Context-Clustered Microservice Discovery	Huan Liu	Dalian Maritime University

ID	Paper Title	Speaker	Affiliation
CSAE25777	Towards Open and Automated Customer Service: A Blockchain-based AutoML Framework	Hanyang Guo	Guangdong University of Technology
CSAE21684	Field Corn Stalk Identification Method Based on Machine Learning and Spectral Characteristics	Jing-An Lei	Changchun University of Science and Technology
CSAE26006	An In-depth Performance Analysis and Optimization for Android Screencast	Xianfeng Li	Peking University Shenzhen Graduate School
CSAE29820	Classification of Multiple Affective Attributes of Customer Reviews: Using Classical Machine Learning and Deep Learning	Jiawen Wang	Guangdong University of Technology
CSAE24590	Local Search in Solution of Constraint Satisfaction Problems Represented by Non-Numerical Matrices	Alexander A. Zuenko	Institute for Informatics and Mathematical Modelling, Russia
CSAE29044	An Original Data Understanding Process	Wenjun Quan	Chongqing University
CSAE23806	Comparison of Automatic Extraction of Research Highlights and Abstracts of Journal Articles	Wai Ming Wang	Guangdong University of Technology

Coffee Break & Poster Presentation 16:00-17:00, Tuesday, October 23, 2018

16:00-17:00	Coffee Break & Poster Presentation	Jiaxi Hall

Oral Presentations 17:00-18:30, Tuesday, October 23, 2018

ID	Paper Title	Speaker	Affiliation
CSAE21288	Integration of Building Information Modelling (BIM) and Sensor Technology: A Review of Current Developments and Future Outlooks	Zhiyu Deng	South China University of Technology
CSAE22183	Compressive Tracking Based on Super-pixel Structured Information	Biqiu Zhang	Nanjing University of Posts and Telecommunications
CSAE23856	Design and Implementation of Table Tennis Technical and Tactical Analysis Software Based on Streaming Media Technology	Hui-Qun Zhao	North China University of Technology
CSAE27289	An Anti-Occlusion Tracking Algorithm	Yue Min	Beihang University, Key Laboratory of Precision Opto-mechatronics Technology
CSAE21434	GNU Radio Based Bandpass Sampling Radio Processor	Hongmei Wang	China University of Mining and Technology
CSAE24752	Parallel Acceleration Scheme of HEVC Decoder Based on Multicore Platform	Wenxiang Zhang	Nanjing University of Posts and Telecommunications

CSAE21892	An Architecture of FPGA-Based Controller on Automatic Control System for Test and Launch in Launch Site	Litian Xiao	Beijing Special Engineering Design and Research Institute
CSAE29732	Life-cycle Research of A-H Share Arbitrage Performance Based on Discrete-event Simulation	Xianda Shang	HSBC Business School, Peking University

PartⅢ. Poster Presentations

Poster Presentation 16:00-17:00, Tuesday, October 23, 2018

ID	Paper Title
CSAE25680	An Efficient Algorithm for Finding the Minimum Perimeter Convex Hull of Disjoint Segments **Nan Li**, Bo Jiang, Nannan Li Dalian Maritime University
CSAE23837	Convolutional Neural Network for Smoke Image Super-Resolution **Maoshen Liu**, Ke Gu, Junfei Qiao Beijing University of Technology
CSAE23809	A Novel Wide-Baseline Stereo Matching Algorithm Combining MSER and DAISY **Yanwei Sun**, Hao Li, Li Sun Hohai University
CSAE25099	Wide-area Damping Control of the Time Delay Power System Based on an ε-Trade Off "Damping-Time delay" Method **Haoyang Lu**, Miao Yu, Weipeng Shang Beijing University of Civil Engineering and Architecture
CSAE24069	Inconsistent Data Detection based on Maximum Dependency Set **Pei Li**, Chaofan Dai, Wenqian Wang National University of Defense Technology
CSAE26896	New Observation on Division Property: Simplifying Models of Basic Operations and Modeling Modular Multiplication Operation Yiran Xing, **Hailun Yan**, Xuejia Lai Shanghai Jiao Tong University
CSAE26494	Mathematical Simulation of Electromagnetic Scattering Field from Perfectly Conducting Object with Dielectric Cover on the Base of Physical Theory of Diffraction Vladimir V. Akhiyarov, Andrey B. Borzov, Konstantin P. Likhoedenko, Yury V. Karakulin, Grigory M. Seregin, **Victor B. Suchkov** Bauman Moscow State Technical University
CSAE23268	Revisiting the 1877 Cataclysmic Lahars of Cotopaxi Volcano by a Cellular Automata Model and Implications for Future Events Valeria Lupiano, Guillermo Machado, **Salvatore Di Gregorio** Institute for Geo-Hydrological Protection, National Research Council
CSAE27528	Development of a Performance Evaluation System Based on Baidu Map Fixed-point Observation Data **Zhikun Wang**, Changxiu Hu, Jinglei Lin, Zhiyuan Cui, Meng Huang, Shuai Liu Institute of Disaster Prevention Science and Technology
CSAE25934	A Safety Monitoring System for Unmanned Aerial Vehicles **Xiao Wang**, Jianfu Zhang, Pingfa Feng, Dingwen Yu, Zhijun Wu Tsinghua University

CSAE21273	FAL-based High Reusability and Automated Verification Platform
	Tingrong Zhang, Shuming Chen, Zhao Lv
	National University of Defense Technology
CSAE21990	High-Order Residual Convolutional Neural Network for Robust Crop Disease Recognition
	Weihui Zeng, Miao Li, Jian Zhang, Lei Chen, Sisi Fang, Jingxian Wang
	Institute of Intelligent Machines, Chinese Academy of Sciences

Keynote Speech

Ali Emrouznejad
Professor and Chair in Business Analytics
Aston University, United Kingdom

Speech Title: Big Data & Smart Cities Evaluation
Abstract: Big Data is a major source of change in today's world. It is without doubt a source of immense economic and social value with the potential to impact individuals, organizations, and society alike in ways that are yet to be fully explored. A Smart City provides effective integration of physical, digital and human systems in the built environment to deliver a sustainable, prosperous and inclusive future for its citizens. In this talk we introduce big data and smart cities and explain how big data analytics could benefit of mathematical modelling to improve the performance of smart cities.

Xiaohua Feng
University of Bedfordshire, United Kingdom
Speech Title: Security Audit in Mobile Apps Security Design
Abstract: Security design of mobile apps is very important, and it is also important that researchers consider and disseminate the continually changing requirements. For mobile application i.e. a software program that runs on a mobile phone, its design, development and management need to consider security impact. In particular, because of mobile app is running on online devices, cyber security defence is required. In this chapter, mobile app security is discussed from the initial planning and design stage to its maintenance after its launch. The impact could benefit site engineers, ICT students and academic researchers.
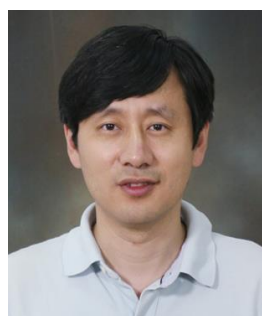
Hesheng Wang
Professor
Shanghai Jiao Tong University, China

Speech Title: Visual Servoing of Robots
Abstract: Visual servoing is an important technique that uses visual information for the feedback control of robots. To implement a visual servo controller, an important step is to calibrate the intrinsic and extrinsic parameters of the camera. It is well known that the camera calibration is costly and tedious. The calibration accuracy of these parameters significantly affects the control errors. It is desirable to use uncalibrated visual signals directly in controller design. By directly incorporating visual feedback in the dynamic control loop, it is possible to enhance the

system stability and the control performance. Dynamic visual servoing is to design the joint inputs of robot manipulators directly using visual feedback. In the design, the nonlinear dynamics of the robot manipulator is taken into account. In this talk, various visual servoing approaches will be presented to work in uncalibrated environments. These methods are also implemented in many robot systems such as manipulator, mobile robot, soft robot, quadrotor and so on.

Jimmy Liu
Executive Director and Professor
Ningbo Institute of Industrial Technology, Chinese Academic of Sciences, China

Speech Title: Artificial Intelligence and Ocular Medical Image Processing
Abstract: In the talk, Jimmy will update the ocular imaging research work in the past years. He will share his AI-based image processing work on various ocular imaging modalities on the following 4 areas: ocular disease screening, robot assisted eye micro-surgery, ocular biometrics, as well as ocular medical informatics using genome study. He will introduce the current issues, technologies and approaches in this inter-disciplinary research area.

Shaoping Wang
Professor
Beihang University, China

Speech Title: Reliability Assessment of Aircraft Cyber-Physical System
Abstract: High reliability and safety requirements of advanced civil aircraft needs the key sub-systems to make full use of their effectiveness. In order to realize the flight qualities, flight control system adopts cyber-physical system with dissimilar redundant power supply system, flight control computer and actuation system. This paper presents a new power flow-based reliability model in component level, in which the power required of dynamic performance is considered. Generalized Stochastic Petri Nets (GSPNs) and the universal generating functions (UGFs) are utilized to model the dynamic process of multi-elements degradation under uncertainty in system level. Application of aircraft aileron indicates that the proposed reliability assessment can reflect the performance degradation with the power change during the flight profile and give the more realistic reliability evaluation.

Feng Shao
Professor
Ningbo University, China

Speech Title: Data Mining for 3D Image Quality Assessment
Abstract: Evaluation for 3D quality of experience (QoE) is useful in many applications, and also crucial in all 3D-related signal processing algorithms and systems. Traditional 2D quality criterion (e.g., MSE, PSNR, and SSIM) will be not beneficial to the 3D perceptual quality. Therefore, in this talk, we will first introduce the perceptual problems in 3D vision, and explore some 3D perceptual visual quality metrics. Then, the new trends in data mining, are to be highlighted and explored in full-reference (FR) and no-reference (NR) 3D-IQA metrics.

Michael D Fischer
Professor
University of Kent at Canterbury, UK & Yale University, US

Speech Title: Socially Emergent Ethics for Autonomous Devices (SEEDS)

Abstract: This talk relates scientific, formal and practical support for understanding and enabling adaptive emergence of ethical, social, and collaborative behaviours by artificial agents. Robots, software agents (SA) and environmentally embedded devices (Internet of Things or IoT) will increasingly engage as autonomous agents with other agents, including people across classes and cultures, directly and indirectly. Advances in robotics, software agents and IoT agents, combined with improvements in artificial intelligence (AI), will precipitate new opportunities. New problems and prospects for disaster will also arise, which, if we are to believe the late Stephen Hawking and others, could threaten humanity itself. Positive outcomes depend on our ability to imbue autonomous technology with appropriate ethical responses, at all levels.

One-Day Tour

——Whistling Dune Bay in Hohhot

08:20-17:00, Wednesday, October 24, 2018

Named by the geographic phenomenon of "singing sand," Whistling Dune Bay is located in the Kubuqi Desert, Dalad Banner of Ordos City, Inner Mongolia. It situates at the easternmost borderline of desert in China and is called the Head of Dragon Desert. Whistling Dune Bay is 110 meters high with a slope of 45 degrees where the huge crescent-shaped sand hills can create loud echoes. Dunes stand side by side and stretch endlessly to the further skyline.

Time Arrangement

a. Enjoy your breakfast, meet at the hotel lobby and set out at 8:20 a.m.
b. Arrive at 10: 00 a.m. & Visit the National 5A level scenic spot – Whistling Dune Bay
c. Depart at 15: 00 p.m. & Back to hotel around 17:00 p.m.

** Lunch is at your own expense, and there are stores for your choice. Take food and water with you in case you need more.

(It's the expected itinerary, may be fine-tuned by the actual situation)

Hotel Information

1. **Conference Venue:** 呼和浩特巨华嘉禧酒店（JUVA JIAXI HOTEL）
   Hotel Location: 中国内蒙古呼和浩特市赛罕区东影南街 31 号（No.31 Dongying South Street, 010020 Hohhot - Saihan, Inner Mongolia, China）

2. **Location:**

3. **How to get to the hotel**

From Hohhot Baita International Airport - JUVA JIAXI HOTEL (In Chinese: 呼和哈特白塔国际机场)

1. Bus: Take the Airport Bus Line 1 (Hohhot Baita International Airport - Railway Station) 2 stops to the East Railway Station (Hohhot Traffic Bureau), walk 21 meters to the Hohhot Traffic Bureau, take the No. 98 (Business Vocational College New Campus - Bus Four Company), 12 stops to the South Campus of Professional School, walk 165 meters to Juhua Carnival Hotel.

2. Taxi: From the Baita International Airport to the hotel about 14.2 km, the cost is about 29 RMB.

Supplementary Information

Instructions for Presentations

Oral Presentation
Devices Provided by the Conference Organizer:
Laptops (with MS-Office & Adobe Reader)
Projectors & Screen
Laser Sticks

Materials Provided by the Presenters:
Power Point or PDF files
Duration of each Presentation (Tentatively):
Regular Oral Session: **12 Minutes** of Presentation**,** 3 Minutes of Q&A
Keynote Speech: **20 Minutes** of Presentation**,** 5 Minutes of Q&A

Poster Presentation
Materials Provided by the Conference Organizer:
X Racks & Base Fabric Canvases (60cm×160cm, see the figure below)
Adhesive Types or Clamps
Materials Provided by the Presenters:
Home-made Posters

Requirement for the Posters:
Material: not limited, can be posted on the Canvases
Size: smaller than 60cm×160cm
Content: for demonstration of the presenter's paper
Requirement for the Presenters:
Stand beside his (her) Poster through the Session, and discuss with the readers about his (her) paper