COVER PAGE

ICFET 2019

2019 5th International Conference on Frontiers of Educational Technologies

ICKEA 2019

2019 The 4th International Conference on Knowledge Engineering and Applications

Beijing, China | June 1-3, 2019

Published by

Supported by

RUDN university

CONTENTS

VENUE

Foreign Experts Building Beijing

北京外国专家大厦

Add: No.8, Huayanbeili, Chaoyang District, Beijing, China, 100029

地址：北京市朝阳区北四环中路华严北里8号院

Useful Information

Transportation: Beijing international airport to Foreign Experts Building Beijing

By Taxi: Take about 1 hour(about 100RMB)
会场距离北京国际机场约 1 小时的车程（大约花费 100 元）

By Bus & Subway:
Airport Line--Sanyuan Bridge by Subway Line 10 - Get off at Jiande Door Station -- Walk 510 meters--Take Jiande Door Bridge North Station, take Bus No. 658--Get off at Jianxiang Bridge East Station-- Walk 260 meters to Beijing Foreign Experts Building
机场专线-三元桥坐地铁 10 号线-健德门站下车-步行 510 米-健德门桥北站坐 658 路-健翔桥东站下车-步行 260 米到北京外国专家大厦。

Booking: Website: http://www.feb-hotel.com/(Chinese &English)
Tel：010-82858888

Note

1. Please note that the hotel will not contact any participant for hotel booking, please be careful when anyone asks you to provide your credit card information to reserve room for you.
2. The restaurant is in YueFu Palace. The conference room is on the 2nd floor, meeting room 4 & 5.

VENUE

TIPS

Beijing Weather in June

High Temperature: 28℃/84℉ | Low Temperature: 13℃/ 56℉

Time Zone GMT+8

Currency RMB

Important Phone Numbers

Emergency Ambulance & Fire: 119
Non-Emergency Ambulance: 120
Police Emergency: 110

AGENDA

[June 1, 2019]

Lobby

10:00-17:00

Registration & Material Collecting

Give your **Paper ID** to the staff

↓

Sign your name in the attendance list and check the paper information

↓

Check your **conference kit**, which includes conference bag, name tag, lunch & dinner coupon, conference program, the receipt of the payment and an USB drive with paper collection.

Tips for Participants

- ✧ Your punctual arrival and active involvement in each session will be highly appreciated.
- ✧ The listeners are welcome to register at any working time during the conference.
- ✧ Get your presentation PPT or PDF files prepared.
- ✧ Regular oral presentation: 15 minutes (including Q&A).
- ✧ Laptop (with MS-Office & Adobe Reader), projector & screen, laser pointer will be provided by the conference organizer.
- ✧ Please keep all your belongings (laptop and camera etc.) with you in the public places, buses, metro.

AGENDA

[June 2, 2019]

Sunday Morning

Meeting Room 5 (第五会议室)@2nd Floor(二楼)	
09:00-09:10 **Opening Remark**	**Prof. Anu Gokhale** Illinois State University, USA
09:10-09:50 **Keynote Speech I**	**Prof. Dongli Han** Nihon University, Japan **Title**- Literature Survey Using Crowdsourcing
09:50-10:30	**[Group Photo &Coffee Breaks]** **Outside of Meeting Room**
	Poster Display CF2-017,CF1-1012, CF1-1015, CF1-1016, CF1-0014, CF1-0015, CF1-0006, CF2-010, CF2-3003, CF2-3002,CF1-1009
10:30-11:10 **Keynote Speech II**	**Prof. Ben Choi** Louisiana Tech University, USA **Title-** Knowledge Engineering the Web
11:10-11:50 **Invited Speech**	**Prof. Anu Gokhale** Illinois State University, USA **Title-** Frameworks for Integrating Machine Learning into Knowledge Engineering

Lunch| YueFu Palace|粤福宫
<11:50-13:30>

AGENDA

[June 2, 2019]

Sunday Afternoon

Meeting Room 5 (第五会议室)@2nd Floor(二楼)	
13:30-14:45 **Session I**	**[Integrating Educational Technologies]** Chaired by **Dr. Chammika Mallawaarachchi** University of the Visual and Performing Arts 46,Sri Lanka
	5 Presentations-CF1-1017, CF1-1008, CF2-021, CF1-0004-A, CF1-1004
14:45-15:00	**Coffee Break** **Outside of Meeting Room**
15:00 -16:30 **Session II**	**[Mobile, Virtual and Vicarious Learning]** Chaired by **Lecturer Anna Sergeevna Bobunova** RUDN University, Russia
	6 Presentations- CF1-0010, CF1-0018, CF1-1003, CF1-1019, CF1-1018, CF2-013

Meeting Room 4 (第四会议室)@2nd Floor(二楼)	
13:30-14:45 **Session III**	**[Global Education]** Chaired by **Assoc. Prof. Weican Xiao** Endicott College, USA
	5 Presentations- CF1-0003, CF1-0005, CF1-1010, CF1-1020, CF2-018
14:45-15:00	**Coffee Break** **Outside of Meeting Room**
15:00 -16:30 **Session IV**	**[Data Analysis]** Chaired by **Prof. Anu Gokhale** Illinois State University, USA
	6 Presentations- CF2-006, CF2-011, CF2-020, CF2-024, CF2-3004, CF2-007

Dinner | YueFu Palace|粤福宫
<17:00-19:00>

AGENDA

[June 3, 2019]

Monday

Social Program

Address: No.8, Huayanbeili, Chaoyang District, Beijing, China, 100029

Tour Route

Stop 1: Ming Tombs--Stop 2: Jade Factory and Lunch--Stop 3: Mutianyu Great Wall--Stop 4: Tea Ceremony

Highlight

- ✧ Slip into the labyrinthine underground palace of China's only imperial tomb open to visitors, the 500-year-old Ming Dynasty mausoleum at Dingling
- ✧ Scale a UNESCO World Heritage Site and one of the ancient wonders of the world, the longest and best-preserved section of the Great Wall: Mutianyu
- ✧ Start off your journey to conquer the wall in style on the cable car and get a stunning bird's-eye view
- ✧ Marvel at the exquisite craftsmanship of Chinese jade carving at a jade production factory
- ✧ Unwind at the end of the tour by taking part in a complimentary Chinese tea ceremony, giving you a taste of traditional Chinese culture
- ✧ Make the journey smooth with a round-trip transfer to and from your hotel in an air-conditioned bus staffed with an English-speaking guide

Inclusions

- ✧ Admission tickets to all attractions listed in the itinerary
- ✧ Hotel pickup and drop-off (for hotels inside Beijing's east and west Third Ring Road, north Fourth Ring Road, and south Second Ring Road)
- ✧ Air-conditioned bus transfer
- ✧ English-speaking tour guide
- ✧ Chinese lunch

Exclusions

- ✧ Cable car ticket
- ✧ Shuttle bus inside Great Wall area
- ✧ Tips for the guide and driver
- ✧ All personal expenses and expenses not mentioned in the inclusions

Itinerary

07:00-08:00 Pickup from hotels

AGENDA

08:00-09:30 Transit: take bus to Ming Tombs

09:30-10:30 Attraction: Ming Tombs

10:30-11:15 Attraction: jade factory

11:15-12:00 Transit: take bus to Mutianyu Great Wall

12:00-13:00 Lunch

13:00-15:20 Attraction: Mutianyu Great Wall

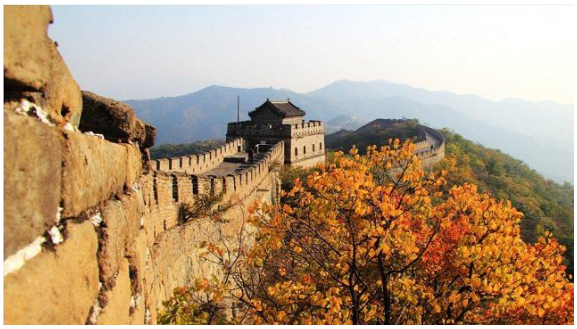
15:20-16:15 Transit: take bus back to Beijing

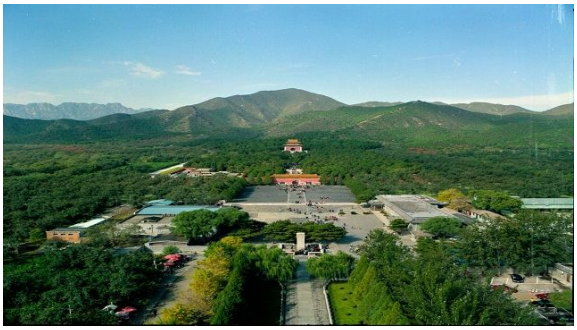
16:15-17:00 Attraction: Chinese tea ceremony

17:00-18:00 Drop-off to hotels

Note

If you are interested, please give your feedback before **May 30**. If you miss this date, we can't accept your request anymore.





WELCOME

Dear distinguished delegates,

It is our great honor and pleasure to welcome you to The 5th International Conference on Frontiers of Educational Technologies (ICFET 2019) and The 4th International Conference on Knowledge Engineering and Applications (ICKEA) which are held in Beijing, China on June 1-3, 2019.

We'd like to express our heartfelt appreciation to our chairs, technical program committee members, organizing committee members, authors and delegates, who made a lot of efforts and contributions year by year. Thanks to your support and help, we can hold this conference successfully and always keep making progress.

The evaluation of all the papers was performed based on the reports from anonymous reviewers, who are qualified in the field of frontiers of educational technologies as well as knowledge engineering and applications system. As a result of their hard work, we are pleased to have accepted 33 presentations (initially from 60 submissions) coming from 18 countries and districts: Brazil , China, Colombia, Colombia, Egypt, India, Indonesia, Japan, Korea , Malaysia, Nigeria, Russia , Spain, Sri Lanka, Thailand, Turkey, UK, United States.

A word of special welcome is given to our speakers who are pleased to make contributions to our conference and share their new research ideas with us. They are Prof. Anu Gokhale from Illinois State University, USA, who is delivering a speech on "Frameworks for Integrating Machine Learning into Knowledge Engineering"; Prof. Dongli Han from Nihon University, Japan, who will make a speech on "Literature Survey Using Crowdsourcing"; Prof. Ben Choi from Louisiana Tech University, USA with a talk on" Knowledge Engineering the Web".

On this conference, we have 4 parallel presentation sessions including Integrating Educational Technologies, Mobile, Virtual and Vicarious Learning, Global Education, Data Analysis. The platform is ready, so please catch this opportunity to show your thoughts and opinions confidently.

Wish you will enjoy this conference, contribute effectively toward it and take back with your knowledge, experiences, contacts and happy memories of these days. Thank you for your attention!

Yours sincerely,

Conference Organizing Committee

KEYNOTE SPEAKERS

Prof. Anu Gokhale

Illinois State University, USA

Dr. Anu A. Gokhale has completed twenty-five years of university teaching and is currently a professor and coordinator of the computer systems technology program at Illinois State University. She is named Fulbright Distinguished Chair in STEM at the University of Pernambuco, Brazil, 2016-17; is a Fulbright Specialist; and was a Fulbright Scholar to India in 2002. She is a Visiting Professor at Shandong University of Science & Technology in Jinan, China during spring 2017. Dr. Gokhale was honored with the 2011 University Outstanding Researcher Award. Originally from India, she has a master's in physics–electronics from the College of William & Mary, and a doctorate from Iowa State University. She presents and publishes her peer-reviewed research, and pursues multi-year projects funded by agencies like the US Department of Education, US Department of State, and National Science Foundation. The current NSF funded project is in Computing Education for the 21st Century. Dr. Gokhale authored a second edition of her book Introduction to Telecommunications, which has an international edition in Chinese. She continues to be an invited keynote speaker at various conferences, latest ones include: 2016 International Conference on Communication and Information Systems, Bangkok, Thailand; 2015 International Conference on Information Technology, Amman, Jordan; and 2014 International Conference on Control, Robotics and Cybernetics, Singapore. She consults for businesses and has delivered multiple workshops. As an active volunteer in IEEE, she has served as R4 Educational Activities Chair, Women in Engineering Coordinator, Chair of International Electro/Information Technology 2010 Conference, and MGA representative to Educational Activities Board. She was honored with the IEEE Third Millennium Medal.

Title--- Frameworks for Integrating Machine Learning into Knowledge Engineering

Abstract--- The field of knowledge engineering seeks to capture intellectual capital within an organization and accurately model the decision-making processes to provide comprehensive solutions to complex problems. Machine learning processes can be effectively integrated into knowledge engineering using frameworks that incorporate algorithms designed to perform deeper analysis. The construction of a knowledge engineering application will typically need to leverage both supervised learning and unsupervised learning algorithms. Algorithms are examples that form the basis of the representation and application of knowledge; they vary significantly based on the problem of study and its goals and objectives. The talk will discuss frameworks for integrating machine learning algorithms for knowledge discovery.

KEYNOTE SPEAKERS

Prof. Dongli Han

Nihon University, Japan

Dongli Han was born in 1973. He received a B.S. degree in Computer and Information Science from Harbin Engineering University, China, in 1995. He received a M.S. degree and a Ph.D. degree in Computer Science and Information Mathematics from the University of Electro-Communications, Tokyo, Japan, in 2000 and 2003. He had been working at Aoyama University since 2003 for three years as a research associate and then became a faculty staff in2006 at Nihon University in Tokyo, Japan. From December 2011 until July 2012, he had been working with Professor Ungar Lyle as a visiting scholar at the University of Pennsylvania in the United Sates. Since April 2014, he has been a professor and a doctoral supervisor at Nihon University. His research interests lie in the fields of Artificial Intelligence, including knowledge engineering, human computation, and natural language processing. He has published more than 40 journal or international conference papers so far, many of which have been indexed by SCI or EI. He is a member of ANLP and IEICE.

Title--- Literature Survey Using Crowdsourcing

Abstract--- Literature survey is the first step of scientific research. However, this process could be quite time-consuming. Previous works aiming to automatically address this issue employ textual similarity or reference-relation between papers, while neither of which is flexible enough for context-specific demands. In this paper, we introduce the idea of using citation-reasons to narrow down the search range for relevant papers. We first propose a method to predict citation-reasons between scientific papers with machine-learning techniques. However, as the machine-learning method seems not accurate enough according to a subject experiment, we then propose another strategy to annotate citation-reasons between papers in a crowdsourcing manner. The experimental results have shown the effectiveness of our proposal.

INVITED SPEAKERS

Prof. Ben Choi

Louisiana Tech University, USA

Ben Choi, Ph.D. & Pilot, has a Ph.D. degree in Electrical and Computer Engineering and has a Pilot certificate for flying airplanes and helicopters. He is an Associate Professor in Computer Science at Louisiana Tech University, US. He was a visiting Research Scholar at DePaul University, University of Western Australia, and Hong Kong University of Science and Technology.

He had worked in the computer industry as a System Performance Engineer at Lucent Technologies (Bell Labs) and as a Computer Consultant. He received Ph.D., M.S., and B.S. degrees from The Ohio State University, studied Computer Science, Computer Engineering, and Electrical Engineering.

His areas of research include Humanoid Robots, Artificial Intelligence, Machine Learning, Intelligent Agents, Semantic Web, Data Mining, Fuzzy Systems, and Parallel Computing. His future research includes developing advanced software and hardware methods for building intelligent machines and theorizing the Universe as a Computer.

Title--- Knowledge Engineering the Web

Abstract--- This talk focuses on the largest source of human knowledge: the Web. It will present the state of the art and patented technologies on search engine, automatic organization of webpages, and knowledge based automatic webpage summarization. For the patented search engine technology, it will describe new methods to present search results to the users and through browsers to allow the users to customize and organize webpages. For the patented classification technology, it will describe new methods to automatically organize webpages into categories. For the knowledge based summarization technology, it will present new technics for computers to "read" webpages and then to "write" a summary by creating new sentences to describe the contents of the webpages. These search engine, classification, and summarization technologies build a strong framework for knowledge engineering the Web.

SESSION I

June 2, 2019

Session I

[Integrating Educational Technologies]

13:30-14:45

Meeting Room 5 (第五会议室)@2nd Floor(二楼)

Chaired by Dr. Chammika Mallawaarachchi

University of the Visual and Performing Arts 46, Sri Lanka

5 presentations-

CF1-1017, CF1-1008, CF2-021, CF1-0004-A, CF1-1004

***Note**:

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SESSION I

CF1-1017 **13:30-13:45**	Cross-Cultural Adaptation Questionnaire of South-Asian Students in China Mainland Universities **Lan Yu** Beijing Language & Culture University, China **Abstract**-A majority of South-Asian students have been enrolled into China mainland universities to earn degrees. This study makes a survey on the cross-cultural adaptation of South Asian students who are from different cultural backgrounds. The questionnaire is designed basing on the cross-cultural theory which is constructed of three dimensions including psychological adaptation, social cultural adaptation and academic adaption. Conclusions are descriptive analysis by SPSS 24.0 and also supported with in-depth interviews. The findings paint a holistic picture of South-Asian students' adaptation in China mainland universities and discuss the problems they encounter, causes and solving strategies. The paper aims to provide a data-based theory and solution-oriented suggestions for educators and institutions.
CF1-1008 **13:45-14:00**	Research on Programming Courses Teaching Based on Blended Learning **Yaqing Shi,** Song Huang, and Changyou Zheng Army Engineering University of PLA, China **Abstract-**The teaching of programming courses is an important part of the teaching of computer, which is related to the improvement of students' practical computer application ability. How to improve the teaching effect of programming courses has always been a big problem for educators. Starting from the current situation of the teaching of programming courses, this paper introduces blended learning to realize combine aspects of online and face-to-face instruction, and explains in detail why blended learning should be introduced into programming courses and how to introduce blended learning. Teaching practice shows that blended learning meets the teaching requirements of programming courses, can effectively improve the teaching effect, and has broad application prospects.
CF2-021 **14:00-14:15**	Representing Experts' Interpretive Trails with Hyperknowledge Specifications **Marcio Ferreira Moreno,** Rafael Brandao, Rodrigo Santos, Wallas Sousa, and Renato Cerqueira Brazil IBM Research, Brazil **Abstract**-Representing users' creative and interpretive processes may be useful to identify problems and solutions associated with interactive decision-making processes. Generally, these processes are related to the interaction of users with some multimedia content (text, video, audio, images, etc.) and structuring users' tacit and explicit knowledge. Tracking such process should generate a representation of users' trails in a linear construction of time. However, this representation is generally not well structured from a knowledge engineering perspective. Considering highly immersive environments with interaction through multiple modalities, tracking this knowledge becomes even more complex. On the one hand, cognitive agents have been increasingly used to support decision-making practices, which may involve knowledge intensive activities and critical thinking. On the other hand, these systems may demand an overly complex design and implementation given the lack of knowledge representations capable of describing steps of creative processes, including rich relationships between symbolic and non-symbolic data. Inferring human interpretation and knowledge in such a representation in these processes are fundamental to improve the design of systems that support decision-making, as well as general systems. In this work, we propose

SESSION I

	applying high-level conceptual components in a knowledge representation to explicitly characterize users' interpretive trails. The solution aims at supporting the representation of the multimedia data and knowledge sources someone interacted with, along with the sequence of steps expressing their interpretation strategies.
CF1-0004-A **14:15-14:30**	The Importance of Integrating Educational Technology in Training Teachers for Secondary Education in Spain **Elena Charro** University of Valladolid, Spain **Abstract**-Today, more than ever, the role of educational technology in teaching is of great importance because of the use of information and communication technologies. The question is whether teachers are ready for the use of technology in education, and mainly, teachers for secondary schools. In Spain, the master's degree in Teaching in Secondary Schools, has a professional orientation and is a required qualification for teachers in compulsory and upper-secondary education. The main objective of this Master's degree is to train students as secondary education teachers, i.e. professionals equipped to teach the subjects pertaining to their discipline, be that in the fields of science, social sciences, languages or the humanities, helping them acquire the skills needed to educate and tutor learners. In this communication, an overview and critical reflection on the Program of this master at University of Valladolid (Spain) is shown, where any subject about educational technology is included. In this communication, the experience with pre-service secondary teachers for science is shown. During several academic years, educational technology has been integrated in the subject "Innovation in Education: Physics and Chemistry", where several tools are used by the students. In this way, the future science teachers can see the advantage of educational technology for themselves, and additionally, for the secondary students who significantly increased their interest in Physics and Chemistry subjects, scientific professions, and the acquisition of positive attitudes towards scientific knowledge and skills.
CF1-1004 **14:30-14:45**	Research on the Application of BOPPPS Mode and 4F guiding strategy in the Teaching Design of Mechanics **Yurong Shi,** Ying Li, and Jun Ma Ocean university of China, China **Abstract**-According to the characteristics of mechanics course in university, the author designs and practices the participatory teaching based on BOPPPS mode in teaching, This paper describes how the author form the teaching design based on BOPPPS mode with teaching examples, and focuses on the application of "4F guiding strategy" in guiding students to participate in teaching. The practice shows that the degree of student's participation in class increased, and the teaching results show that the use of the BOPPPS mode increases the students' interest in leaning and the ability of the problem-solving. Based on the questionnaire over 52% of students clearly believed that BOPPPS mode is effective for their learning, and 57% of the students like the form of group discussion based on 4F guiding strategy. This research may help university faculty promote their teaching skills

Coffee Break
< 14:45-15:00>

SESSION II

June 2, 2019

Session II

[Mobile, Virtual and Vicarious Learning]

15:00 -16:30

Meeting Room 5 (第五会议室)@2nd Floor(二楼)

Chaired by Lecturer Anna Sergeevna Bobunova

RUDN University, Russia

6 presentations-

CF1-0010, CF1-0018, CF1-1003, CF1-1019, CF1-1018, CF2-013

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SESSION II

CF1-0010 **15:00-15:15**	I can learn Calculus Virtually: Personalizing eLearn and Screencast-O-Matic in Blended Learning Environment **Wong Shiau Foong** and Malissa Maria Mahmud Sunway University, Malaysia **Abstract**-Emergence of new technologies have brought upon a myriad of developments in the educational sector. Students are tech-savvy and equipped with a set of aptitudes, challenging the traditional setting thereby trigger the ubiquitous and impetus notion of blended learning. Existing blended learning researches indicate significant students' learning achievement; however, there has been limited studies to specifically probe on the outcome of amalgamation of eLearn and Screencast-O-Matic employed, gauged at the average ratio of 1:14 for Calculus subjects. Thus, this study is aimed at identifying the differences of learning achievement for three Calculus courses of different levels, between the same group of people in each course who are exposed to mixed mode of teaching and learning experiences (blended learning and face-to-face settings). The findings indicate that the blended learning setting leads to a better students' learning achievement for all three courses as compared to traditional or face-to-face setting. Further to that, it gives a significant mean difference on the average results of all three courses for both blended learning and traditional settings.
CF1-0018 **15:15-15:30**	Impact of Previous Reading Experiences on Effectiveness of e-Textbook **Fan Zhao,** Xiaowen Fang and Feng Wang Florida Gulf Coast University,USA **Abstract**-Individual learning experiences have been changed with new technology development. Digital media has become a more favourable format in both reading and learning. This study investigated the reasons behind contradictory results in past e-textbook adoption studies and proposed that previous reading experiences associated with age were related to the effectiveness of e-textbook usage in learning. Results reveal a positive relationship between previous e-textbook reading experience and learning outcomes for current middle school students and older undergraduate students. Implications of changes in reading behaviours were discussed and future research was suggested.
CF1-1003 **15:30-15:45**	SPOC Blended Teaching of Computer Fundamental Course **Yi Yang** and Dekuang Yu Southern Medical University, China **Abstract**-With the rapid progress of technology, the contents and requirements of computer fundamental course teaching are increasing year by year, while at the same time there are problems caused by the contradiction of the limited class hours and the varied levels of the starting points of the students. In order to improve the teaching level and effectiveness of computer fundamental course, we took advantages of SPOC (Small Private Online Courses) blended advanced teaching idea, combined the teaching concepts with teaching practice closely, and explored on reasonable application and implementation of SPOC model. The main measures included reconstruction of the structure and organization of teaching contents according to professional requirements as well as the needs of students, offering an individualized quality education for every student, online and

SESSION II

	offline learning and practice in which the students acting as the main body, fully development of student-student and teacher-student interaction. We also tried to solve puzzles from students in time, to explore the potential of students, and to promote their creative ideas and works. Practice showed that by using SPOC blended mode in the computer fundamental course teaching, the students' initiative was stimulated, the performance of course examination was improved obviously, and the learners performed better in extracurricular activities compared with control groups. The experience of the SPOC blended teaching mode reform has been proved to be a good help to promote the quality of engineering teaching and improve the students' ability of information technology.
CF1-1019 **15:45-16:00**	The positive impact in changing of e-learning environment to m-learning to enhance critical thinking skills in foreign language learning **Chammika Mallawaarachchi** University of the Visual and Performing Arts, Sri Lanka **Abstract**-This study has investigated the impact of using Mobile Learning Model Alias M-learning with the principles of the connectivist learning theory to enhance the critical thinking skills of students who learn Mandarin as a second foreign language at state-of-art- study level. M-learning is a new global trend in education of distance learning with the robust development of an innovative and interactive ICTs. As a highly popular possession in the usage of mobile phone for learning purposes in the context of language learning which has given the importance of attention practitioners and researchers especially in distance learning in education. However, promoting mobile phone integrated learning has been seen a very few efforts in the scope of Mandarin learning. Therefore, to find out the importance of m-learning in language learning in number 246 students have been interviewed face-to-face to collect qualitative data and then analysed for themes that described the essence of experiences shared among the participants. The results have shown that m-learning can integrate more and more opportunities to mitigate challenges in a variety of ways to support the learning and teaching of a language. But results have reflected that it has different perceptions about the M-learning use in language learning, therefore, some integrated measures were proposed for language learning in the M-learning environment.
CF1-1018 **16:00-16:15**	Research on Teaching Reform of Educational Technology Public course under the background of Educational Information 2.0 **Li Qiong** Mianyang Teachers' College, China **Abstract**-The purpose of the public course of educational technology is to train the ability of the students' information technology, which is an important part of the teacher's pre-service education. However, There are many problems in the course, such as the large number of students, the single evaluation method, the limited learning time, which cannot be trained according to the characteristics of each subject, and so on. This paper, under the background of education information 2.0, uses the moderna information technology means to explore the mixed teaching of the public course of modern education technology based on the network teaching platform. In the form of the combination of the online course and the offline course, the complementary advantages of the classroom teaching and online education are realized, and the idea of reform is made from

SESSION II

	the aspects of teaching content, teaching means and methods, teaching evaluation and so on, explore a suitable way for the reform of educational technology public course in normal colleges and universities.
CF2-013 **16:15-16:30**	The Students Outcomes ABET (1-7) and SOLO´s taxonomy: An approach **Jesús Gabalán-Coello** and Kevin Huggins Universidad Católica de Pereira, Colombia **Abstract**-This paper presents a methodological proposal to carry out the measurement of student outcomes (SO) recently published by the Engineering Accreditation Commission (EAC) of ABET. Up to the end of 2017 the set of student outcomes were 11, the so-calle A-K, but the adopted a new system of seven SOs, the now-called 1-7. Therefore, the academic programs seeking the ABET evaluation must adopt the new system and adapt their program assessment processes to that system. On the other hand, the proposal presented here involves the use of the SOLO (Structure of Observed Learning Outcomes) of Biggs to identify the cognitive processes: uni-structural, multi-structural, relational and broadened abstract, as well as its deployment in relation to the student outcomes employed by ABET.

Dinner | YueFu Palace|粤福宫
<17:00-19:00>

SESSION III

June 2, 2019

Session III

[Global Education]

13:30-14:45

Meeting Room 4 (第四会议室)@2nd Floor(二楼)

Chaired by Assoc. Prof. Weican Xiao

Endicott College, USA

5 presentations-

CF1-0003, CF1-0005, CF1-1010, CF1-1020, CF2-018

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SESSION III

CF1-0003 **13:30-13:45**	Factors influencing business student choice of transnational higher education in China **Dan LIU** and Wenzhong ZHU Guangdong University of Foreign Studies, China Coventry University, UK **Abstract**-In this paper, we explore Chinese students' choice of transnational higher education, in the form of the joint programmes delivered collaboratively by overseas and local Chinese universities. Through a case study of the students in the joint programmes provided by a UK university and a Chinese University, the findings indicate that students' choice of transnational higher education is influenced by: 1) the push factors from the domestic higher education, such as a lack of access to satisfying domestic higher education institutions, and the low competitiveness of domestic degrees; 2) the push factors of the overseas higher education, such as comparatively higher costs and worries about not being able to adapt to the overseas environment; and 3) the pull factors from the transnational higher education, such as offering students with a transitional period, comparative lower cost and satisfying education quality. The research adds understanding to the Chinese student choice of transnational higher education, and joint programmes in particular which is a major form of transnational higher education in China but under-researched.
CF1-0005 **13:45-14:00**	Integration of Linguistic and Aesthetic Education: An Integrated Cultural Approach for Teaching Medical English **Anna Sergeevna Bobunova,** Elena Aleksandrovna Notina, and Irina Aleksandrovna Bykova RUDN University, Russia **Abstract**-Foreign language teachers are now actively using modern technologies to the detriment of others, which are no less effective and perform successfully the functions of arts and cultural education. Teaching a foreign language for special purposes (ESP) is not often connected to works of art and has no practical application in professional communication skills training. The purpose of this study was to prove the effectiveness of the application of art in ESP teaching. The experimental training course enrolled 60 students of the Institute of Medicine of RUDN University who studied in the field of clinical medicine in the period from September to December 2018. 60 students who studied under the standardized curriculum were considered as a control group. 16 professional translation lessons were integrated with fine art. The course was divided into three stages (5-6 lessons each): classroom lessons, visit activities at an art gallery, individual project presentation. Before and upon completion of the training course, students were tested on the levels of their linguistic knowledge, motivational involvement, cultural and professional development. As a result, the majority of experimental group benefited from participating in the course: (language aspects mastering - 92%, motivational involvement - 100%, cultural development - 95%, professional development - 96%). We can conclude that ESP teaching by means of art education is an effective means of enhancing students' linguistic, professional, and cultural competencies and contributes to increasing the motivation to learn a foreign language.
CF1-1010 **14:00-14:15**	Integrating Non-major Students in Engineering Course **Weican Xiao** Endicott College, USA

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	Abstract-Engineering education places heavy emphasis on math, science and physics fundamentals. The theory and technical aspects of it often hinder other major students like humanity and arts from taking any engineering courses, therefore limits their understanding about the world of engineering. An "introduction to engineering" course is offered here at Endicott College to integrate non-major students together with the engineering students. Part of the goal is to spread the engineering concepts, tools, technology and knowledge to non-major students, which might be adopted to their own major study and research. At the same time, team-based projects are implemented in the class to foster collaboration between students from different background and disciplines to achieve education purpose.
CF1-1020 **14:15-14:30**	Research on Training Mode Based on Industry Demand and Graduates Investigation **Zhai Hongyan,** Duan Zhenya, Su Jin, and Guo Jianzhang Qingdao University of Science & Technology, China **Abstract**-One of the most important contents of professional engineering education certification is that the training targets of professional talents have been tested by the society and employers. Process equipment and control engineering of Qingdao University of Science and Technology establish**ed** industry demand and graduate investigation mechanism. The mode of talent training is improved based on the results of investigation and feedback. The training targets, graduation requirements and curriculum system in accordance with the requirements of engineering education certification have been established.
CF2-018 **14:30-14:45**	Agent Behavior Combination Modeling by Multi-method Integration **Jianxing Gong,** Huabing Wang, Quan Liu, Jian Huang, and Jianguo Hao National University of Defense Technology, China **Abstract**-Behavior modeling is one of the core contents of agent modeling. According to different requirements, various behavior modeling methods have been proposed. In this paper, we propose an agent behavior-combination modeling technology which is realized by integrating several classic behavior modeling methods. Based on the definitions of agent behavior elements, the behavior graph of agent is formalized and then constructed in a graphical way, employing behavior tree, finite-state machine and workflow. The proposed agent behavior-combination modeling technology is eventually realized by integrating behavior-tree graph, finite-state machine graph and task graph, of which the feasibility is verified by a concrete application case.

Coffee Break
<14:45-15:00>

SESSION IV

June 2, 2019

Session IV

[Data Analysis]

15:00-16:30

Meeting Room 4 (第四会议室)@2nd Floor(二楼)

Chaired by Prof. Anu Gokhale

Illinois State University, USA

6 presentations-

CF2-006, CF2-011, CF2-020, CF2-024, CF2-3004, CF2-007

***Note**:

- Please arrive 30 minutes ahead of the sessions to prepare and test your PowerPoint.
- Certificate of Presentation will be awarded to each presenter by the session chair when the session is over.
- One Best Presentation will be selected from each parallel session and the author of best presentation will be announced and awarded when the session is over.

SESSION IV

CF2-006 **15:00-15:15**	Explainable Sequential Recommendation using Knowledge Graphs **Hao Hou** and Chongyang Shi Beijing Institute of Technology, China **Abstract**-Knowledge Graphs have proven to be extremely valuable to recommender systems in recent years. By exploring the links within a knowledge graph, the connectivity between users and items can be discovered as paths, which provide rich and complementary information to user-item interactions. Leveraging this wealth of heterogeneous information for sequential recommendation is a challenging task, as it requires the ability to effectively encoding a diversity of semantic relations and connectivity patterns. To address the limitations of existing embedding-based and path-based methods for KG-aware recommendation, our work proposes a novel hybrid framework that naturally incorporates path representations with attentive weights derived from the knowledge graphs and sequential preference which links items with existing knowledge base into recommender systems to effectively recommend next item to a user. Our proposed model further employs a deep neural network to predict the interaction probabilities of a user and unseen items. Extensive experiments on real-world datasets illustrate that our approaches can give large performance improvements in a variety of scenarios, including movie, music and book recommendation.
CF2-011 **15:15-15:30**	Product-review Classification Combining Multiple Clustering Algorithms Yilun Wei, **Yingying Lao**, Yudai Sato, and Dongli Han Nihon University, Japan **Abstract**-As product reviews accumulate more and more at online shopping sites, customers begin to have an increasing demand for analyzing reviews automatically. In some previous studies, clustering algorithms have been proved to be effective in grouping reviews. However, most of the existing systems are built based on a single clustering algorithm which might make the system fragile. In this paper, we have proposed a method to combine multiple clustering algorithms. Evaluation experiments have shown the effectiveness of our approach.
CF2-020 **15:30-15:45**	Business modeling and reasoning based on process ontology **Dong Yingbo** and Hou Xia Beijing Information Science and Technology University, China **Abstract**-In this paper, a method of business modeling and reasoning based on process ontology is proposed to solve the problem that existing in the banking business field such as large amount of data and the complexity to analysis the relationship between data. We use process ontology technology to describe each basic element in the business process, and on this basis, design constraints and inference rules, and carry out corresponding ontology knowledge reasoning by use the inference rules. Practice results show that the establishment of process ontology model can effectively represent the knowledge involved in the business process and discover the hidden information contained in the knowledge.
CF2-024 **15:45-16:00**	Detecting Key Poets and Communities by Constructing and Analyzing Tang Poet Social Networks **Aijuan Dong** Hood College, United States **Abstract**-Existing scholarship on Tang Poetry often focuses on linguistics or its cultural and social impact

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	of selected poets. In this paper, a framework was developed for constructing and analyzing Tang poet social networks. Specifically, we first built Tang poet social networks by inferring poet relationships embedded in Tang poems and then identified key poets and detected major sub-communities via social network analysis and visualization. The findings of this work, key poets and communities identified, will benefit humanities scholars and the framework developed can, with minor modifications, be reused by other scholars with similar research interests.
CF2-3004 **16:00-16:15**	Comparative Study of Heart Disease Diagnosis Using Top Ten Data Mining Classification Algorithms **I Ketut Agug Enriko** Universitas Indonesia, Indonesia **Abstract**-Data mining has been used for many purposes, especially for prediction system. In healthcare, data mining algorithms often used in disease diagnosis. Meanwhile, heart disease is known as a primary cause of death over the years. Many studies have been performed in heart disease diagnosis using data mining methods. There are some popular data mining algorithms that can be used in heart disease diagnosis, for example, k-Nearest Neighbor, CART, and AdaBoost. The algorithms are used to analyze a sample of cardiovascular patients data and predict the heart disease type that they suffer. Some parameters are taken from the patient, including EKG morphology, blood pressure, and information about the existence of chest pain, shortness of breath, palpitation, and cold sweat. In this study, medical records data are collected from Harapan Kita Hospital and utilized as a dataset sample in this research. Top ten data mining classification algorithms are used in diagnosing heart disease from Harapan Kita Hospital data and examining their performance by checking the accuracy and speed.
CF2-007 **16:15-16:30**	Modeling User Exposure with Explicit and Implicit Social Relations for Recommendation **Can Sun** and Chongyang Shi Beijing Institute of Technology, China **Abstract**-Social recommender systems have been well studied in both academia and industry. Social information helps to solve the data sparsity and cold start problems in traditional recommender systems, while most existing works in social recommendation assume that social friends have similar preferences. This assumption is too strict and not accord with real world situations, because of the diversity of social relations. We tend to share item information with our socially connected friends. We don't know whether they will like the items, while we help them be exposed to the items. So we model the social information for exposure rather than preferences. In this paper, we proposed a novel social exposure-based recommendation model by integrating social information into the basic ExpoMF model [5]. In order to address the sparse issue in social network, we exploit implicit social relations. To the author's knowledge, the work reported is the first to extend exposure model with explicit and implicit social relations for recommendation. Experimental results on the two public datasets demonstrate that our approach SoEx++ performs the best comparing to other three models.

Dinner | YueFu Palace|粤福宫
<17:00-19:00>

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CF2-017	Knowledge Management Systems Functionalities Enhancement in Practice Thanyatida Gunadham and Nithinant Thammakoranonta National Institute of Development Administration, Thailand **Abstract-**Nowadays, the organization needs to keep up with disruptive technologies in order to have competitive advantage in the market. These innovative technologies can be utilized for the development of any information systems including Knowledge Management Systems (KMSs). KM users still experience many problems from existing use of KMSs. Therefore, functionalities of KMSs should be enhanced to better facilitate all KM processes. This research aims to propose KMSs functionalities enhancement which includes existing functions enhancement and new functions development. The proposed functionalities enhancement has been verified by KM experts from selected organization in Thailand. The proposed functionalities enhancement has various benefits such as supporting employee learning, enabling work efficiency and effectiveness, discovering new insights, and improving organizational processes.
CF1-1012	Construction of Practical Education System for Innovative Applied Talents Cultivation Under the Industry-Education Integration Hongli WANG, Lei YU, Xianwen GENG, and Chenwei MENG Shandong University of Science and Technology, China **Abstract**-With the continuous development of social economy and the transformation of enterprises, the society needs a large number of innovative applied talents. This requires universities to continuously deepen the comprehensive reform, strengthen the cooperation between schools-enterprises and the industry-education integration. While doing well the basic theory teaching, we should strengthen the reform and construction of practical teaching system, and focus on cultivating practical talents with strong practical ability and practical operation level. In many years of educational practice, Taishan Institute of Science and Technology of SDUST has made full use of its professional advantages and industry characteristics in the fields of mining, manufacturing, construction, and finance. It has explored and constructed the practice system and model of "123", this is "one goal, two platforms, and three systems". It emphasizes the practice system that individualizes and diversified innovative applied talents, and has promoted the training of innovative applied talents.
CF1-1015	Evaluation Model of PE Teaching Quality Based on Active Learning Support Vector Machine Fan Zhang, Qinhua Jiang, and Changzhi Jia Nanjing Forest Police College, China **Abstract-**Traditional methods of Physical Education (PE) teaching quality assessment in Colleges and universities have been unable to meet the needs of information and modern PE teaching mode in terms of accuracy and efficiency. Therefore, aiming at the problem of classroom PE teaching quality evaluation in Colleges and universities, this paper proposes an assistant PE teaching quality evaluation model based on active learning support vector machine. Considering the actual situation in many aspects, the evaluation index system of classroom PE teaching quality is constructed. The active learning support vector machine (AL-SVM) is used to establish the evaluation model of classroom PE teaching quality. The collected data sets of PE teaching quality in a university are experimented and the results are analysed. The experimental results show that, compared with other evaluation models,

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	the proposed evaluation model has certain advantages in accuracy and efficiency, and can obtain better evaluation results of PE teaching quality in Colleges and universities.
CF1-1016	Prediction and Analysis of College Students' Sports Achievements Based on Support Vector Machine and Particle Swarm Optimization Fan Zhang, Qinhua Jiang, and Bo Zhou Nanjing Forest Police College, China **Abstract**-In order to scientifically evaluate college students' physical fitness, a prediction model of sports performance based on machine learning algorithm is proposed. This paper analyses the current situation of College Students' sports achievement prediction, points out the reasons that lead to the low prediction accuracy of the current model, establishes the prediction model of College Students' sports achievement by using machine learning algorithm-support vector machine, and uses particle swarm optimization algorithm to select model parameters. Finally, the model is applied to the sports achievement modelling and prediction of a university. The application results show that the machine learning algorithm can overcome the shortcomings of the traditional model and improve the prediction effect of College Students' sports performance.
CF1-0014	Research on Blended Learning of Equipment Application Courses in Military Academies Kai Wang, Caihua Yin, and Chunhui Song Communication NCO Academy Army Engineering University of PLA, China **Abstract**-The traditional teaching mode of vocational and technical education for surgency in military academies is difficult to meet the requirements of the serve ability training under the new establishment. In order to optimize the teaching approach and improve the teaching quality, the blended learning mode equipment application courses is proposed in this paper. Combining the blended learning theory with the practical teaching experience, the designing of teaching goals, teaching environment construction, teaching organization and teaching effect evaluation of blended learning is studied respectively.
CF1-0015	Research of Equipment Comprehensive Application Course Based on Blended Learning Chunhui Song, Xiaobin Wang, and Kai Wang Communication NCO Academy Army Engineering University of PLA, China **Abstract**-With the development and progress of educational informatization and modern educational technology, the traditional receptive and instilling teaching concept is difficult to adapt to the teaching requirements of equipment comprehensive application in military academies. According to the characteristics of the communication sergeant vocational education, the equipment application learning community is constructed based on the theory of Blended Learning (B-Learning) in this paper. Specifically, the design of teaching objectives, the development of teaching resources, the organization and implementation of teaching and the evaluation of teaching is studied respectively. The expected results can motivate the creativity of students and strengthen the cooperation between students and students, teachers and students, and lead the improvement of teaching effectiveness.
CF1-0006	Development of Physical Simulation Experiment Teaching Device for Mining Engineering Based on Open Design for Students Wang Qihu, Ye Yicheng, and Ke Lihua

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	Wuhan University of Science and Technology, China **Abstract**-In Wuhan University of Science and Technology (WUST) the original physical simulation experiment teaching device for Mining Engineering had poor adaptability to complex engineering problems in mines, and students' participation in experiment teaching was not enough, which resulted in poor training effect of engineering practice ability. In this case, based on the concept of CDIO engineering education, students' self-made experimental device was regarded as an important part in the teaching of mining engineering experiment, and open design of mining physics simulation experimental device was carried out for students. A development mode of experiment teaching device in which students participate in the whole process of design, manufacture, experiment and analysis was established. By this mode, the transformation from passive verification experiment to comprehensive, design and exploratory research experiment for students majoring in mining engineering has been realized, which was an inspiration to the teaching reform of high-quality compound talents in Mining Engineering.
CF1-1009	Exploration and Practice of College Physics Teaching for Students with Learning Difficulties Lizhen Ma and Jingliang Zhang Ocean university of China,China **Abstract**-Through the analysis of feedback data of students with learning difficulties in college physics, this paper points out two main factors that affect the learning effect of students. One is that students are not active in learning; the other is that teachers are using inappropriate teaching methods. In order to resolve problems based on these two reasons, the author has carried out a student-centered hybrid teaching practice based on massive open online courses (MOOC), using the method of comparative study. The research shows that the blended teaching method has obvious effect on promoting the learning initiative and learning effect of the students with learning difficulties in college physics.
CF2-010	Application of Visualization Techniques in Automatic Identification System Data Analysis Xu Yang, Chang Gao, Hongyan Hong, Dong Cheng, Ling Chen, and Min Yang Beijing Institute of Technology, China **Abstract**-Ship collision accidents rank first among all kinds of water traffic accidents. And the number of them has been high all the time. If ships collide with each other, they will often cause significant casualties and losses of property. Automatic Identification System (AIS) data contains a wealth of information. In the marine traffic engineering, if the data analysis technology can be used reasonably and the massive ship AIS data can be analyzed and processed, it will provide a new means for the marine traffic survey. However, because the AIS data contains abundant information and is not easy to understand intuitively, it will not be effective and efficient to understand the AIS data and get the corresponding decision if the traditional data analysis method is used. This paper explores the use of data visualization analysis technology to assist in analyzing of AIS data.
CF2-3003	Forecasting Mode of Sports Tourism Demand Based on Support Vector Machine Fan Zhang, Qinhua Jiang, and Zhuying Wang Nanjing Forest Police College, China

	Abstract-In order to improve the accuracy of sports tourism demand forecasting, a sports tourism demand forecasting model based on support vector machine is proposed. Firstly, the current research status of sports tourism demand is analyzed, and the shortcomings of current sports tourism demand forecasting model are found out. Then, according to the characteristics of time-varying, periodicity and small samples of sports tourism demand, a sports tourism demand forecasting model based on support vector machine is established. Finally, a comparative experiment with the model of neural network is carried out. The results show that, compared with other models such as neural network, support vector machine can obtain more accurate forecasting results of sports tourism demand, which can provide useful guidance for the management and rational planning of tourist areas.
CF2-3002	Model Design of Eco-carrying Capacity of Sports Tourist Attractions Based on Big Data Analysis Fan Zhang Nanjing Forest Police College, China **Abstract**-The traditional entropy weight TOPSIS-based eco-environmental carrying capacity model of sports tourist attractions uses grey correlation coefficient to select and identify the carrying capacity of calculation. Its large data analysis ability is poor, and the effect of analysis on the overall carrying capacity of sports tourist attractions is poor. For this reason, a model of carrying capacity of eco-environment of Sports Tourist Attractions Based on large data analysis is designed, and the overall framework of carrying capacity model of sports tourist attractions is designed. The database of model data stores all relevant information in the same nodes, so as to facilitate the analysis and management of large data. The ecological footprint method is used to calculate the carrying capacity of the eco-environment of sports tourist attractions. The ecological pollution of tourist attractions can be controlled within the scope of automatic recovery of the environment. The ecological footprint of soil environment, water resources environment, biological environment and pollutants is calculated to obtain the carrying capacity of the eco-environment of tourist attractions. Based on the ecological early warning module of the design model of carrying capacity of sports tourist attractions, the different carrying status of scenic spots is displayed by different colors to realize the early warning of carrying capacity of scenic spots. The experimental results show that the designed model is effective in carrying capacity analysis of scenic spots, and has a good application effect in large data environment.

NOTE