

ICEIT 2022 2022 11th International Conference on Educational and Information Technology

ICAIE 2022 2022 2nd International Conference on Artificial Intelligence in Education

Chengdu, China | January 6-8, 2022 | Virtual Conference

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Sompong Witayasakpan, Independent Scholar, Thailand

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Welcome Message

We are glad to announce that the *2022 11th International Conference on Educational and Information Technology (ICEIT 2022)* (workshop: 2022 2nd International Conference on Artificial Intelligence in Education) which will be held *6-8 January, 2022* in *Chengdu, China*. It's co-sponsored by IEEE and Sichuan Normal University, China; technically co-sponsored by Beijing Normal University, China, Northeast Normal University, China; hosted by Sichuan Normal University, China.

Following the successes of the previous ICEIT conferences in Toronto of Canada, Florence of Italy, Paris of France, University of Cambridge, and University of Oxford of UK. We invite authors to submit original research papers and original work-in-progress reports on educational and information technology.

ICEIT will have a special focus on educational and information technology, and seeks to address multidisciplinary challenges. The event includes Oral Presentation, Poster Presentation and Workshop (A meeting at which a group of people engage in intensive discussion and activity on a particular subject or project.), keynote talk given by experts on state-of-the-art topics, and invited speech, with the aim of complementing the regular program with emerging topics of particular interest to the educational and information technology.

ICEIT2022 includes keynote & Invited speeches and parallel technical tracks. The chairman and keynote speakers played a great role in conducting the proceedings of the conference and on behalf of the conference committee, we would like to express sincere thanks for your long-term support and help on our work. We were grateful for the reviewers, who had also been very helpful in efficiently reviewing the manuscripts and made valuable suggestions for the authors to improve their work. At the same time, we also extended our heartfelt thanks to the understanding and support of every author.

This program including six technical tracks: Computer Education and Innovative Teaching Methods; Language Education and Language Learning; Online Learning and Blended Teaching; Teacher Education and Vocational Education; AI in Education, Education Management and Talent Cultivation; Information Technology in Education and Information Technology Application.

We are pleased to know that all conference participants found the discussions fruitful, and enjoyed the opportunity to pursue future collaborations. We look forward to seeing all of you again next year at the conference.

ICEIT&ICAIE 2022 Conference Committees

Materials Prepared by the Presenters

Online Presentation: PowerPoint or PDF files. Please install ZOOM in advance and join our online session on time.

Duration of Each Presentation

Keynote Speech: 40 Minutes of Presentation including Q&A.

Regular Oral Presentation: 15 Minutes of Presentation including Q&A.

Note:

The regular oral presentation time arrangement is for reference only. In case any absence or some presentations are less than 15 minutes, please join your session before it starts. An excellent presentation will be selected from each session which will be announced and awarded an excellent presentation certificate.

ZOOM instruction: www.iceit.org/ZOOM+Guideline.docx

Zoom Download: <https://zoom.us/> **Author in China:** <https://zoom.com.cn/download>

Tips: Please unmute audio and start video while your presentation.

It's suggested to use headset with microphone or earphone with microphone.

Note: ZOOM conference rooms will be open 30 mins before scheduled time.

| Date | Arrangement | Zoom Link & Password: 010608 (All the Same) |
|------------|--|--|
| January. 6 | Zoom testing for Keynote Speakers & Session Chairs & Committee members & online presenters | https://us02web.zoom.us/j/89261996698 |
| January. 7 | Opening Ceremony & Keynote Speeches & Parallel Sessions | https://us02web.zoom.us/j/89261996698 https://us02web.zoom.us/j/84145090686 |
| January. 8 | Parallel Sessions | https://us02web.zoom.us/j/89261996698 https://us02web.zoom.us/j/84145090686 |

Note: Please find your Zoom Link according to schedule.

| January 6, 2022: Online test timetable and Online sign-in | |
|--|---|
| Zoom Link: https://us02web.zoom.us/j/89261996698 & Password: 010608 | |
| Time | Arrangement |
| Jan. 6 10:00-11:30 | Test for Keynote Speakers & Session Chairs & Committee Members Keynote Speakers: Prof. Shahin Vassigh; Prof. Francis, Yuk Lun Chin; Prof. Lei Liao Session Chairs: Assoc. Prof. Xuefen Zhang; Prof. Yabo Luo; Asst. Prof. Mirela Müller; Asst. Prof. Li Ni; Assoc. Prof. Noor Maizura Mohamad Noor;Asst. Prof. Abdullah Almurayh |
| Jan. 6 14:00-15:00 | T024, T080, T010, T1001, T064, T016, T007, T082, T006, T2001, T065, T020, T1004, T1002, T058, T075, T074, T052, T033, T048, T002, T009 |
| Jan. 6 15:00-16:00 | T035, T067, T1005, T1003, T1016, T021, T070, T028, T084, T015, T091, T1103, T045, T1006, T086, T011, T062, T061, T026, T042, T022, T057, T036, T056 |

January 7, 2022-Morning Session: Opening Ceremony & Keynote Speeches**Zoom Link:** <https://us02web.zoom.us/j/89261996698> & Password: 010608**Morning Session Host:** Assoc. Prof. SanShan Sun, Sichuan Normal University, China

| Time | Arrangement |
|-----------------------|---|
| Jan. 7 9:00-9:10 | Welcome Message Opening Remarks |
| Jan. 7 9:10-9:15 | Group Photo |
| Jan. 7 9:15-10:00 | Keynote Speech I - Prof. Shahin Vassigh, Florida International University, USA Speech Title: The research on Data visualization techniques for educational purposes |
| Jan. 7 10:00-10:45 | Keynote Speech II - Prof. Francis, Yuk Lun Chin, University of Hong Kong Speech Title: New Developments in Deep Learning (Artificial Intelligence) |
| Jan. 7 10:45-11:15 | Break |
| Jan. 7 11:15-12:00 | Keynote Speech III - Prof. Lei Liao, Sichuan Normal University, China Speech Title: Exploration of Blended Teaching of National First-class Offline Course "Digital Electronic Technology" |
| Jan. 7 12:00-14:00 | Lunch & Break |

January 7, 2022 – Afternoon Session: Parallel Sessions / Password: 010608 (All the Same)

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| <p>Jan. 7 14:00-16:00</p> | <p>Online Session 1-Teacher Education and Vocational Education Session Chair: Asst. Prof. Abdullah Almurayh, Imam Abdulrahman Bin Faisal University, Saudi Arabia T035, T067, T1005, T1003, T1016, T021, T070, T028 Zoom Link: https://us02web.zoom.us/j/89261996698</p> | <p>Online Session 2 - Online Learning and Blended Teaching Session Chair: Assoc. Prof. Xuefen Zhang, Beijing Union University, China T002, T048, T075, T074, T052, T033, T009, T082 Zoom Link: https://us02web.zoom.us/j/84145090686</p> |
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January 8, 2022: Parallel Sessions & Keynote Replay / Password: 010608 (All the Same)

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| <p>Jan. 8 10:00-11:45</p> | <p>Online Session 3 - Computer Education and Innovative Teaching Methods Session Chair: Prof. Yabo Luo, Wuhan University of Technology, China T080, T024, T010, T2001, T064, T016 Zoom Link: https://us02web.zoom.us/j/89261996698</p> | <p>Online Session 4 - Language Education and Language Learning Session Chair: Asst. Prof. Mirela Müller, University of Split, Croatia T1002, T006, T1001, T065, T020, T1004, T058 Zoom Link: https://us02web.zoom.us/j/84145090686</p> |
| <p>12:00-14:00</p> | <p>Lunch & Break</p> | |
| <p>Jan. 8 14:00-16:00</p> | <p>Online Session 5 - AI in Education, Education Management and Talent Cultivation Session Chair: Asst. Prof. Li Ni, Guangzhou College of Applied Science and Technology, China T091, T084, T015, T1103, T045, T1006, T086, T011, T007 Zoom Link: https://us02web.zoom.us/j/89261996698</p> | <p>Online Session 6 - Information Technology in Education and Information Technology Application Session Chair: Assoc. Prof. Noor Maizura Mohamad Noor, Universiti Malaysia Terengganu, Malaysia T056, T062, T061, T026, T042, T022, T057, T036 Zoom Link: https://us02web.zoom.us/j/84145090686</p> |

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Speakers Introduction



Prof. Shahin Vassigh, Florida International University, USA

Jan. 7 | 9:15-10:00 | Zoom Link: <https://us02web.zoom.us/j/89261996698> Password:010608

Speech Title: The research on Data visualization techniques for educational purposes

Bio: Shahin Vassigh is a Professor of Architecture and Director of the Robotics and Digital Fabrication Lab at Florida International University. She teaches courses in structures, building technology and design. Vassigh has built a nationally recognized body of research work focused on improving teaching of structures, building technology, and sustainable building design by developing alternative teaching pedagogies. Her work is characterized by utilizing advances of digital technologies such as augmented reality, simulation, and dynamic modeling for communicating difficult concepts in architectural technology curriculum. She is a recipient of two major federal grants for “A Comprehensive Approach to Teaching Structures” and “Building Literacy: The Integration of Building Technology and Design in Architectural Education.” Both projects developed interactive learning environments using state-of-the-art computing technology. She is the author of “Interactive Structures: Visualizing Structural Behavior” (2008), lead author of “Building Systems Integration for Enhanced Environmental Performance” (2011), and lead author of “Best Practices In Sustainable building design” (2013). She has a Master of Architecture, a Master in Urban Planning and a Bachelor of Science in Civil Engineering from University at Buffalo, the state University of New York.

Abstract:

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Prof. Francis, Yuk Lun Chin, Emeritus and Honorary Professor, Dept of Computer Science, University of Hong Kong

Jan. 7 | 10:00-10:45 | Zoom Link: <https://us02web.zoom.us/j/89261996698> Password:010608

Speech Title: New Developments in Deep Learning (Artificial Intelligence)

Bio: Professor Chin received his B.A.Sc. degree from the University of Toronto in 1972, and his M.S., M.A. and Ph.D. degrees from Princeton University in 1974, 1975, and 1976, respectively. He is a Fellow of IEEE, HKIE and HKACE. He joined HKU in 1985 and was the Chair, Taikoo Professor and the founding Head of the Department. He was an Associate Dean of the Graduate School and the Faculty of Engineering. He retired in 2015 and is now the Emeritus Professor of the University of Hong Kong and Founder of an AI startup, DeepTranslate, in HK SciencePark. Professor Chin has served as conference chairman and a member of the program committee of numerous international workshops and conferences. He has served as Managing Editor of the International Journal of Foundations of Computer Science and on the editorial boards of journals. Professor Chin received HKU teaching Best Teaching, Teaching Excellence Award and Outstanding Research Award in 1991, 2000 and 2010 respectively. Professor Chin was also awarded as one of the Ten Outstanding Young Persons in 1987.

Abstract: Companies such as Google, Amazon, Baidu and FaceBook are investing heavily on the Artificial Intelligence technology of Deep Learning to improve their products, especially for searching, data analytics, robotics, self-driving vehicles, Go-playing, diagnosing, etc. This talk explains how computers learn (compared to human learning) and the recent breakthroughs in Deep Learning which affect our lives in many aspects.

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Prof. Lei Liao, Sichuan Normal University, China

Jan. 7 | 11:15-12:00 | Zoom Link: <https://us02web.zoom.us/j/89261996698> Password:010608

Speech Title: Exploration of Blended Teaching of National First-class Offline Course "Digital Electronic Technology"

Bio: Lei Liao received his master degree of Engineering in 2000 from Southwest Jiaotong University, majoring in communication and information system. At present, he is a professor, master tutor and director of the Department of Electronic Information and Communication Engineering, College of Physics and Electronic Engineering, Sichuan Normal University. Director of Electronic Technology and Electronic Circuit Course Teaching and Research Association of Southwest Universities, Deputy Secretary General of Sichuan Province Working Committee of EOCU Alliance, Member of Embedded Artificial Intelligence Special Committee of Sichuan Electronics Society, Member of Sichuan Electronic Society microcontroller and Embedded System special Committee, Chengdu Professional technical qualification Assessment Committee electronic and electrical assessment expert.

Abstract: Due to the impact of the COVID-19 epidemic, the centralized teaching of students will greatly challenge the school's ability to prevent and control the epidemic. Traditional offline teaching must accelerate the implementation of the "online + offline" blended teaching reform. This talk will take the national first-class offline course "Digital Electronic Technology" as an example to introduce a series of mixed teaching reform measures and experiences during course construction.

Online Session 1-Teacher Education and Vocational Education - January 7, 2022 | 14:00-16:00**Session Chair: Asst. Prof. Abdullah Almurayh, Imam Abdulrahman Bin Faisal University, Saudi Arabia**

T035, T067, T1005, T1003, T1016, T021, T070, T028

Zoom Link: <https://us02web.zoom.us/j/89261996698> Password: 010608

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| <p>T035 14:00-14:15</p> | <p>Exploring the Relationship Between Teachers' Perceptions of School Climate and Their Attitudes toward Inclusion at the Preschool Level in China Chao Sun Presenter: Chao Sun, Shanghai Normal University Tianhua College, China</p> <p>Abstract: Individual with Disabilities Education Act (IDEA) passed by American government in 2004 revolutionized the education of children with disabilities. The IDEA requires that public schools provide specialized services to all children with disabilities from birth to age 21 for the purpose of granting equal access to education. A specific part of the law mandates public schools to create an individualized education program (IEP) for each student who is found to have an eligible disability. In China, the model of Learning in Regular Classrooms (LRC) has been implemented in primary and secondary schools for years. LRC proposes that students with mild disabilities enter regular classrooms to learn together with their typically developing peers and get necessary training and services. Little research is found concerning inclusion at the preschool level. The current study presents the demographic features of general education preschool teachers in Shanghai, China. Relationship between teachers' perceptions of school climate and their attitudes toward inclusion is investigated in order to provide supports for teachers implementing inclusion in the early childhood period.</p> |
| <p>T067 14:15-14:30</p> | <p>Analyzation of Class Observation Different between Expert Teachers and Beginner Teachers Sho Ooi, Takeshi Goto Presenter: Sho Ooi, Osaka Institute of Technology, Japan</p> <p>Abstract: The aim of our study has been developing a reflection system for improving the teaching skills of beginner teachers. Beginner teachers are lower teaching skills than expert teachers because of few teaching experiences in an actual classroom. They experience a lecture in a real classroom and observe other teachers' classes to improve their skills. Particularly in-class observation, beginner teachers, do not know where to focus their attention in observing classes. This study analyzes the differences in observations</p> |

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| | <p>between beginner and expert teachers from two perspectives: egocentric visions and text analysis. As for the results, this study first discusses the analysis of the egocentric visions. Experienced teachers focused on each student, while beginner teachers looked at the overall atmosphere of the class. Next, this study describes the analysis by text. The experienced teachers focused on the interaction between the pupils and the teacher, while the beginner teachers focused on using the blackboard.</p> |
| <p>T1005 14:30-14:45</p> | <p>Kindergarten Teachers' Consciousness and Action of Autonomous Professional Development Yan Yang Presenter: Yan Yang, Shanghai Normal University Tianhua College, China</p> <p>Abstract: This study focuses on kindergarten teachers' consciousness and action of autonomous professional development. Semi-structured interviews were conducted with 10 teachers from a public kindergarten in Shanghai to elicit their perspectives. It was found that teachers with a strong consciousness of autonomous development actively participate in various learning activities in order to facilitate their professional growth, while teachers lacking that consciousness have negative attitudes toward training and learning opportunities. Based on the findings, cooperative learning in the professional learning community and reflective teaching could help strengthen kindergarten teachers' consciousness of autonomous professional development and facilitate positive actions to achieve development.</p> |
| <p>T1003 14:45-15:00</p> | <p>Modification of pre-service teacher education Meng Zhang, Yuehui Fu Presenter: Meng Zhang, Shanghai Normal University Tianhua College, China</p> <p>Abstract: Our country attaches great importance to the training of teachers' professional talents. Teacher education curriculum is the core curriculum of normal majors, which should promote students to complete the transformation from theory to practice and the transition from pre-service and in-service to post-service. However, at present, there are some problems in the teaching of teacher education curriculum, such as teacher allocation, curriculum content organization and teaching implementation. In this paper, the teaching mode of "duality, three-stages and three transformations" is constructed, which highlights the characteristics of teacher education curriculum and the goal of personnel training, and focuses on improving students' comprehensive quality to improve the quality of teaching.</p> |
| <p>T1016 15:00-15:15</p> | <p>Media Use and the level of New Media Literacy of the Prospective Chinese Language Teachers in the Post COVID-19 Epidemic Era Li Xianfeng Presenter: Li Xianfeng, Leshan Normal University, China</p> |

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| | <p>Abstract: In this research, new media literacy skills of prospective Chinese language teachers have been examined and analyzed based on Jenkins' 12 New Media Literacy Skills. The quantitative means, i.e., the investigation model was used in the study. The sample comprises 177 prospective Chinese language teachers was chosen by convenient sampling. According to the findings, it can be said that students' new media literacy skills are at a satisfactory level without significance difference of gender. Skills in which the students got the highest score are respectively trans-media navigation, judgment, play, collective intelligence. When they cannot resolve a problem, they effectively make use of printed media and new media that based on the latest new information technology. Except TV and social media, the more time the students spend on the printed media, digital game, learning APP, course portal or SPOC, the higher level of students' play, appropriation, simulation, distributed cognition, multitasking, collective intelligence, judgment, networking, visualization is. These findings are of great significance for the appropriate integration of information technology into the Chinese language teaching in higher education in the post COVID-19 epidemic Era.</p> |
| <p>T021 15:15-15:30</p> | <p>Research on the Professional Identity of Undergraduates Majoring in Preschool Education of Connection between Secondary Vocational Education and Undergraduate Higher Education Yuehui Fu, Rong Zhang Presenter: Yuehui Fu, Shanghai Normal University Tianhua College, China</p> <p>Abstract: Questionnaire method was adopted to investigate the professional identity of 166 students majoring in preschool education of connection between secondary vocational education and undergraduate higher education in a private college in Shanghai in order to explore the factors influencing professional identity. It turned out that the professional identity is mainly affected by grade, independent choice, degree of major understanding before admission, school learning conditions, and academic achievement. Educational suggestions include incorporating professional identity education into career planning curricula, implementing double tutorial system, improving secondary vocational school and undergraduate personnel training system, and optimizing school learning conditions to improve social recognition of preschool education.</p> |
| <p>T070 15:30-15:45</p> | <p>Research on Design of the Evaluation Index System of Entrepreneurial Ability in Higher Vocational Colleges wen zhang Presenter: Wen zhang, Shannxi Technical College of Finance and Economics, China</p> <p>Abstract: Based on the existing research, this paper constructed an evaluation index system of vocational college students' entrepreneurial ability including 30 evaluation factors by interviewing 5 entrepreneurs with more than 3 years' entrepreneurial experience and 5 scholars with more than 5 years' entrepreneurial guidance experience. On the basis of the index system of review and interview, questionnaire survey was conducted in four representative vocational colleges in China, 108 valid questionnaires were</p> |

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| | <p>collected, and then validity test was conducted on the data. The results showed that KMO of each dimension was above 0.75, Cronbach's Alpha of the overall scale was 0.821. This verifies the reliability and stability of the questionnaire. Finally, through exploratory factor analysis, the paper classifies, explains and revises the original evaluation index system, and puts forward a new evaluation index system of vocational college students' entrepreneurial ability. The newly constructed evaluation index system of vocational college students' entrepreneurial ability includes 3 first-level indicators, 9 second-level indicators and 25 third-level indicators, which can evaluate the entrepreneurial ability of vocational college students from three dimensions of entrepreneurial potential, entrepreneurial skills and entrepreneurial ability.</p> |
| <p>T028 15:45-16:00</p> | <p>Application of BIM+VR in Higher Vocational Engineering Cost Teaching Yanfen Zhang, Haijun Mo Presenter: Yanfen Zhang, Guangdong Polytechnic of Science and Technology, China</p> <p>Abstract: This study aims to explore the virtual teaching system of engineering cost and build an educational application platform for engineering cost in higher vocational colleges and universities based on BIM + VR virtual simulation technology. This technology can reproduce building construction scenes and processes in the form of complete simulations, show the construction process of solid buildings and various engineering nodes, make the teaching of professional knowledge figurative, improve the efficiency of course teaching and practical training, and realize the perfect combination of science, reality, and virtual teaching.</p> |

Online Session 2 - Online Learning and Blended Teaching - January 7, 2022 | 14:00-16:00

Session Chair: Assoc. Prof. Xuefen Zhang, Beijing Union University, China

T002, T048, T075, T074, T052, T033, T009

Zoom Link: <https://us02web.zoom.us/j/84145090686> Password: 010608

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| <p>T002 14:00-14:15</p> | <p>The Method of Integrating BOPPPS Into In-person & Online Blend Teaching Mode of Engineering Courses in Higher Education Xuefen Zhang, Limin Su, Xiaodan Chen and Yansong Yang Presenter: Xuefen Zhang, Beijing Union University, China</p> <p>Abstract: In this paper, a teaching model based BOPPPS has been proposed to enhance teaching quality and learning outcomes. This study aims to explore the method of how to apply the BOPPPS (Bridge-In, Objective, Pre-Assessment, Participatory Learning, Post-Assessment, and Summary) into in-person & online blend teaching mode of engineering courses in higher education. This paper proposes specific ideas and methods for integrating BOPPPS teaching methods, and gives specific steps and strategies for specialized course teaching mode construction to effectively serve new teaching models such as in-person and online blend teaching. The teaching model in this paper promotes the reform of teaching concepts and the achievement of teaching goals, which can help teachers disassemble and analyze the teaching process and find blind spots in their teaching to improve their teaching quality and students' learning outcomes.</p> |
| <p>T048 14:15-14:30</p> | <p>Application of Blended Teaching into the Course of Comprehensive English Yanbo Zhang Presenter: Yanbo Zhang, Lyceum of the Philippines University, Philippines</p> <p>Abstract: This study, incorporating the quantitative and qualitative research methods, has explored the application of the blended teaching model in Comprehensive English for English majors. It adopts the experimental research method and selects two classes without significant difference before the experiment as research subjects. Questionnaires and interviews are conducted for students from the pilot class to investigate their viewpoints on the efficiency of the blended teaching as well as their attitudes towards this model. In addition, an independent samples test is conducted on the final exam results at the end of the semester to investigate the efficiency of blended teaching in this course.</p> |

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| | It is proved that this teaching model is instrumental to students' English learning and most students appreciate it. The researcher has reflected on the problems existing the application and come up with some solutions so as to make full use of this model and further improve the students' learning efficiency. |
| T075 14:30-14:45 | <p>Research on Advancing Professional Ability of Petty Officers by Micro Course Shi Yanli, Yu Haixia, Wang Yan Presenter: Shi Yanli, Aviation University of Air Force, China</p> <p>Abstract: According to the professional characteristics of petty officers, this paper introduce the definition and characteristics of micro course, analyzes the feasibility of building micro courses by using high-quality teaching resources in military colleges, gives suggestions on how to design micro courses in combination with the process of micro course construction, introduce the production of the micro course, and expounds how to reasonably select teaching mode according to the teaching content, thus can cultivate the ability of petty officers students to study independently, and effectively improve the classroom teaching effect.</p> |
| T074 14:45-15:00 | <p>Exploring College Students' Self-Presentation Behaviors, Motivations and Relationship with Presence in Online Learning Space Rui Wang, Yanyan Li Presenter: Rui Wang, Beijing Normal University, China</p> <p>Abstract: The vigorous development of the internet and technology has promoted the rapid popularization of online education. Online learning space such as social media and class learning forum, has gradually become an important place for education. However, few people pay attention to the new characteristics of students' learning in online learning space, such as self-presentation behavior manifestations and motivations. The connotation of the dimensions of self-presentation behaviors is not well defined, and its relationship with online learning presence is not clear. Therefore, this study explores the manifestations and internal motivation of college students' self-presentation behaviors through quantitative research, and analyses the relationship between self-presentation behaviors and online learning presence. It is found that college students' self-presentation behaviors in online learning space can be described by specific manifestations such as posting enthusiasm and interaction frequency. Meanwhile, there are four main motivations for college students' self-presentation behaviors, and the proportion of these motivations in different situations is not the same. Moreover, there is a high positive correlation between self-presentation and online learning presence.</p> |
| T052 15:00-15:15 | <p>Analysis of Topic Quality and Student Characteristics in Online Discussion Board Based on S-P Table Li Qian, Wenhao Li, Wenxue Wang, Wenting Deng Presenter: Li Qian, Central China Normal University, China</p> |

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| | <p>Abstract: Discussion, as an important part of online learning, has been widely used in teaching to support communication and information sharing among learners. However, there are some problems in online discussion, such as poor topic design, students' low discussion depth and enthusiasm. S-P table analysis was applied to online discussion analysis. Based on the 186 posting records of 35 students under 9 topics on Wolearn platform, the quality of the topics and the characteristics of students were analyzed from the aspects of full answer rate, warning coefficient, difference coefficient, stability coefficient and suitability coefficient. We found that the topic was stable and consistent with the instructional objectives and students' cognitive level. Most of the students' learning status was stable and they had a good understanding of the topic, but some students did not perform well. Finally, some suggestions for further research were proposed.</p> |
| <p>T033 15:15-15:30</p> | <p>Social Networking Sites Stating Claim in Educational Practices While Losing the Battle to COVID-2019 and Onward Situations Angela Pearce Presenter: Angela Pearce, Grand Canyon University, USA</p> <p>Abstract: Abstract—Since succumbing to the inevitable COVID-19 and its mutating variants, social networking sites have stated a claim in educational practices, causing academic institutions and educationalists to engage in these platforms for learning and teaching and adding to the qualities or abnormalities of their academic experiences. This study explores how social networking sites such as Facebook influence academic experiences and qualities among teachers and students. This study examines Facebook as a learning and teaching platform to determine its quality of education. This study reviews previous literature investigating the impacts of social networking sites and how such usage implicates or substantiates learning while maneuvering and functioning vicariously amid ongoing covid situations. Davis' Technology Acceptance Model is used as the theoretical grounding to show how adopting and accepting socially-oriented technologies like Facebook as a learning and teaching platform are persuaded by their perceived ease of usefulness and ease of use. The technology acceptance model will provide insight into the significance of students' educational engagements in social networking infrastructures and platforms for personal gain. However, because of students heightened presence and comfortability with usage and navigation of social networking sites, and being compelled into online-blended learning, the adoption of social networking sites for educational practices and procedures warrants investigation to determine the impacts of academic qualities. Limitations and future suggestions are discussed.</p> |
| <p>T009 15:30-15:45</p> | <p>Exploration of Blended Learning Based on Production-Oriented Approach Lijuan Zhang Presenter: Lijuan Zhang, Lyceum of the Philippines University, Philippine</p> |

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| | <p>Abstract: Nowadays blended learning is a promising teaching mode and it can be put into practice with different teaching approaches, among which production-oriented approach is one that has been paid attention to by many scholars and teachers. This study does an experiment to testify whether blended learning based on production-oriented approach is an effective and helpful teaching mode and it also carries out a questionnaire. Through the questionnaire, the students' attitudes, initiative and feelings towards blended learning based on production-oriented approach are discussed. Besides, a correlation analysis finds out that students' satisfaction, initiative and concentration are closely related with students' improvement.</p> |
| <p>T082 15:45-16:00</p> | <p>Research on the Educational Model of Computational Thinking Cultivation in Primary and Middle Schools Oriented to Production-Based Learning Danqing Zhao, Yatao Li Presenter: Danqing Zhao, Yunnan Normal University, China</p> <p>Abstract: Project-Based Learning and STEAM Education are widely favored by schools and teachers because both of them are student-centered learning models by allowing students to collaborate and explore around issues in order to promote the development of students' learning in the 21st century. However, in practical pedagogical applications, specific educational models and implementations are highly dependent on exceptional teachers with innovative abilities, especially in the cultivation of implicit higher-order thinking of students still lacking a better landing point. In the context of the current era of rapid development of information technology, the educational changes caused by the new development of smart education mean that more attention should be paid to the level of thinking and operational skills of students. As a result, the Problem-Based Learning for Computational Thinking Development Model for Primary and Secondary Schools (CTPBL), which is interdisciplinary, contextual, innovative, experiential and humanistic in nature, has emerged. As a new educational model, CTPBL helps integrate the advantages of existing Project-Based Learning and STEAM Education, crack the dilemma of teachers' choice of the inherent educational model, and realize the cultivation of students' information literacy and the improvement of their comprehensive ability. However, it still needs to be further explored, such as its operation mechanism, technology carrier, and teachers' roles.</p> |

Online Session 3 - Computer Education and Innovative Teaching Methods - January 8, 2022 | 10:00-11:45

Session Chair: Prof. Yabo Luo, Wuhan University of Technology, China

T080, T024, T010, T2001, T064, T016

Zoom Link: <https://us02web.zoom.us/j/89261996698> Password: 010608

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| <p>T080 10:00-10:15</p> | <p>Research on heuristic teaching model based on case comparative experiment Yabo Luo, Zhouxv Wang, Feng Zhang Presenter: Yabo Luo, Wuhan University of Technology, China</p> <p>Abstract: The teaching of scheduling method involves the classification of different scheduling problems. How to make students understand the uniqueness of different scheduling problems is a difficult problem in teaching. Taking the traditional Chinese medicine extraction workshop as a teaching case, this paper makes students understand the uniqueness of traditional Chinese medicine extraction workshop in operation process, sorting mode, time attribute, dynamic attribute and so on through the comparison experiment between ordinary workshop and traditional Chinese medicine extraction workshop. Through case comparison experiment teaching, students can more intuitively understand the diversity and uniqueness of scheduling problems.</p> |
| <p>T024 10:15-10:30</p> | <p>Design and research of a virtual computer network experimental teaching system Jun Tao, Qinghuan Xia, Qingqing Liu, Xingxing She Presenter: Qinghuan Xia, Anhui Institute of information engineering, China</p> <p>Abstract: After expounding the importance of computer network experiment and pointing out the shortcomings of traditional computer network experiment, a virtual computer network experiment system was constructed based on network equipment and simulator. The virtual computer network experiment system relies on AAA and network management system to manage network equipment, network simulator and student experiments. Students can carry out computer network experiment online at any time, and</p> |

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| | <p>they can get corresponding evaluation immediately after completing the experiment. Three typical experiments of the virtual experiment system are introduced. Relying on the virtual experiment system, the teaching has achieved good results.</p> |
| <p>T010 10:30-10:45</p> | <p>Exploration on the application-oriented teaching mode of data mining course for undergraduates Bo Liu Presenter: Bo Liu, Jinan University, China</p> <p>Abstract: This paper first analyzes the problems existing in the teaching of data mining course for undergraduates, then puts forward the application-oriented teaching ideas, designs the teaching content modules and the corresponding practice modules. Starting from the current teaching situation, it explores the reform of data mining course in order to cultivate more excellent data mining talents.</p> |
| <p>T2001 10:45-11:00</p> | <p>Current Situation and Development of Outcome-Based Education in Computer Teaching Li Gang, Wang Hong, Song Xinmin Presenter: Li Gang, Shandong Normal University, China</p> <p>Abstract: In the context of new engineering, the concept of OBE (Outcome-Based Education) has begun into the curriculum construction of colleges and universities, opening a new round of teaching practice reform. In order to understand the development of OBE concept in computer specialty, explore the teaching mode of OBE and application status of OBE in computer teaching. Firstly, this paper analyses the mainstream literature of OBE in computer teaching from 2016 to 2021 by using Cite Space software, and find some important patterns. Then, this paper discusses from three aspects: keywords, clustering and timeline. Finally, from the teaching objectives, the teaching method, the teaching view transformation to the computer teaching development proposed the suggestion. It also provides a reference for the application and reform of the OBE concept in teaching of other subjects.</p> |
| <p>T064 11:00-11:15</p> | <p>Ideological and political teaching reform: An introduction to artificial intelligence based on the OBE concept Xiaoran Lin, Yachao Wang, Rongmei Zhang, Tianhua Lin, Jianke Li, Xueya Xue Presenter: Xiaoran Lin, Hebei University of Economics and Business, China</p> <p>Abstract: At present, curriculum ideological and political education (IPE) in universities cannot meet the needs of talent training. In addition, curriculum IPE comes into being.</p> |

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| | <p>However, the execution of curriculum IPE needs to be further explored. Against the background of engineering certification, we designed the ideological and political content of a course and integrated it into the teaching goal of the introduction to artificial intelligence (AI) course, considering its orientation in the training of computer science and technology. Then, we designed different integration methods to incorporate ideological content into regular teaching. Finally, we constructed assessment methods using outcome-based education (OBE) theory. We hope that through the study of this course, we can guide students to establish a correct outlook on life and values, as well as a worldview, and to become powerful successors to builders in the new era.</p> |
| <p>T016 11:15-11:30</p> | <p>Research on Hospital Information System Course Design and Evaluation Based on Project-Driving Method Wei Liu, Jin Zhang Presenter: Wei Liu, Hainan Medical University, China</p> <p>Abstract: Health Information System (HIS) course, which is a discipline that combines hospital management with computer science, is generally taken at the undergraduate level and has strong comprehensiveness and practicality. However, most traditional teachings are separated from practical operation in the current teaching process, which is cannot really promote students' practical ability. To solve these problems, we propose a course teaching system based on project-driving method to carry out the design and applied research of HIS course teaching. It includes the project-driving design, theory teaching modules, practical teaching design, and grading plan. Then we design a questionnaire on the needs for students' evaluation feedback. The results show that compared with traditional teaching methods, our teaching method can better improve the learning interest, self-learning ability, engineering practice ability, and innovation and as well as teamwork of students.</p> |

Online Session 4 - Language Education and Language Learning - January 8, 2022 | 10:00-11:45

Session Chair: Asst. Prof. Mirela Müller, University of Split, Croatia

T1002, T006, T1001, T065, T020, T1004, T058

Zoom Link: <https://us02web.zoom.us/j/84145090686>

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| <p>T1002 10:00-10:15</p> | <p>Fast mapping, an indicator of the acquisition of German as a foreign language in bilingual families: a case study Mirela Muller Presenter: Mirela Müller, University of Split, Croatia</p> <p>Abstract: The term mapping is used in various research fields with a variety of meanings. In linguistics, it is understood as an umbrella term for a learning process in which the assignment of a word and meaning is acquired. From the linguistic-pedagogical-methodological side, fast mapping can be understood as a phenomenon of linguistic processing that leads to the inclusion of a new word in the lexicon. A possible explanation for the quick acquisition of new words could be an efficient learning process that enables learning of a word after little contact, especially in bilingual families. The research shows us the case study of bilingual families in Germany in the state of Rhineland-Pfalz and their acquisition of the German languages. The research was from May 1st to May 30th, 2021. Those questioned were the parents (N = 48) of the children. Research showed us which of the eight different aspects and methods of fast mapping were found to be the most successful in language learning. That was the „Power- Learning“ (36%), than „Keeping a vocabulary book for technical terms” (28%), and “Repeating the technical terms from the previous lesson with the help of placemates” (21,4%)</p> |
| <p>T006 10:15-10:30</p> | <p>Application of Education Information Technology in Electronic Information Professional English Course Wenhua Qiu, Zhenzhen Qiu Presenter: Wenhua Qiu, Guangdong Mechanical & Electrical Polytechnic, China</p> <p>Abstract: For the problems existing in the traditional electronic information professional English course, this paper proposes to apply educational information technology to electronic information professional English courses. The purpose is to improve the interest of vocational students in learning professional English by changing traditional teaching methods and optimizing teaching content, so that the whole classroom can be active. Experiments show that the teaching method has achieved good teaching results.</p> |

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| <p>T1001 10:30-10:45</p> | <p>Exploration and Practice of "Six in One" Teaching Mode Based on OBE Concept —— Take "Language Education for Preschool Children" as an example Li Li, Guanghua Wang Presenter: Li Li, Shanghai Normal University Tianhua College, China</p> <p>Abstract: Based on the OBE (Outcome-based education) concept, the "Six in One" teaching mode is constructed with the language education for preschool children as the carrier, forming the "three-dimensional" and "three-stage" course objectives, progressive and modular course content step by step, and teaching methods that meet the standard professional requirements. "Binary and three-segment" intelligent teaching means, focusing on goal achievement, process and diversified course evaluation, adhering to the integration of production and education, and building a team of double-qualified teachers.</p> |
| <p>T065 10:45-11:00</p> | <p>A Corpus-Based Sampling to Build Training Data Set for Extracting Japanese Sentence Pattern Jun Liu, Yihaoran Ning, Yuanyu Fang, Luxuan Zhuang, Zhuohan Yu, Tingkun Wu Presenter: Jun Liu, Guangxi University, China</p> <p>Abstract: Training data set plays an important role in Natural Language Processing (NLP) or Machine Learning (ML) Tasks. In the application of NLP in Japanese language education, construction of a high-quality training data set becomes the prerequisite of automatic extraction of grammar knowledge where there are limited training data sets are available. In this work, a corpus-based method for building training data set was proposed aiming to reach a satisfactory performance in automatic extraction of Japanese sentence patterns in Japanese grammar. Furthermore, a machine learning algorithm based on Conditional Random Field (CRF) was applied to train a model using the manually annotated training data sets in experiments. A comparative evaluation was conducted in terms of our proposed method and a baseline method based on paper-based sampling. Experimental results indicated that our proposed method based on corpus-based sampling to build training data set achieved much higher accuracy than paper-based sampling.</p> |
| <p>T020 11:00-11:15</p> | <p>Relating Chinese EFL Learners' Writing Strategy Use to Emotional Aspects Nan Hu Presenter: Nan Hu, Chonnam National University, South Korea</p> <p>Abstract: Aiming to explore the types of writing strategy use and emotional aspects involved in Chinese EFL learners' Second Language (L2) writing and how their writing strategy use is related to emotion, this study employed a mixed method approach to collect both quantitative and qualitative data from the participants. 106 Chinese undergraduates were assigned the Foreign Language Writing Strategy Survey Questionnaire (FLWSSQ) and Foreign Language Writing Emotion Survey Questionnaire</p> |

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| | <p>(FLWESQ). Besides, 10 participants were recruited in semi-structured interviews. Overall, participants reported a moderate level of frequency use of writing strategies and a moderate level of anxiety and enjoyment about EFL writing. Furthermore, participants' use of writing strategies was found to be positively correlated with their writing enjoyment. The current study provides some insights into understanding students' use of writing strategies and emotional experiences in an EFL context. Some pedagogical implications for teaching L2 writing through strategy-based instruction and activating positive emotions in classrooms were also discussed.</p> |
| <p>T1004 11:15-11:30</p> | <p>Exploring Evaluation Principles for English for Academic Purposes (EAP) Textbooks Guanghua Wang Presenter: Guanghua Wang, Shanghai Normal University Tianhua College, China</p> <p>Abstract: Since 2013, English for Academic Purposes (EAP) courses are the trend in college English development. More and more universities offer EAP together with EGP (English for General Purposes) courses to non-English major students. There are a variety of textbooks for EAP in the market. How to select the most suitable textbooks for students is worth considering for college English teachers who have been teaching EGP for years but with little training for EAP. Then it's necessary to learn what exactly EAP is and explore some principles to evaluate textbooks. Basing on an analysis of volumes of literature and a small-scale survey, this paper defines EAP and distinguishes EAP, ESP (English for Specific Purposes) and study skills firstly, and then suggests a quite all-inclusive list against which educators and teachers can check to evaluate and select EAP textbooks.</p> |
| <p>T058 11:30-11:45</p> | <p>Gamified English app: a mobile application to enhance second language learning via gamification Tamim Alkhalifah Presenter: Tamim Alkhalifah, Qassim university, Saudi Arabia</p> <p>Abstract: For as long as there have been students, teachers have looked for ways to motivate them to learn. With the advent of computers and computer gaming, interest has increased in using elements of gaming in learning materials to engage students' interest and willingness to persist with a learning task. Research on gamification as an aspect of educational pedagogy is growing, but remains limited, especially exploration of the use of gamification in less common subjects, such as foreign language learning. This paper is part of an ongoing research project investigating the effect of gamification on foreign language learning in Saudi Arabia. It introduces a novel gamified mobile application for English language learning called the Gamified English app. The app, presented in this paper, was developed in the Xcode environment for Apple users and includes several gaming elements.</p> |

Online Session 5 - AI in Education, Education Management and Talent Cultivation - January 8, 2022 | 14:00-16:00**Session Chair: Asst. Prof. Li Ni, Guangzhou College of Applied Science and Technology, China**

T091, T084, T015, T1103, T045, T1006, T086, T011, T007

Zoom Link: <https://us02web.zoom.us/j/89261996698> Password: 010608

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| <p>T091 14:00-14:15</p> | <p>Vocational Education Development Model Based on Intelligent Management System Li Ni, Qiang Huang, Jingyi Ye, Bin Hu, Ni Zhang, Xiangqian Chang, Zhihao Su Presenter: Li Ni, Guangzhou College of Applied Science and Technology, China</p> <p>Abstract: Intelligent management system centered on artificial intelligence algorithms, cloud computing technology, mobile Internet technology, and big data applications have made remarkable achievements in various industries. The intelligent management system designed in this project is to apply these technologies to explore a vocational education development model that adapts to the current Internet society. Vocational education needs to be oriented to the professional needs of the society, it needs to be oriented to students' vocational choices, and it needs to be oriented to the skill range of teachers. This project collects students' learning data and teaches students in accordance with their aptitude in the course of students' daily classes, matches students with appropriate vocational and technical elective courses and teachers, and records students' feedback during their studies, and in the future career development of students, to help students make better career choices. At the same time, the needs of students, companies, and teachers in vocational education will be collected, and artificial intelligence algorithms will be used to process student data and corporate recruitment data, automatically matching the most suitable combination of students and companies. The biggest core innovation of this system is the latest deep learning algorithm, and according to the actual situation of vocational education, the residual neural network is improved to create an improved residual neural network suitable for students' professional development recommendations. The final result of this algorithm, the auxiliary role in the process of student vocational education and development is far greater than the traditional vocational education management system, and in the C University student education and professional development database, there is about 90% satisfaction rate and the 85% occupational matching accuracy rate is far higher than the performance of the traditional vocational education management system.</p> |
| <p>T084 14:15-14:30</p> | <p>Review of Collaborative Intelligent Tutoring Systems (CITS) 2009-2021 Solomon Ubani, Rodney Nielsen</p> |

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| | <p>Presenter: Solomon Ubani, University of North Texas, USA</p> <p>Abstract: This paper reviews recently published works in the emerging field of Collaborative Intelligent Tutoring Systems (CITS). The paper first provides an overview of the fields of Intelligent Tutoring Systems, Computer-Supported Collaborative Learning, and Collaborative Intelligent Tutoring Systems. We systematically search online bibliographic databases, code their research objectives, qualitatively analyze their methodology, and group papers into 3 categories according to our findings. Then we evaluate the associated systems, highlighting their main features and impacts on student learning. Finally, we identify the gaps for possible future research.</p> |
| <p>T015 14:30-14:45</p> | <p>Benefits, Challenges and Solutions of Artificial Intelligence Applied in Education Hui Ling Qin, Guan Wang Presenter: Guan Wang, Youth Science and Technology Center in Hubei Association for Science and Technology, China</p> <p>Abstract: With the rapid development of artificial intelligence, it brings several novel ideas for further developing education. In this paper, we first introduce the benefits of artificial intelligence applied in education from the perspectives of students, teachers and educational administrators. To be specific, artificial intelligence can help students achieve personalized learning, help teachers conduct targeted teaching and help educational administrators make decisions. However, artificial intelligence is a double-edged sword, and thus we also analyze four serious challenges caused by the application of artificial intelligence in education, including incomplete algorithm design, insufficient labelled data, excessive technical dependence and unreliable security guarantee. To promote the healthy development of artificial intelligence in education, we finally explore the feasible solutions to the proposed challenges in turn, which are user-driven design, scientific labelling, rational use and security enhancement, respectively.</p> |
| <p>T1103 14:45-15:00</p> | <p>T.A.L.A Goal Setting Life Skills Learning Approach on the Meta-Empirical Competence and Academic Performance of Diverse Learners Simon, E.O Presenter: Simon, E.O, First City Providential College, Philippines</p> <p>Abstract: Education 4.0 shifting the focus from teaching to learning is for diverse learners learn and develop meta empirical competence and academic competence that make them valuable in this digital era. In student-centered learning, the teacher as vital support has to trust learners attain their written goals through authentic learning and real problem-solving assessment for enduring life skills.</p> <p>This study aimed to analyze the effectiveness of T.A.L.A goal setting life skills learning approach on the meta-empirical competence and academic performance of diverse learners of online junior high school students of First City Providential College vis-à-vis Outcomes-Based Education paradigm. The study employed an experimental research</p> |



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| | <p>design that relies on a controlled method, random assignment, and manipulation of variables to test the hypothesis. Independent T-test was used to determine the extent of significant difference that exists in terms of meta-empirical competence and academic performance of the control and experimental groups in the pretest and posttest results in Chemistry 10 and goal-setting questionnaire of Gaumer, Erickson, and Noonan, 2018. It was revealed that students in the experimental groups performed better than the students in the control groups in both meta-empirical competence and academic performance. Thus, the T.A.L.A goal-setting life skills learning approach on the meta empirical competence and academic performance of diverse learners was effective in learning Chemistry 10 lessons in the last quarter of the academic year 2020-2021.</p> |
| <p>T045 15:00-15:15</p> | <p>Reform and Exploration of Practice Teaching Under Background of Actual Combat Ren Mingqiu, Tian Yiheng, Wang Bingqie, Leng Yi Presenter: Mingqiu Ren, Early Warning Academy, China</p> <p>Abstract: As the development of intelligent warfare, the training level and quality is becoming more and more important for ECM application-oriented talents. The paper analyzed the significance rubs of practical teaching firstly, and then provided the detailed construction goal. In the following section, three kinds of measures were proposed such as personnel training of curriculum system design, effective instruction models and solid type of competencies cultivation. The research will advance applied talented man with innovative spirit and practical ability.</p> |
| <p>T1006 15:15-15:30</p> | <p>Research on the Reform and Development Countermeasures of College Music Education from the Perspective of Psychology Yuanyang Yue Presenter: Yuanyang Yue, Shanghai Normal University Tianhua College, China</p> <p>Abstract: Music is an artistic leisure way, which can not only cultivate sentiment and wash the soul, but also play an important role in relaxing mood. Music education is closely related to people's psychology. Studying music teaching psychology is to better carry out music education according to students' music learning psychology, and finally achieve the purpose of cultivating people through music education. How to break through the predicament of college music education management and realize the gradual reform and sustainable development of college music education management with new ideas and measures is an important task at present. In the process of learning vocal music, instrumental music and solfeggio, students should reform music teaching from the psychological characteristics and psychological process of music learning. This paper starts with the necessity, current situation and specific reform path of music education reform in universities, and provides theoretical basis and value reference for the current music education reform from the perspective of psychology.</p> |

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| <p>T086 15:30-15:45</p> | <p>Research on the Path of Education Globalization in Engineering Universities of China Zhipeng LI Presenter: Zhipeng LI, University of Electronic Science and Technology of China, China</p> <p>Abstract: Globalization is an important trend in the development of higher education in the world, which is generally recognized and highly valued by all countries in the world. Under the background of economic globalization, engineering universities need to establish strategic partnerships around the world to seek further development. Universities need to cultivate talents with international vision and cross-cultural communication ability to adapt to the changing global working environment, and to improve the teaching and scientific research level so as to cultivate high-quality talents who can adapt to the global environment. Combining with the goal of international talents training in engineering universities, the author puts forward that only by effectively integrating foreign high-quality educational resources into the whole process of teaching and research, carrying out joint training of high-level talents and joint scientific research, actively participating in or taking the lead in organizing major international and regional scientific plans and projects, creating a good international teaching and research environment, and enhancing the attraction of foreign excellent teachers and high-level international students can the openness of Chinese engineering universities be effectively improved.</p> |
| <p>T011 15:45-16:00</p> | <p>Research and Exploration on The“Three-stage And Two-type”Practical Talent Training System for Electronic Information Major Meixiu Zhou, Zhuo Yin, Hanying Chen Presenter: Meixiu Zhou, Jinan University, China</p> <p>Abstract: With the goal of training research-oriented and application-oriented innovative talents for society, this paper puts forward a “three-stage and two-type” talent training system for undergraduates with comprehensive university features and studies the multi-level practical teaching mode under this system. First, we introduce the basic structure of the “three-stage and two-type” talent training system, which cultivates students through three levels according to the difficulty, and divides students into two development directions according to students’ interests. Then we explore the multi-level practice teaching mode under the system of “three-stage and two-type”. Based on the provincial experimental platform, provincial project center and practice base, we form a multi-level and diversified practice teaching environment. The goal of our research is to improve the basic analysis, engineering design, comprehensive application and scientific research capabilities of electronic information major students, and to be practical and innovative talents.</p> |
| <p>T007 11:30-11:45</p> | <p>Teaching reform on compiler technology course based on ideological and political construction Na Wang, Liping Li</p> |

January
6-8

2022 11th International Conference on Educational and Information Technology

2022 2nd International Conference on Artificial Intelligence in Education---Chengdu, China

Presenter: Na Wang, Shanghai Polytechnic University, China

Abstract: Combined the background of ideological and political education, we have carried out theoretical teaching reform and exploration on compiler technology course. Considering both the professional requirements and the ideological and political construction, with building various forms of online resources such as course website and videos, we put forward a hybrid teaching scheme of compiling technology course. The schema divides the learning process into several stages including preview, videos online, review, ideological and political construction, and ability expanding. We emphasis on the construction on ideological and political, and propose relative outline for each chapter. The results show that teaching reform on this course has a great advantage in professional teaching and ideological and political education.

Online Session 6 - Information Technology in Education and Information Technology Application - January 8, 2022 | 14:00-16:00

Session Chair: Assoc. Prof. Noor Maizura Mohamad Noor, Universiti Malaysia Terengganu, Malaysia

T056, T062, T061, T026, T042, T022, T057, T036

Zoom Link: <https://us02web.zoom.us/j/89261996698> Password: 010608

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| <p>T056 14:00-14:15</p> | <p>Research on Network Management Prediction Based on Analysis of Network Behavior Characteristics wei liu Presenter: wei liu, Shannxi Technical College of Finance and Economics, China</p> <p>Abstract: The fast-developing Internet brings convenience to the network and rapidly expands the network scale. It puts forward higher requirements for the measurement and analysis of network behavior characteristics. The Internet planning design and management work cannot be separated from the support of network behavior characteristics analysis. To meet the monitoring requirements of network behavior, this paper mainly studies and designs the network monitoring process of network behavior characteristics analysis. Based on the analysis of the status quo of network behavior characteristics analysis, based on the requirements of network behavior characteristics analysis, the network is completed. The design of the monitoring system and the construction of the IP network behavior evaluation index system are organically combined with the network monitoring technology and data analysis technology. The functional architecture and implementation path of the system are introduced in detail, which has good scalability and enables real-time monitoring of network behavior. The requirements are effectively met.</p> |
| <p>T062 14:15-14:30</p> | <p>An Event-Based Framework for Facilitating Real-time Sentiment Analysis in Educational Contexts Weisi Chen, Bin Liu, Xu Zhang, Islam Al-Qudah Presenter: Weisi Chen, Xiamen University of Technology, China</p> <p>Abstract: Sentiment analysis has been a hot topic nowadays that has been broadly applied in various disciplines such as media and finance, but its application to the education domain is limited to generating insights by applying existing methods to a selected corpus at the individual record level. Many educational data like student forum posts and ongoing course evaluation responses can be categorised as event data. However, insufficient attention is paid to the temporal and influential features of event data in these educational corpora. This paper proposes a novel event-based framework for addressing the complexity of the sentiment analysis process in the context of education. The</p> |

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| | <p>framework features an event data model for educational sentiment analysis and an architecture that harnesses both sentiment analysis algorithms and the complex event processing technology, aiming to achieve timely warning and action on defined complex events. To validate the framework, a prototype is implemented and applied to detecting student emergency occurrences from university student forum posts.</p> |
| <p>T061 14:30-14:45</p> | <p>Online Collaborative Learning Grouping Method Based on Immune Genetic Algorithm Yingzhi Chen, Lichen Zhang, Hailong Ma, Longjiang Guo Presenter: Yingzhi Chen, Shaanxi Normal University, China</p> <p>Abstract: Online learning platforms such as MOOC have been widely applied, on which students can learn online courses anytime and anywhere, and can also be divided into groups to conduct a learning task. Through team collaboration, students' comprehensive abilities can be improved, including learning, organization, communication, teamwork ability, etc. Reasonable grouping is the basis and focus of the efficient collaborative learning. The existing intelligent optimization algorithms used to solve the combinatorial optimization problem of student grouping still have the limitation of being easy to fall into the local optimum and blind search. In response to this problem, we study an efficient student grouping algorithm for online collaborative learning in this paper. Firstly, we integrate an immune strategy into the Genetic Algorithm to form a new algorithm called Immune Genetic Algorithm (IGA). Secondly, we design a fitness function according to the grouping goal of "Heterogeneity within a group, homogeneity between groups". Finally, we evaluate the performances of the algorithms through experiments based on a real data set. The grouping results show that compared with the Genetic Algorithm, the proposed Immune Genetic Algorithm improves the search efficiency and stability, and can get grouping results with better fitness value.</p> |
| <p>T026 14:45-15:00</p> | <p>A Personalized Learning Path Recommender System with LINE Bot in MOOCs Based on LSTM Yi-Hsien Chen, Nen-Fu Huang, Jian-Wei Tzeng, Chia-An Lee, You-Xuan Huang, Hao-Hsuan Huang Presenter: HUANG HAO-HSUAN, National Tsing Hua University, Taiwan</p> <p>Abstract: MOOCs has a great impact on nowadays educational strategies. MOOCs enable global learners to learn without time and space constraints, allowing distinct learning characteristics when participating in online courses. Overwhelmed by complicated learning resources, a problem named "information overload" was widely discussed in online education. AI-based Recommender System, which is recognized as the powerful solution to improve resource acquisition via customized supply, has been regarded as an assistant in online learning by giving personalized learning strategies. In this paper, a Personalized Learning Path Recommender System with LINE Bot is proposed to meet personal preferences on path of learning. A LSTM model is built to consider video-watching preference features, clusters of students and learning paths to recommend personal learning path suitable for each student. Related recommendation contents and prediction results will be received by users through intime LINE messages, achieving the goal</p> |

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| | <p>of making in-time and active recommendations. From the evaluation part, F1-score of the proposed Learning Path Prediction Model is 0.8, indicating this model has a certain degree of accuracy. On the other hand, the proposed system is used in two courses of NTHU Cloud to give personalized learning path guidance. The experimental results demonstrate that learning path recommendations will help students have stronger learning willingness to keep learning, and help plan proper study steps to fulfill their own learning needs. On the other hand, this system provides another way except examinations to make judgements about one's learning status, and most learners agree that this kind of recommendations is helpful to review unfamiliar concepts and catch up with others.</p> |
| <p>T042 15:00-15:15</p> | <p>Personalized Recommendation of Learning Resources Based on Knowledge Graph Qi Wei, Xiaolin Yao Presenter: Qi Wei, Liaoning Normal University, China</p> <p>Abstract: Personalized learning resources recommendation is one of the crucial problems under the background of internet plus education. The current personalized learning resources recommendation methods are mostly based on the learner's basic information and learning behavior, without considering the logical relation between the learning resources. With above consideration, we use knowledge graph to construct the class model. And then we propose an efficient personalized recommendation algorithm based on the interest similarity and knowledge connection degree and design a related recommendation system. Taking the discrete mathematics as an instance, we verify the correctness and effectiveness of our recommendation algorithm by experiment.</p> |
| <p>T022 15:15-15:30</p> | <p>Scale Adaptive Enhance Network for Crowd Counting Zirui Fan, Jun Ruan Presenter: Zirui Fan, Wuhan University of Technology, China</p> <p>Abstract: Crowd counting is a fundamental computer vision task and plays a critical role in video structure analysis and potential down-stream applications, e.g., accident forecasting and urban traffic analysis. The main challenges of crowd counting lie in the scale variation caused by disorderly distributed "person-camera" distances, as well as the interference of complex backgrounds. To address these issues, we propose a scale adaptive enhance network (SAENet) based on the encoder-decoder U-Net architecture. We employ Res2Net as the encoder backbone for extracting multi-scale head information to relieve the scale variation problem. The decoder consists of two branches, i.e., Attention Estimation Network (AENet) to provide attention maps and Density Estimation Network (DENet) to generate density maps. In order to fully leverage the complementary concepts between AENet and DENet, we craft to propose two modules to enhance feature transfer: i) a lightweight plug-and-play interactive attention module (IA-block) is deployed to multiple levels of the decoder to refine the feature map; ii) we propose a global scale adaptive fusion strategy (GSAFS) to adaptively model diverse</p> |

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| | <p>scale cues to obtain the weighted density map. Extensive experiments show that the proposed method outperforms the existing competitive method and establishes the state-of-the-art results on ShanghaiTech Part A and B, and UCF-QNRF. Our model can achieve 53.56 and 5.95 MAE in ShanghaiTech Part A and B, with obtains performance improvement of 6.0 % and 13.13%, respectively.</p> |
| <p>T057 15:30-15:45</p> | <p>Heterogeneous Graph Based Knowledge Tracing Yingtao Luo, Bing Xiao, Hua Jiang, Junliang Ma Presenter: Yingtao Luo, Shaanxi Normal University, China</p> <p>Abstract: Recent advances in on-line tutoring systems have brought on an increase in the research of Knowledge Tracing, which predicts the student's performance on coursework exercises over time. Previous researches, such as Bayesian Knowledge Tracing, Deep Knowledge Tracing (DKT) and qDKT, focused on either skill-level or question-level. As a result, those methods fail to take question-skill correlations into account. Inspired by Heterogeneous Graph Embedding (HGE), We propose a HGEbased knowledge tracing model. In this paper, a heterogeneous graph is built on skill information and question information, so as to capture the latent interactions between skill nodes and question nodes. In the proposed method, the knowledge tracing model can leverage more information than previous methods. The experimental results show that the proposed method outperforms other state-of-the-art methods centered on either skills or questions.</p> |
| <p>T036 15:45-16:00</p> | <p>An Microservices-Based OpenStack Monitoring System Hongbin Wang, Xiaoxu Zhang, Zhiqiang Ma, Leixiao Li, Jing Gao Presenter: Hongbin Wang, Inner Mongolia University of Technology, China</p> <p>Abstract: As the number of service clusters in the OpenStack Cloud Platform, the work-load in the data center also increase, leading to node failures and performance issues. Therefore, managers need to know how the OpenStack cloud platform is operating and storing. This function can be realized through the monitoring system, and the monitoring can improve the quality of cloud computing services and also help to identify faults within the system. The purpose of this paper is to provide a solution for the monitoring of cloud computing services, that allows users and managers to optimize computing resources based on the changing business requirements within the cloud computing system. First of all, the functions of the OpenStack cloud monitoring system are introduced to mainly include the functions of OpenStack data collection, data processing, analysis, display, and alarm notification. Secondly, the system is mainly composed of components such as OpenStack-exporter, Libvirt, Ceph-exporter and Grafana. Finally, the existing issues of the Open-Stack cloud platform monitoring system are discussed.</p> |



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