

# PRE-CONFERENCE WORKSHOPS

---

**Workshop W01**     ***Natural Language Processing Techniques for Educational Applications (NLP-TEA), with a Shared Task on Grammatical Error Diagnosis for Learning Chinese as a Foreign Language (CFL)***

The aim of this mini-conference-style workshop is to provide a forum where international participants can share knowledge on the computer-assisted language learning. For the past decade, research and development in the NLP (Natural Language Processing) community has advanced NLP techniques for educational applications. For example, the NLP community in north America organizes a series of workshops on Innovative Use of NLP for Building Educational Applications (BEA) to improve existing capabilities and to generate creative ways to use NLP in educational applications for writing, reading, assessment, and so on. The previous BEA workshops were in conjunction with promotive conferences in NLP area (either ACL or NAACL HLT).

In addition to research papers in the above workshops, several shared tasks were also organized, e.g. "Helping Our Own" (HOO) English grammatical error detection/correction competitions in 2011 and 2012, and Native Language Identification (NLI) competitions in 2013. Independent of the series of BEA workshops, the CoNLL-2013 shared task is on grammatical error correction for learners' English as a Foreign Language (EFL). In addition, there is a SemEval shared task on student's response analysis. All of these competitions will increase the visibility of educational application research in the NLP community.

The ICCE 2014 in Japan will provide an ideal opportunity to bring together again influential as well as aspiring researchers in computer education area, to deliberate and interact on a range of research issues. The purpose of this workshop is to identify challenging problems facing the development of computer-assisted techniques for Asian language learning, and to shape future research directions through the publication of high quality, applied and theoretical research findings. To better meet this end, we also hold a competitive shared task on Grammatical Error Diagnosis, this year, for Learning Chinese as a Foreign Language (CFL).

## **VENUE, DATE and TIME**

**CONFERENCE ROOM 2, NOVEMBER 30 (SUNDAY), 13:30-17:00**

## **WORKSHOP ORGANIZERS**

Yuen-Hsien TSENG, National Taiwan Normal University, Taiwan

Hsin-Hsi CHEN, National Taiwan University, Taiwan

Yuji MATSUMOTO, Nara Institute of Science and Technology, Japan

## **WORKSHOP URL**

<https://sites.google.com/site/nlptea1/>

## **ACCEPTED PAPERS**

W01-01

A Sentence-Pattern Learning Support System for Japanese  
*Takahiro OHNO, Ayato Inoue, Dongli HAN*

W01-02

CYCCDC: A Chiayi Chinese Conversation Dialogue Corpus

*Jui-Feng YEH, Yun-Yun LU, Yi-Syun TAN*

W01-03

Partial and Synchronized Caption Generation to Develop Second Language Listening Skill

*Maryam Sadat MIRZAEI, Yuya AKITA, Tatsuya KAWAHARA*

W01-04

Challenges in the Annotation of Article Errors in Spanish Learner Texts

*María del Pilar VALVERDE IBAÑEZ*

W01-05

Tools for Supporting Language Acquisition via Extensive Reading

*Alexandra UITDENBOGERD*

W01-06

Overview of Grammatical Error Diagnosis for Learning Chinese as a Foreign Language

*Liang-Chih YU, Lung-Hao LEE, Li-Ping CHANG*

W01-07

KNGED: a Tool for Grammatical Error Diagnosis of Chinese Sentences

*Tao-Hsing CHANG, Yao-Ting SUNG, Jia-Fei HONG, Jen-I CHANG*

W01-08

Extracting a Chinese Learner Corpus from the Web: Grammatical Error Correction for Learning Chinese as a Foreign Language with Statistical Machine Translation

*Yinchen ZHAO, Mamoru KOMACHI, Hiroshi ISHIKAWA*

W01-09

Detecting Grammatical Error in Chinese Sentence for Foreign

*Jui-Feng YEH, Yun-Yun LU, Chen-Hsien LEE, Yu-Hsiang YU, Yong-Ting CHEN*

W01-10

Grammatical Error Detection with Limited Training Data: The Case of Chinese

*Marcos ZAMPIERI, Liling TAN*

W01-11

Description of NTOU Chinese Grammar Checker in CFL 2014

*Chuan-Jie LIN, Shao-Heng CHAN*

---

**Workshop      *Third International Workshop on ICT Trends in Emerging Economies***  
**W02**


---

In response to the emerging research diversity, the SIG on Development of Information and Communication Technology in the Asia Pacific Neighbourhood—DICTAP is organising a workshop on ICT Trends in Emerging Economies. The developmental growth of ICT in the Asia Pacific countries has been phenomenal in recent years as the Government of these countries have embarked on various ICT initiatives. Despite these efforts, the ICT development rate of each country has not been the same among countries from the low-income, lower-middle-income and upper-middle-income economies within the Asia Pacific region (hitherto referred to as emerging economies).

In general, the ICT growth in these countries is only at the emerging or development stage. The workshop invites contributions from researchers who are from emerging economies or those who are working on issues related to emerging economies to share scholarly findings and professional insights in ICT development in the field of education.

**VENUE, DATE and TIME**

**CONFERENCE ROOM 1, DECEMBER 1 (MONDAY), 09:00-1700**

**WORKSHOP ORGANIZERS**

Ahmad Fauzi Mohd AYUB, University Putra Malaysia, Malaysia

Muhammad LUKMAN, University of Muhammadiyah Prof. Dr. Hamka, Indonesia

Mas Nida Md KHAMBARI, University Putra Malaysia, Malaysia

**WORKSHOP URL**

<https://sites.google.com/site/wicttee2014/>

**ACCEPTED PAPERS**

W02-01

Harnessing ICT for Educational Development in Emerging Developing Countries within the Asia-Pacific Region

*Mas Nida MD KHAMBARI, Ahmad Fauzi Mohd AYUB, Mohammad LUKMAN*

W02-02

Learning and Affect Trajectories Within Newton's Playground

*Juan Miguel L. ANDRES, Ma. Mercedes T. RODRIGO*

W02-03

Assessing Organizational Support and System Characteristics of Learning Management System : Views from Malaysian Higher Education Undergraduate Student

*Sousan BALEGHI ZADEH, Ahmad Fauzi MOHD AYUB, Rosnaini MAHMUD, Shaffee MOHD DAUD*

W02-04

Exploring Deep Approach to Learning for Accounting through ICT-Supported Learning Environment in Malaysian Secondary Schools: A Preliminary Study

*Boon See TAN, Su Luan WONG*

W02-05

Technology-enhanced Chemistry Learning and Students' Perceptions: A Comparison of Microcomputer-based Laboratory and Web-based Inquiry Science Environment

*Kulthida KAMTOOM, Niwat SRISAWASDI*

W02-06

The Design of Instructional Scaffolds to Facilitate Online Project-Based Learning

*Chun-Ping WU, Ching-Chiu YEH, Shu-Ling WU, Hao Jie YONG*

W02-07

GeMA ICT Learning Effectiveness in Improving Student Mathematical Ability

*Sigid Edy PURWANTO, Wahidin, Aidiyah Novian NISYAH*

W02-08

The Effectiveness of Association Picture Media Applications in Katakana Letter Reading Comprehension of Grade Ten Students at SMK Manajemen (Vocational Management School, Jakarta)

*Restoe NINGROEM, Endy SJAIFUL ALIM*

W02-09

An Online Survey: Studying the Antecedents of Technology Use Through the UTAUT Model Among Arts and Science Undergraduate Students

*Priscilla MOSES, Tiny Chiu Yuen TEY, Phaik Kin CHEAH, Timothy TEO, Su Luan WONG*

---

**Workshop      *Computer-Supported Visualization, Modeling, and Simulations for Learning***  
**W03**

---

Computer-supported visualization, models and simulations are external representations on computers that can augment human cognition and communication. Rapid advances in technology make these innovative forms of representations available in educational settings to facilitate learning. For example, computer visualizations allow students' access to unseen processes and abstract concepts that are otherwise difficult for teachers to depict. These external representations can mediate students to form their mental model of a given concept or phenomenon. Equally important, engaging students in creating, testing, critiquing and revising computer representations, collaboratively or individually, can be an effective instructional strategy that promotes productive learning and coherent understanding of the subject area. Success of computer-supported visualization, modeling and simulations in classrooms depends on many factors, including learners' prior knowledge, experience, or ability, learners' strategies, collaboration, and interactions with the representation, and learning processes guided by the learning environment. Studies are needed to identify promising principles, patterns, and design criteria that exploit the affordances of computer-supported visualization, modeling, and simulations and make them effective for learning.

In this workshop, a variety of topics and research issues related to computer-supported visualization, modeling, and simulations for learning in all different subject areas will be explored. The aim of this workshop is to provide a forum in which international participants can exchange ideas and share recent developments in visualization, modeling and simulations for learning. We hope to stimulate fruitful discourse among researchers and further encourage the use of innovative technology or application of adequate research methodology for moving forward the research of computer-supported visualization, modeling, and simulations.

**VENUE, DATE and TIME**

**CONFERENCE ROOM 2, NOVEMBER 30 (SUNDAY), 09:00-12:30**

**WORKSHOP ORGANIZERS**

Hsin-Yi CHANG, National Kaohsiung Normal University, Taiwan

Silvia Wen-Yu LEE, National Changhua University of Education, Taiwan

**WORKSHOP URL**

<https://sites.google.com/site/cvmsicce2014/>

**ACCEPTED PAPERS**

W03-01

Equipping High School Students with the Abilities of Evaluating Evidence and Formulating Evidence for an on-line Decision-making Task

*Shu-Sheng LIN, Ying-Shao HSU*

W03-02

An Investigation of Relationships between Biology Attitudes and Perceptions toward Instructional Technology in Analogy-based Simulation on Light Reaction

*Sarunya PINATUWONG, Niwat SRISAWASDI*

W03-03

Visual Behavior and Cognitive Load in Augmented Reality Learning Environment

*Wei Yan LIN, Meng-Jung TSAI, An-Hsuan WU*

W03-04

Visual Behavior and Cognitive Load on E-book Vocabulary Learning

*An-Hsuan WU, Po-Fen HSU, Hui-Jou CHIU, Meng-Jung TSAI*

W03-05

Incorporating augmented reality into learning practical skills for medical surgery

*Ying-Shao HSU, Yuan-Hsiang LIN, Beender YANG, Shih-Fan YANG, Ya-Yen CHAN, Zi-Hao LIN, Yi-Sheng CHAN*

W03-06

Path Analyses of How Students Develop Conceptual Knowledge and Inquiry Skills in a Simulation-Based Inquiry Environment

*Hsin-Yi CHANG, Ying-Shao HSU, Hsin-Kai WU, Chih-Ming CHEN*

W03-07

Understanding middle and high school students' views of model evaluation and model change

*Silvia Wen-Yu LEE, Hsin-Kai WU, Hsin -Yi CHANG*

---

**Workshop W04      *The 3rd Workshop on application of innovative educational technologies in STEM education***

---

STEM education and educational technology are two growing research fields both with great potential. The studies in the application of innovative educational technologies in STEM education can facilitate the integration of theories and practices in STEM education and educational technologies, and provide insights into the use of innovative educational technologies to help learners' learning outcomes derived from STEM education.

This workshop aims to provide an interactive channel for interdisciplinary researchers, teachers, and software developers to present short papers, to communicate and discuss with one another on relevant issues regarding the application of innovative educational technologies in STEM education.

In ICCE 2012 and ICCE2013, the 1st and 2nd workshops on application of innovative educational technologies in STEM education were held successfully. The value of the workshop was recognized and received widely positive feedbacks from the participants. They suggest and continue to appeal for more workshop series. We believe ICCE 2014 participants will get interested in this issue, and those researchers who had relevant experience of this issue can also share and interact with one another in this workshop.

**VENUE, DATE and TIME**

**CONFERENCE ROOM 3, DECEMBER 1 (MONDAY), 09:00-12:30**

**WORKSHOP ORGANIZERS**

Huei-Tse HOU, National Taiwan University of Science and Technology, Taiwan

Ying-Tien WU, National Central University, Taiwan

**WORKSHOP URL**

[http://140.118.56.80/ICCEWS\\_STEM2014/](http://140.118.56.80/ICCEWS_STEM2014/)

**ACCEPTED PAPERS**

W04-01

Bio Detective: Student science learning, immersion experience, and problem-solving patterns  
*Mei-En HSU, Meng-Tzu CHENG*

W04-02

The effect of students' effectiveness and attitude in heterogeneous and free grouping cooperative learning applied in sixth-grade students' Scratch program teaching  
*Lei CHEN, Xiuyu YANG, Xintong WANG, Feng-kuang CHIANG*

W04-03

Designing Mobile Application for STEM: Building Individual Interest and Supporting Creative and Innovative Thinking Skills  
*Ilker YENGIN*

W04-04

The Development and Evaluation of an Educational Game- Shimmer© with Computer Visualization for Optics Learning

*Huei-Tse HOU, Shu-Ming WANG, Hsin-Hung YU, Shie-He LIU*

W04-05

A Three-Stage Augmented-Reality-Facilitated Earth Science Instructional Process for Dispersing Learning Style Differences

*Chang-Hwa WANG, Cheng-Ping CHEN*

W04-06

The Effects of AR-based Instruction on Students' Learning Performance, Motivation and Self-efficacy in Programming Learning

*Gloria Yi-Ming KAO, Cheng-An RUAN*

W04-07

Implementation of Student-associated Game-based Open Inquiry in Chemistry Education: Results on Students' Perception and Motivation

*Keeratika MEESUK, Niwat SRISAWASDI*

W04-08

The Development and Evaluation of the Online Science Fair Inquiry System based on Scaffolding Design

*Li-jen WANG, Chien-yu, CHENG, Chiu-ming, HU, Ying-Tien WU*

W04-09

The difference in Sudoku puzzle-solving ability between undergraduates and postgraduates

*Hong-Mei HU, Ling-Jin LI, Li-Sha WANG, Feng-Kuang CHIANG*

W04-10

Investigating the role of self-explanation and co-explanation in 4th graders' game-based science learning

*Chung-Yuan HSU, Hung-Yuan WANG, Shih-Hsuan WEI*



---

**Workshop W05      *1st ICCE workshop on Learning Analytics (LA): leveraging educational data for adaptive learning and teaching***


---

The increasing amount of data generated in digital learning contexts provides opportunities to benefit from learning analytics as well as challenges related to interoperability, privacy, and pedagogical and organizational models. As a consequence, new methodologies and technological tools are necessary to analyse and make sense of these data and provide intelligent and personalized scaffolding and services to stakeholders including students, faculty/teachers and administrators, as well as parents. Pedagogical and organisational models must also be incorporated in order to take advantage of the intelligent and personalized scaffolding and services to ensure productive learning and teaching.

In addition, access to data from different sources raises a number of concerns related to data sharing and interoperability, and protection of privacy for individuals and business interests for institutions.

The objective of the workshop is to gather researchers as well as stakeholders, including educational technologists, researchers, and practitioners who are involved in the analysis and deployment process and to increase awareness of learning analytics in the APSCE community.

We call for papers that cover technical, theoretical, pedagogical, as well as organisational issues in learning analytics . Through this workshop we aim to provide the participants with an overview of the state-of-art in this domain, from a national, regional or organisational / institutional perspective.

**VENUE, DATE and TIME**

**CONFERENCE ROOM 4, DECEMBER 1 (MONDAY), 09:00-12:30**

**WORKSHOP ORGANIZERS**

Weiqin CHEN, Oslo and Akershus University College of Applied Sciences, Norway

Tore HOEL, Oslo and Akershus University College of Applied Sciences, Norway

Jon MASON, Charles Darwin Universtiy, Australia

Kenji HIRATA, University of Tokyo, Japan

Yong-Sang CHO, Korean Education and Research Information Service, South Korea

Jin Gon SHON, Korea National Open University, South Korea

**WORKSHOP URL**

<https://sites.google.com/site/la2014ws/>

**ACCEPTED PAPERS**

W05-01

Preliminary Requirements Analysis towards an Integrated Learning Analytics System

*Byung-gi CHOI, Yong-sang CHO, Jaeho LEE*

W05-02

Learning Analytics Interoperability – looking for Low-Hanging Fruits

*Tore HOEL, Weiqin CHEN*

W05-03

Making Sense of Online Learning Behavior: A Research on Learning Styles and Collaborative Learning Data

*Meng SUN, Jiu-Tong LUO, Dong-Ming QIAN, Xiao-Qing GU*

W05-04

How can Learning Analytics fit into a General Evaluation Framework and already be addressed during Learning Design?

*Christian M. STRACKE*

W05-05

Learning Analytics Data Items on Digital Textbooks

*Yasuhisa Tamura*

W05-06

Learning Analytics: An Enabler for Dropout Prediction

*Shu-Fen TSENG, Chih-Yueh CHOU, Zhi-Hong CHEN, Po-Yao CHAO*

---

**Workshop      *Emerging Pedagogies for Computer-based Learning***  
**W06**


---

With the rapid growth in field of computer-based learning environments in the 21st century, pedagogy has been recognized as one of the mechanisms in the movement of computer-based teaching and learning. Therefore, the emerging pedagogies which are employed specifically with computer-based technologies are central part in the movement of educational reform.

The WORKSHOP ON EMERGING PEDAGOGIES FOR COMPUTER-BASED LEARNING aims to provide a platform for educators, researchers, and developers to share scholarly interest, research, practice, and professional insight into pedagogies or particular instructional methods in context of computer-based teaching and learning

**VENUE, DATE and TIME**

**CONFERENCE ROOM 3, NOVEMBER 30 (SUNDAY), 13:30-17:00**

**WORKSHOP ORGANIZERS**

Niwat SRISAWASDI, Khon Kaen University, Thailand  
 Patcharin PANJABUREE, Mahidol University, Thailand

**WORKSHOP URL**

<http://fest.kku.ac.th/ep4cbl/index.html>

**ACCEPTED PAPERS**

W06-01

Motivation and Engagement in MOOC – Teachers' Perspective  
*Li Fern TAN, Kai Song GOH, Emile SABASTIAN*

W06-02

Effects of Gender Differences and Learning Performance within Residence Energy Saving Game-based Inquiry Playing  
*Ugyen DORJI, Patcharin PANJABUREE, Niwat SRISAWASDI*

W06-03

A Blended Learning Environment in Chemistry for Promoting Conceptual Comprehension: A Journey to Target Students' Misconceptions  
*Sumarin NIROJ, Niwat SRISAWASDI*

W06-04

Investigating Correlation between Attitude toward Chemistry and Motivation within Educational Digital Game-based learning  
*Nattida NANTAKAEW, Niwat SRISAWASDI*

W06-05

Development and preliminary evaluation of a knowledge management-based online teacher community platform for science fair instruction: A cluster analysis  
*Chiu-Ming HU, Chao-Shen CHENG, Li-Jen WANG, Huei-Tse HOU, Yi-Chun KUO, Cheng Teng YAO, Ying-Tien WU*

W06-06

An Evaluation of Macro-Micro Representation-based Computer Simulation for Physics Learning in Liquid Pressure: Results on Students' Perceptions and Attitude

*Jarunya BUYAI, Niwat SRISAWASDI*

W06-07

Promoting Students' Physics Motivation by Blended Combination of Physical and Virtual Laboratory Environment: A Result on Different Levels of Inquiry

*Chakrapan PIRAKSA, Niwat SRISAWASDI*

---

**Workshop W07     *The 7th Workshop on Modeling, Management and Generation of Problems/Questions in Technology-Enhanced Learning***


---

Solving problems/questions is one of the most indispensable and important components in the teaching and learning process. Problems/questions with adequate quality in various testing conditions are believed to enable teachers to assess individual students' capability and readiness of transfer in specific domain knowledge. Despite this, there are still many areas in need of systematic investigation to promote knowledge and skills on problems/questions-centered learning approach, including learning by problem solving and/or generation. For instance: what criteria constitute as adequate test item quality (in addition to frequently cited psychometric index like item difficulty, discrimination index); how to best assess learner's capability with appropriate quality level within constrains (e.g., an optimal number of items, time limitation, etc.); any feasible metadata heuristics and/or techniques for problems/questions selection; any promising alternative strategies for compiling a sufficient amount of number of problems/questions; any scaffolding techniques for question-generation implementation and instructional diffusion and so on.

In ICCE2006, 2007, 2009, 2010, 2011, and 2013, we held a series of workshops where we paid special attention to "questions/problems" in technology-enhanced learning. This is the 7th workshop focusing on the same topic. This continuous workshop will provide a good and timely opportunity to present and share the results and issues about "problems/questions" in ICCE community. We cordially invite presenters and participants who are interested in further exploring the many facets and potential uses of "problems/questions" in education/learning from a technological, computational, pedagogical, psychometrics, theoretical, sociological and administrative point of views.

**VENUE, DATE and TIME**

**CONFERENCE ROOM 2, DECEMBER 1 (MONDAY), 13:30-17:00**

**WORKSHOP ORGANIZERS**

Fu-Yun YU, National Cheng Kung University, Taiwan  
 Tomoko KOJIRI, Kansai University, Japan  
 Tanja MITROVIC, University of Canterbury, New Zealand  
 Tsukasa HIRASHIMA, Hiroshima University, Japan  
 Kazuaki KOJIMA, Teikyo University, Japan

**WORKSHOP URL**

<http://web.ucgw.teikyo-u.ac.jp/~kojima/iccews>

**ACCEPTED PAPERS**

W07-01

An Experimental Study on the Effects of an Online Student-Constructed Tests Learning Activity  
*Fu-Yun YU, Chia-Ling SU*

W07-02

Exploring the Effects of Student Question-Generation Strategy

*Chun-Ping WU, Shu-Ling WU, Ching-Chiu YEH*

W07-03

Structured Explanation Generation for Conceptual Understanding in Physics

*Tomoya HORIGUCHI, Takahito TOUMOTO, Tsukasa HIRASHIMA*

W07-04

Practical Use of of Interactive Environment for Learning by Problem-posing posing for One-step Multiplication and Division Word Problems

*Sho YAMAMOTO, Yuki AKAO, Mitsutaka MUROTSU, Takehiro KANBE, Yuta YOSHIDA, Kazushige MAEDA, Yusuke HAYASHI, Tsukasa HIRASHIMA*

W07-05

Revealing Students' Thinking Process in Problem-Posing Exercises: Analysis of First Sentence Selection

*Nur HASANAH, Yusuke HAYASHI, Tsukasa HIRASHIMA*

W07-06

Balance Control of Question-Posing Focusing on Learning Target Words on the Self-Study Material Contribution and Sharing System

*Toshihiro HAYASHI, Yuji HIRAI, Kazuhiro URA, Akihiro IWAKI, Rihito YAEGASHI, Hiroshi MURAI, Hiroyuki TARUMI*

---

**Workshop      *Computer-Supported Personalized and Collaborative Learning***  
**W08**

---

The development of advanced information technologies has opened up new opportunities in the area of computer supported learning environments. A key aspect of this work lies within the fact that students can access learning material at any time and any places. As a result of such convenience, a wide range of people have begun using computer supported learning environments for supporting instruction. Thus, it is important to ensure that such computer supported learning environments can accommodate diverse students' needs.

To address this issue, it is necessary to incorporate personalization into the development of computer supported learning environments. Personalization is acknowledged as a useful approach to develop added value services in computer supported learning environments. It can help students with different characteristics, backgrounds and needs to get different types of content presentation and navigation support. In this context, a deep understanding of personalization is essential for the development of computer supported learning environments.

While acknowledging the essentiality of personalization, the importance of incorporating an element of collaboration during the process so that students can contribute to each other's learning has become prevalent in educational practice with the advent of Web 2.0 technologies. Thus, issues on how to address these two aspects simultaneously if desirable, or at different learning stages to create optimal learning space and experience for involved learners are the focus of this workshop. In sum, this proposed workshop addresses two core aspects in computer supported learning environments—personalization and collaboration. The workshop provides opportunities for the cross-fertilization of knowledge and ideas from researchers in the many fields that make up this interdisciplinary research area. We hope that the implications of findings of each work presented in this workshop can be used to improve the development of Computer-Supported Collaborative and Personalized Learning environments.

**VENUE, DATE and TIME****CONFERENCE ROOM 1, NOVEMBER 30 (SUNDAY), 09:00-17:00****WORKSHOP ORGANIZERS**

Sherry Y. CHEN, National Central University, Taiwan

Gwo-Haur HWANG, Ling Tung University, Taiwan

Fu-Yun YU, National Cheng Kung University, Taiwan

Robin Chiu-Pin LIN, National Hsinchu University of Education, Taiwan

**WORKSHOP URL**<http://www.cscplpicce2014.elt.nhcue.edu.tw/>**ACCEPTED PAPERS**

W08-01

Development of a Customized English Learning System based on Augmented Reality Technology  
*Gwo-Haur HWANG, Beyin CHEN, Hen-Lin HUANG*

W08-02

Development of a Multi-Device Data Structures Course Item Bank Practice System with Self-Regulated Learning Strategy on Bloom's Taxonomy of Educational Objectives  
*Gwo-Haur HWANG, Jing-Fang CHEN, Yu-Ting SHIH, Yong-Sheng JHANG, Yi-Xuan LIN, Yu-Syuan WANG*

W08-04

Students' Self-efficacy and Acceptance toward Context-Aware Ubiquitous Learning in Biology Education: A Case of Photosynthesis in Plant  
*Chuntanet NASARO, Niwat SRISAWASDI*

W08-05

How Self-Efficacy Affects Students' Performance and Pace in Self-Directed Learning with ICT  
*Andrew C.-C. LAO, Mark C.-L. HWUNG, Oskar KU, Tak-Wai CHAN*

W08-06

The Effects of Game-based Peer Response on Writing Quality: High-ability vs. Low-ability  
*Jen-Hang WANG, Sherry Y. CHEN, Oskar KU, Tak-Wai CHAN*

W08-07

The Effects of Mini-Games on Students' Confidence and Performance in Mental Calculation  
*Oskar KU, Denise H. WU, Andrew C. C. LAO, Jen-Hang WANG, Tak-Wai CHAN*

W08-08

The Interface Design of Electronic Journals via Mobile Devices: A Cognitive styles Perspective  
*Chu-Han CHAN, Sherry Y. CHEN*

W08-09

Enhancing Metacognition through Weblog in Physics Classroom Thai Context  
*Jirutthitikan PIMVICHAI, Chokchai YUENYONG, Sakanan ANANTASOOK*

W08-10

Knowledge Propagation in Practical Use of Kit-Build Concept Map System in Classroom Group Work for Knowledge Sharing  
*Toshihiro NOMURA, Yusuke HAYASHI, Takuma SUZUKI, Tsukasa HIRASHIMA*

W08-11

The Exploration of Improving Efficiency of Synchronous Discussion: e-Case Live Show  
*I-Fan LIU, Chun-Wang WEI*

W08-12

Game playing as a strategy to improve Team Cohesion, support for collaborative U-Learning  
*Pei-Yu CHENG, Wen-Yen WANG, Yueh-Min HUANG*



---

**Workshop W09     *The Applications of Information and Communication Technologies in Adult and Continuing Education***


---

Information and communication technologies (ICTs)—which include various forms of media, as well as new digital technologies such as computers and the Internet—have been recognized as potentially powerful enabling tools for educational use. When used appropriately, ICTs are expected to expand access to teaching and learning. Recently, the probable impacts of ICTs on adult education have been receiving much attention from educational researchers. Although the targeted areas of adult education may be diverse, such as higher education, teacher education or continuing education, researchers and practitioners have focused on the related issues in such fields, such as facilitating professional development, encouraging life-long learning, designing distance education programs, and other related issues.

However, a successful usage of ICTs is not always a simple thing to achieve, and it needs researchers and practitioners to scrutinize, plan, and implement it with caution. Therefore, this workshop will emphasize a wide spectrum of research or practical topics related to the usage of ICTs in enhancing adult education or continuing learning.

**VENUE, DATE and TIME**

**CONFERENCE ROOM 3, NOVEMBER 30 (SUNDAY), 09:00-12:30**

**WORKSHOP ORGANIZERS**

Jyh-Chong LIANG, National Taiwan University of Science and Technology, Taiwan  
 Min-Hsien LEE, National Sun Yat-sen University, Taiwan

**WORKSHOP URL**

<http://140.118.35.112/ICCE/ICCE2014/>

**ACCEPTED PAPERS**

W09-01

The relationship between parents addicted to mobile phone and adolescent addicted to the Internet  
*Ying ZHOU, Xiao ZHANG, Jyh-Chong LIANG, Chin-Chung TSAI*

W09-02

Developing an instrument to assess teachers' belief, confidence and motivation about digital game-based learning  
*Yu-Hsuan CHANG, Meng-Jung TSAI*

W09-03

Eye-tracking analyses of text-and-graphic design effects on E-book reading process and performance: "Spanish color vocabulary " as an example  
*Tse-Wen PAN, Meng-Jung TSAI*

W09-04

Weblog as Learning Community for Supporting Astronomy Teaching in Thailand  
*Sakanan ANANTASOOK, Chokchai YUENYONG*

W09-06

The Perceived and Expected User experiences of AR Book Reading: the Perspective of Parents

*Kun-Hung CHENG, Chin-Chung TSAI*

W09-07

Design of MOOC for In-service Teacher Professional Development: A Case of Teachers' Refresher Training Course in Hong Kong

*Silu LI, Eric T. H. LUK, Morris S. Y. JONG*

W09-08

Learning to create Technological Pedagogical Content Knowledge through distributed leadership: A Case Study of a Singapore Future School

*Ching Sing CHAI, Benjamin WANG, Chun Ming TAN*

W09-09

Development and validation of an instrument for exploring Taiwanese undergraduates' approaches to Internet-based learning

*Yu-Chih TSAO, Chi-Ling WU, Min-Hsien LEE*

W09-10

Investigating Chinese University Students' Perceptions about Blackboard Platform to support their online learning

*Weisheng LI, Lizhu CHEN, Ge QU, Yan DONG*

W09-11

Engineering Graduate Students' Literature Searching Behaviors

*Ying-Hsueh CHENG, Chin-Chung TSAI*

W09-12

Developing an Online Formative Assessment System for a Chinese EFL Course

*Chunping ZHENG, You SU, Jingjing LIAN, Chin-Chung TSAI*

W09-13

Role-Play in Computer-Supported Collaborative Learning-An Explorative Study

*Yu-Chen HSU, Yen-Lin CHIU*

W09-14

Exploring the interactive use of video cases in scaffolding prospective teachers in learning clinical interview method

*Yu-Ling HSU*

---

**Workshop W10      *Learning Motivation vs. Learning Outcome: The Trend and Development of Digital Game and Smart Toy Enhanced Learning***


---

Digital game and smart toy enhanced learning is becoming popular in academic research as well as commercial companies. There are more and more successful cases reported in using games and toys in learning. Educators, researchers as well as game-based learning designers believe that digital games and smart toys can strongly enhance learning because children are so engaged when they play games and toys. They also find that using game and toy in learning can enhance learning performance and creativity.

Design of digital games and smart toys for learning is a rapidly growing research area. Digital games include advanced computing technology while smart toys are embedded with wireless utilized chips and sensors. These new technologies make individual and social activities to be integrated possibly in new ways and reframe long-standing research questions, ideas, and approaches to learning. Beside fantasy and fun elements, digital games and smart toys have potential to enhance learners' ability to communicate and interact with others during playing games and toys.

This workshop provides a forum, with paper presentations as well as interactive sessions for researchers and practitioners from various disciplines to exchange ideas in order to lay the foundation for this emerging research area.

**VENUE, DATE and TIME**

**MEETING ROOM 3, NOVEMBER 30 (SUNDAY), 13:30-17:00**

**WORKSHOP ORGANIZERS**

Ben CHANG, National Chiayi University, Taiwan

Tsung-Yen CHUANG, National University of Tainan, Taiwan

**WORKSHOP URL**

<http://goo.gl/Bs92yY>

**ACCEPTED PAPERS**

W10-1

The Effectiveness of Reducing State Anxiety by Digital Counseling Tool - Mind Collage  
*Yu-Jen HSU, Ju-Ling SHIH*

W10-2

Math Island: Designing a Management Game of Primary Mathematics for Facilitating Student Learning  
*Charles Yen-Cheng Yeh, Hercy N.H. Cheng, Zhi-Hong Chen, Tak-Wai Chan*

W10-3

The Change of Interpersonal Relationship for Group Development in Digital Game-based Adventure Education Course

*Chang-Hsin LIN, Yu-Jen Hsu, Ju-Ling Shih, Chia-Chun TSENG*

W10-4

Designing Educational Computer Game for Human Circulatory System: a Pilot Study

*Jatuput LOKAYUT, Niwat SRISAWASDU*

W10-5

The Curriculum Design of Nutrition and Food Safety Game for Elementary School Student

*Chun-Heng LIN, Tsung-Yen CHUANG, Chung-Chiann CHUANG, Fang-Ying TU, Hua-Hsiang TSENG*

W10-6

Thinking as a Pleasure: Tactics to Design Digital Educational Games from the Perspective of Board Games

*Hercy Nien-Heng CHENG*

W10-07

VocaMono: An Online Multiplayer English Vocabulary Learning Board Game

*Jia-Jiunn LO, Chin-Kun HSIN*

W10-08

The Application of Game-Based Learning in Early Childhood Acquisition

*Sanko Lan, Joni Tzuchen Tang, Yie-Su HWANG*

---

**Workshop      *International Workshop on “Technology Enhanced Language Learning”***  
**W11**


---

Owing to the rapid development of information and computer technology, numerous studies have investigated how to harness state-of-the-art technologies for effective language teaching and learning in the past decades. The unique features of modern ICT technology, such as 3D virtual environments, mobile computing, embodiment, and visual learning, have been expanding the potential and possibility of promoting the idea of learning languages anywhere and anytime in immersive and interactive contexts. Language learning is no longer limited in traditional settings or approaches. With the usage of modern advanced technology, language learning can be different experiences as we have so far. However, it is possible to encounter challenges and problems while introducing powerful learning technologies into practical application. This special issue calls for contributions towards an updated understanding of the practical and technical challenges that might be faced while applying advanced ICT technology to language teaching and learning, and to address important research trends and societal needs.

**VENUE, DATE and TIME**

**CONFERENCE ROOM 4, NOVEMBER 30 (SUNDAY), 13:30-17:00**

**WORKSHOP ORGANIZERS**

Yu-Ju LAN, National Taiwan Normal University, Taiwan  
 Hong-Fa HO, National Taiwan Normal University, Taiwan  
 Ching-Kun HSU, National Taiwan Normal University, Taiwan

**WORKSHOP URL**

<http://tell.acl.ntnu.edu.tw/index.php/en/call4papers>

**ACCEPTED PAPERS**

W11-01

Correlation of Professional English Reading VS. Eye Gazing and Frequency of Rereading Eye Movement

*Hong-Fa HO, Guan-Yu HOU, Chen-Ku LIN, Chen-Hsiung LIN, Soh O-K*

W11-02

Assisting Tools for Selecting Proper Semantic Meaning by Disambiguation of the Interference of the First Language

*Nattapol KRITSUTHIKUL, Shinobu HASEGAWA, Cholwich NATTEE, Thepchai SUPNITHI*

W11-03

Effects of Students Using Smartphones to Receive Different Amount of L1 Support for Listening Comprehension and Vocabulary Recall

*Gwo-Jen HWANG, Yi-Hsuan HSIEH, Ching-Kun HSU*

W11-04

Virtual English village: A task-based English learning platform in Second Life

*Yu-Ju LAN, Hsiao-Hsuan WEI, Ya-Li CHIU*

W11-05

Model for Supporting Cognitive and Metacognitive Strategies in Technology Enhanced Language Learning

*Katrin SAKS, Äli LEIJEN*

W11-06

The Impacts of Using Interactive E-book on the Learning Effectiveness of English blank-filling cloze

*Gwo-Jen HWANG, Yi-Hsuan HSIEH, Ching-Jung HSUEH, Ching-Kun HSU*

W11-07

Correlation of English Test Outcome From TVE Joint College Entrance Examination of Taiwan VS. Professional English Reading Speed and Comprehension

*Hong-Fa HO, Yi-Yeh CHUNG, Chen-Ku LIN, Chen-Hsiung LIN*

W11-08

A Tablet-based Chinese Composition Assessment System

*Kat LEUNG, Barley MAK, Howard LEUNG*

W11-09

Learning to learn collaboratively on Facebook – A pilot study

*Sarah Hsueh-Jui LIU, Yu-Ju LAN*

---

**Workshop W12**      ***5th International Workshop on "Technology-Transformed Learning: Going Beyond the One-to-One Model?"***

---

This workshop is a follow-up of the last four ICCEs' workshops of the same title. The advancement of personal computing devices, from personal computers to mobile devices, has been gradually changing the landscape of the technology-transformed learning. This facilitates the incorporation of one-to-one computing into education and opens up endless possibilities of the design and enactment of innovative teaching and learning models (or the enhancement of pre-existing models), such as perpetual and ubiquitous learning, personalized learning, authentic and contextualized learning, seamless learning, rapid knowledge co-construction, among others. This leads to the further empowerment of the learners in deciding what, where, when, and how they would learn, and whom they would learn with/from. After the initial hype, however, there have been voices within the researcher community to reassess the notion of one-to-one computing in classroom and informal learning, such as whether one-to-one settings may impact peer collaboration and teachers' roles, the issues of student and social readiness, as well as the explorations of alternative or hybrid settings of many-to-one, one-to-many, many-to-many, and one-to-one configurations.

The aim of this workshop is to provide a forum where international participants can share knowledge, experiences and concerns on the one-to-one technology-transformed learning and explore directions for future research collaborations.

**VENUE, DATE and TIME**

**CONFERENCE ROOM 2, DECEMBER 1 (MONDAY), 09:00-12:30**

**WORKSHOP ORGANIZERS**

Hyo-Jeong SO, Pohang University of Science & Technology, South Korea  
Xiaoqing GU, East China Normal University, China  
Tzu-Chien LIU, National Taiwan Normal University, Taiwan  
Yanjie SONG, University of Hong Kong, China  
Chengjiu YIN, Kyushu University, Japan

**WORKSHOP URL**

<http://cumtel.weebly.com/2014.html>

**ACCEPTED PAPERS**

W12-01

Exploring the Effectiveness of a Flipped Classroom Based on Control-Value Theory: A Case Study  
*Jiu-Tong LUO, Meng SUN, Bian WU, Xiao-Qing GU*

W12-03

Analysis on Students' Acceptance of Digital Reading in Ubiquitous Cooperative Inquiry-based Learning Environment  
*Jing-Ya CHEN, Jing LENG, Xiao-Juan XU, Xiao-Qing GU*

W12-04

Visualizing Ubiquitous Learning Logs Using Collocational Networks

*Kousuke MOURI, Hiroaki OGATA, Noriko UOSAKI, SongRan LIU*

W12-05

The Research of China's Policies and Practices of Life-long Learning in U-learning Environment

*Bingqian JIANG, Jun XIAO, Jing LENG, Xiaoqing GU*

W12-06

Phonic Social Network Software Scaffolds Language Learning in Ubiquitous Learning Environment

*Huawen WANG, Jing LENG, Xiaoqing GU*

W12-09

We are going to the ZOO! Virtual Badges in Formal out-of-school 1:1 Learning Journey with Smartphones

*Ivica BOTICKI, Jelena BAKSA, Peter SEOW, Chee-Kit LOOI*

W12-10

Building an Online Collaborative Learning Community in Ubiquitous Learning Environment

*Ru ZHANG, Jing LENG, Xiaoqing GU, Guanfeng FU, Huawen WANG*

W12-11

Identifying User's Perceptions Toward Integrating Mobile Applications in Science Education

*Hyo-Jeong SO, Hye-Gyoung YOON, Hyungshin CHOI, Heung-Chang LEE, Kyudong PARK*



---

**Workshop      *Technology Enhanced Learning of Thinking Skills (TELoTS)***  
**W13**

---

Thinking skills are cognitive processes that human beings apply for sense-making and problem-solving (Beyer, 1988). Thinking skills have been identified and characterized in a variety of ways by academics as well as by professional bodies, such as, ABET student outcomes (ABET, 2014), 21st Century skills (Pellegrino & Hilton, 2012), science process skills (Padilla, 1990), computational thinking skills (ISTE, 2014). Examples of such skills include critical thinking, engineering design, problem formulation and solving, creation and revision of scientific models, decision making, experimentation skills, data analysis and so on. Regardless of the education discipline, development of thinking skills has been shown to be crucial for students' success in the 21st century workplace (NAS, 2014). However, thinking process skills do not get developed automatically into learners, even if teachers may assume so. Hence it is important to emphasize the teaching and learning of thinking process skills explicitly, in addition to content in formal education (Redish & Smith, 2008).

Researchers have explored various approaches for developing such thinking skills in learners by utilizing affordances of TEL environments such as automated formative assessment, inquiry via interactive simulations, and opportunities for collaboration and reflection. The goal of this workshop is to provide an interactive platform for researchers and educators to explore various facets of Technology Enhanced Learning of Thinking Skills (TELoTS).

**VENUE, DATE and TIME****MEETING ROOM 3, NOVEMBER 30 (SUNDAY), 09:00-12:30****WORKSHOP ORGANIZERS**

Sahana MURTHY, Indian Institute of Technology Bombay, India  
Sridhar IYER, Indian Institute of Technology Bombay, India  
Mrinal PATWARDHAN, Indian Institute of Technology Bombay, India

**WORKSHOP URL**

<http://www.et.iitb.ac.in/icce-telots-workshop/>

**ACCEPTED PAPERS**

W13-01

Integration of multiple external representations in chemistry: a requirements-gathering study  
*Prajakt PANDE, Sanjay CHANDRASEKHARAN*

W13-02

How does representational competence develop? Explorations using a fully controllable interface and eye-tracking  
*Aditi KOTHIYAL, Rwitajit MAJUMDAR, Prajakt PANDE, Harshit AGARWAL, Ajit RANKA, Sanjay CHANDRASEKHARAN*

W13-03

Using Ontology for Representing Role Change Design in Nursing Service Thinking Education

*Wei CHEN, Liang CUI, Koji TANAKA, Hirotaka NISHIYAMA, Noriyuki MATSUDA, Mitsuru IKEDA*

W13-04

Self-assessment rubrics as metacognitive scaffolds to improve design thinking

*Madhuri MAVINKURVE, Sahana MURTHY*

---

<b>Workshop W14</b>	<b><i>The 1st Workshop on application of advanced technologies in environmental education</i></b>
-------------------------	---

---

Environmental education includes worldwide issues, it can be learned and teach indoor and outdoor, as well as scenarios of the development of environment. Since educational technology is the necessary tools for the information generation in learning, this workshop hope to integrate these two great potential research fields. This workshop aims to provide an interactive channel for interdisciplinary researchers, teachers, and software developers to present short papers, to communicate and discuss with one another on relevant issues regarding the application of advanced educational technologies in Environmental education.

#### **VENUE, DATE and TIME**

**MEETING ROOM 1, NOVEMBER 30 (SUNDAY), 09:00-12:30**

#### **WORKSHOP ORGANIZERS**

Hsin-Chih LAI, Chang Jung Christian University, Taiwan  
Ying-Tien WU, National Central University, Taiwan

#### **WORKSHOP URL**

<http://envircenter.cjcu.edu.tw/ICCE2014/WATEE>

#### **ACCEPTED PAPERS**

W14-01

The Application of QR Codes in Outdoor Education Activities: Practice and Discussion  
*Wen-Shian LEE, Chun-Yen CHANG*

W14-02

The Application of Instructional Media and IRSin Environmental Education - Focus on the Rocky Terrain in Northern Coast of Taiwan  
*Wen-Mao CHUNG, Te-Shin TSAI, Chun-Yen CHANG*

W14-04

Effect of Inquiry Web-Based Learning Competition for Gifted Students in Junior High School  
*Yen-Hung SHEN, Wen-Gin YANG*

W14-05

Evaluation of the Situation Somatosensory Game Digital Learning for Global Warming Misconception  
*Hsin-Chih LAI, Chi-Chen LI*

W14-07

The Environmental Education of Migration Birds Using a Near Time Web-based Design  
*Chow Jeng WANG, Chen-Jeih Pan, Yi Jong TSAI*

---

<b>Workshop W15</b>	<b><i>The 4th workshop on skill analysis, learning or teaching of skills, learning environments or training environments for skills</i></b>
-------------------------	---

---

The name of this workshop, SKALTES, is the abbreviation of “Skill Analysis, learning or teaching of skills, Learning environments or Training Environments for Skills”. The first workshop was held in ICCE2011, where seven interesting papers from various skill domains were presented and discussed. The second one was held in ICCE2012, where eight high level papers were presented. The third one was held in ICCE2013, where four impressive papers were presented. In this workshop, “skill” means special techniques to do something by interacting with objects, other persons or environments. Creating arts and playing sports are examples of the category of the skill. The skill consists of recognition of objects or environments, selection of appropriate action, and execution of action. A learner repeats these processes when he or she learns and trains skills. In this workshop, analyses of these skills are the key issues. In addition, how to learn skills or how to train for acquiring the skills are also important. Moreover, designs or developments of learning environments or training environments for the skills are also included. Not only completed research papers but also ongoing research papers are welcome. Participants in this workshop will be able to know various aspects of skills and also various approaches for skill learning research. Fruitful discussions on skill learning and training are expected in this workshop. Hopefully, this workshop will contribute to develop new skill learning studies.

#### **VENUE, DATE and TIME**

**CONFERENCE ROOM 4, DECEMBER 1 (MONDAY), 13:30-17:00**

#### **WORKSHOP ORGANIZERS**

Yasuhisa TAMURA, Sophia University, Japan  
Masato SOGA, Wakayama University, Japan  
Kenji MATSUURA, Tokushima University, Japan  
Naka GOTODA, Japan Institute of Sports Sciences, Japan  
Yukie MAJIMA, Osaka Prefectural University, Japan  
Yurie IRIBE, Aichi Prefectural University, Japan

#### **WORKSHOP URL**

<http://skaltes.cc.sophia.ac.jp>

#### **ACCEPTED PAPERS**

W15-01  
Development of Sign Language Training Machine using Depth Sensor  
*Yuichiro MORI, Akie FUKUHARA, Shogo HAYASHIDA*

W15-02  
Significance and Possibility of E-Learning for Choreographic Skills in Contemporary Dance  
*Bin UMINO, Asako SOGA, Motoko HIRAYAMA*

W15-03

Design of an Environment for Motor-skill Development based on Real-time Feedback

*Keita YAMADA, Kenji MATSUURA*

W15-04

Content Management System to Support Improvement in Quality of Fitness Testing of Athletes

*Yuji KOBAYASHI, Naka GOTODA*

W15-05

Development of a Learning Environment for Novices' Erhu Playings

*Fumitaka KIKUKAWA, Masato SOGA, Hirokazu TAKI*

W15-06

Analysis and Feedback of Baseball Pitching Form with use of Kinect

*Yasuhisa TAMURA, Taro MARUYAMA, Takeshi SHIMA*

The availability of mobile access everywhere is promising to augment learning space, as it provides learners a new way to communicate, collaborate, and interact. Therefore, computer-supported ubiquitous learning is an emerging trend to acquire or share knowledge. Through a variety of digital devices, learners can easily turn anywhere outside the classroom into an informal learning space. As learners become increasingly digitally literate, education needs to be reshaped by considering the innovation and support of virtual learning spaces. As foreseen, innovative design of learning space has a great potential to enhance learning, especially for escalating motivation and engagement. We expect to receive those studies relevant to innovative design of learning software, applications or evaluation methods for learning spaces.

**VENUE, DATE and TIME**

**CONFERENCE ROOM 4, NOVEMBER 30 (SUNDAY), 09:00-12:30**

**WORKSHOP URL**

<http://ilearning.csie.stust.edu.tw/ICCE2014workshop/>

**WORKSHOP ORGANIZERS**

Yueh-Min HUANG, National Cheng Kung University, Taiwan

Shu-Chen CHENG, Southern Taiwan University of Science and Technology, Taiwan

Maiga CHANG, Athabasca University, Canada

**ACCEPTED PAPERS**

W17-01

The Integration of Augmented Reality Mobile Learning and Self-Regulated Learning by using Concept Mapping - A Case Study of the Plants in Campus

*Po-Han WU, Gwo-Haur HWANG, Yu-Syuan WANG, Yen-Ru SHI*

W17-02

Application of Teams-Games-Tournament Strategy to Investigate Learning Effectiveness in Primary Schools

*Shu-Hsien HUANG, Ting-Ting WU, Yueh-Min HUANG*

W17-03

Education 3.0 and Beyond: A learner-led Experience of Education

*Pranav KOTHARI, Anurima CHATTERJEE*

W17-04

The Impact of Affective Tutoring System and Information Literacy on Elementary School Students' Cognitive Load and Learning Outcomes

*Ching-Ju CHAO, Shang-Chin TSAI, Chia-Hsun LEE, Tao-Hua WANG, Hao-Chiang Koong LIN*

W17-05

Development of Digital Game-based Biology Learning Experience on Cell Cycle through DSLM

Instructional Approach

*Porntip KANYAPASIT, Niwat SRISAWASDI*

W17-06

Mobile Augmented Reality in Supporting Performance Assessment: An Implementation in a Cooking Course

*Kuo-Hung CHAO, Chung-Hsien LAN, Yao-Tang LEE, Kinshuk, Kuo-En CHANG, Yao-Ting SUNG*

W17-07

Investigating effects of mobile learning in familiar authentic environment on learning achievement and cognitive load

*Rustam SHADIEV, Wu-Yuin HWANG, Yueh-Min HUANG, Tzu-Yu LIU*

W17-08

Applying Adaptive Hybrid Recommendation Technology for Searching Algorithm Learning Articles

*Shu-Chen CHENG, Shih-Che HUANG*