

# 2019 AICCC KOBE CONFERENCE ABSTRACT



# **AICCC 2019**

2019 2ND ARTIFICIAL INTELLIGENCE  
AND CLOUD COMPUTING CONFERENCE

Kobe University, Kobe, Japan | December 21-23, 2019

**2019 2nd Artificial Intelligence and Cloud  
Computing Conference  
(AICCC 2019)**

**21-23, December, 2019**

**Kobe University, Japan**

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## Conference Venue

### Japan-Engineering School, Kobe University, Japan

Add: 1-1, Rokkodai-cho, Nada-ku, Kobe, 657-8501, Japan



Engineer School established in April 2007 as an educational and research institute aimed at providing engineering knowledge, fundamental and applied technologies directly related to a symbiosis and sustainable development of society. Departments in this Graduate School is arranged in a similar way as the Faculty of Engineering to offer a consistent educational system from undergraduate to graduate school. The Graduate School of Engineering offers the following five departments in both the Master's and Doctoral Programs: Architecture, Civil Engineering, Electrical and Electronic Engineering, Mechanical Engineering, and Chemical Science and Engineering. By covering a wide range of interdisciplinary academic fields (environment, nanomaterial, information and telecommunication, life science, energy, robot, safety etc.), these five departments will create new technologies for the betterment of society.

Kobe University is located on a hill side in a residence area and there is no hotel around university. We recommend participants to stay at a hotel in the downtown Kobe, Kobe Sannomiya. You can find how to access to Kobe Sannomiya and Rokkodai Campus, Kobe University below:

[https://www.kobe-u.ac.jp/en/campuslife/campus\\_guide/campus/index.html](https://www.kobe-u.ac.jp/en/campuslife/campus_guide/campus/index.html)

We strongly recommend to take an Airport Limousine bus if you come from Kansai Airport. You can find hotels at the following sites.

Rakuten Travel: <https://travel.rakuten.com/>

Expedia: <https://www.expedia.co.jp/>

## Schedule for Conference

Room C2-302, Engineering School, Kobe University, Japan, December 21(10:30-17:00)	
<b>Arrival and Registration</b>	
Room C1-301, Engineering School, Kobe University, Japan, December 22 (9:00-12:35)	
<b>Opening Remark (9:00-9:15)</b>	
Host: Prof. Seiichi OZAWA, Kobe University, Japan Speaker: Prof. Masa-Hiko Saito, Kobe University, Japan	
<b>Keynote Speech I (9:15-10:00)</b>	
Title: Deep Learning for Image Processing, Patten Recognition, and Diagnosis in Medicine Prof. Kenji Suzuki, Tokyo Institute of Technology, Japan	
<b>Keynote Speech II (10:00-10:45)</b>	
Title: Intelligent Applications of Loan Risk Control Based on Financial Big Data Technology Prof. Tao Zhang, North China University of Technology, China	
<b>Coffee Break &amp; Group Photo (10:45-11:05)</b>	
<b>Keynote Speech III (11:05-11:50)</b>	
Title: Practical Application of the Power Assist Suits Prof. Chiharu Ishii, Hosei University, Japan	
<b>Keynote Speech IV (11:50-12:35)</b>	
Title: Image as a Document: Towards Affordable and Practical Home Context Recognition Prof. Masahide NAKAMURA, Kobe University, Japan	
<b>Lunch (12:35-13:30)</b>	
Room C1-301/ Room C2-301, Engineering School, Kobe University, Japan, December 22 (13:30-18:15)	
<b>Session 1 (13:30-15:45) - Room C1-301</b> Session Chair: Prof. Seiichi OZAWA	<b>Session 2 (13:30-15:45) - Room C2-301</b> Session Chair: Prof. Masahide NAKAMURA
<b>Coffee Break (15:45-16:00)</b>	
<b>Session 3 (16:00-18:15) - Room C1-301</b> Session Chair: Prof. Tao Zhang	<b>Session 4 (16:00-18:15) - Room C2-301</b> Session Chair: Prof. Chiharu Ishii
<b>Poster session (10:30-12:35)</b> Session Chair: Prof. Kenji Suzuki	
<b>Dinner (19:30-20:30)</b>	
December 23 (9:00-16:00)	
<b>One-Day Visit &amp; Tour</b>	

**AI0027-A Presentation 15 (14:45-15:00)****Deep Belief Network as Hand Gesture Recognition Method In Human Computer Interaction****Agustinus Rudatyo Himamunanto<sup>1</sup>, Supriadi Rustad, Guruh Fajar Shidik<sup>2</sup> and M. Arief Soeleman<sup>2</sup>**

1. Universitas Kristen Immanuel, Indonesia; 2. Universitas Dian Nuswantoro, Indonesia

*Abstract*— Research on the use of hand gestures as a medium of interaction between humans and machines is still intensively carried out by researchers to provide alternative studies of interaction media. This paper discusses the results of experiments with hand gesture input used for operations: click, doubleclick, drag, group (select more than 1 menu object). Deep Belief Network (DBN) algorithm plays a role in the process of recognition of hand gestures in the medium of interaction between humans and computers. The hand gesture recognition process consists of three stages, namely the segmentation of the hand area, the extraction of the characteristics of the hand gestures and the recognition of the patterns of the hand gestures. The hand gesture recognition process is carried out in real time based on human hand input. The experimental results show that the DBN method works quite well and is quite fast in recognizing hand gestures that function as human-computer interaction media in real time interaction mode. Based on testing also known a pretty good level of accuracy related to the basic function of interaction, namely: click (84.3%), doubleclick (81.4%), drag (87.6%)

**AI0045 Presentation 16 (15:00-15:15)****Object Class Recognition using Combination of Colour Dense SIFT and Texture descriptors****Taha H. Rassem<sup>1</sup>, Nasrin Makbol<sup>2</sup> and Bee Ee Khoo<sup>2</sup>**

1. Universiti Malaysia Pahang, Malaysia; 2. Universiti Sains Malaysia, Malaysia

*Abstract*— Object class recognition has recently become one of the most popular research fields. This is due to its importance in many applications such as image classification, retrieval, indexing, and searching. The main aim of object class recognition is determining how to make computers understand and identify automatically which object or scene is being displayed on the image. Despite a lot of efforts that have been made, it still considered as one of the most challenging tasks, mainly due to inter-class variations and intra-class variations like occlusion, background clutter, viewpoint changes, pose, scale and illumination. Feature extraction is one of the important steps in any object class recognition system. Different image features are proposed in the literature review to increase categorisation accuracy such as appearance, texture, shape descriptors. In this paper, we propose to combine different descriptors which are dense colour scale-invariant feature transform (dense colour SIFT) as appearance descriptors with different texture descriptors. The colour completed local binary pattern (CCLBP) and completed local ternary pattern (CLTP) are integrated with dense colour SIFT due to the importance of the texture information in the image. Using different pattern sizes to extract the CLTP and CCLBP texture descriptors will help to find dense texture information from the image. Bag of features is also used in the proposed system with each descriptor while the late fusion strategy is used in the classification stage. The proposed system achieved high recognition accuracy rate when applied in some datasets, namely SUN-397, OT4N, OT8, and Event sport datasets, which accomplished 38.9%, 95.9%, 89.02%, and 88.167%, respectively.



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