



SIET 2017

The 2nd International Conference on Sustainable Information Engineering and Technology

Royal Orchid Garden Hotel, 24-25 November 2017

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Batu, November 22, 2017

Letter of Acceptance

Dear Authors: Windra Swastika, Yoko, Hendry Setiawan, Mochamad Subianto

We are pleased to inform you that your abstract (ABS-15, Oral Presentation), entitled:

"Android Based Application for Recognition of Indonesian Restaurant Menus Using Convolution Neural Network"

has been reviewed and accepted to be presented at SIET 2017 conference to be held on 24-25 November 2017 in Batu, Indonesia.

Please submit your full paper and make the payment for registration fee before the deadlines, visit our website for more information.

Thank You.

Best regards,

A handwritten signature in black ink, appearing to read "Tibyani" with some additional scribbles below it.

Tibyani, S.T.,M.T.
SIET 2017 Chairperson



FACULTY OF COMPUTER SCIENCE
BRAWIJAYA UNIVERSITY



CERTIFICATE

THE 2ND INTERNATIONAL CONFERENCE ON
SUSTAINABLE INFORMATION ENGINEERING AND TECHNOLOGY (SIET 2017)

Windra Swastika

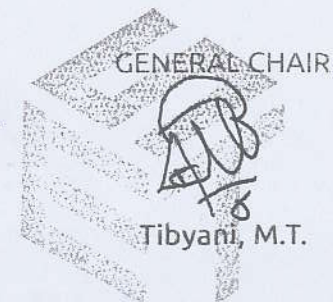
IN RECOGNITION AND APPRECIATION OF THE CONTRIBUTION AS
Presenter

November 24th-25th, 2017
Batu - Indonesia



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Android based application for recognition of Indonesian restaurant menus using convolution neural network

4 Author(s) Windra Swastika ; Yoko ; Hendry Setiawan ; Moch. Subianto [View All Authors](#)

87 Full Text Views



Abstract

Abstract:

Indonesia has a lot of typical food which is rich in flavor. However, compared with countries such as China, Thailand or India, Indonesian food is not widely known by the international community. One of the factors that cause Indonesian food is less popular is that the food information cannot be accessed easily by foreign travelers during a visit to Indonesia. Food name is written on the restaurant menu can be read, but not really showing the information about the food, such as ingredients, how the food is prepared or a picture of the food itself. Hence, it is required to facilitate foreign travelers who want to find out information about Indonesian food based on restaurant menus. An Android-based application has been developed to show food information. The application captures a text on the restaurant menus, process and recognize the text using convolution neural network (CNN). The recognized text is then matched with predetermined database to show the information about the food. The application was able to recognize 100% of the menus when the menus use Sans Serif Font. However, the accuracy dropped into 56% when the menus use Times New Roman.

Document Sections

- I. Introduction
- II. Methods
- III. Experimental Results
- IV. Conclusion

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Keywords

Metrics

Published in: 2017 International Conference on Sustainable Information Engineering and Technology (SIET)

Date of Conference: 24-25 Nov. 2017

INSPEC Accession Number: 17613588

Date Added to IEEE Xplore: 01 March 2018

DOI: 10.1109/SIET.2017.8304104

► **ISBN Information:**

Publisher: IEEE

Conference Location: Malang, Indonesia

I. Introduction

Indonesia has a lot of typical food which is rich in flavor. However, compared with countries like China, Thailand, India, and Korea, Indonesian food is not widely known by the international community. The number of restaurants that serve Indonesian food in Indonesia is less than 20 outlets, while a restaurant serving Chinese food in the United States more than 30,000 outlets.

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Android Based Application for Recognition of Indonesian Restaurant Menus Using Convolution Neural Network

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Abstract— Indonesia has a lot of typical food which is rich in flavor. However, compared with countries such as China, Thailand or India, Indonesian food is not widely known by the international community. One of the factors that cause Indonesian food is less popular is that the food information cannot be accessed easily by foreign travelers during a visit to Indonesia. Food name is written on the restaurant menu can be read, but not really showing the information about the food, such as ingredients, how the food is prepared or a picture of the food itself. Hence, it is required to facilitate foreign travelers who want to find out information about Indonesian food based on restaurant menus. An Android-based application has been developed to show food information. The application captures a text on the restaurant menus, process and recognize the text using convolution neural network (CNN). The recognized text is then matched with predetermined database to show the information about the food. The application was able to recognize 100% of the menus when the menus use Sans Serif Font. However, the accuracy dropped into 56% when the menus use Times New Roman.

Keywords— *menu recognition; optical character recognition; convolution neural network*

I. INTRODUCTION

Indonesia has a lot of typical food which is rich in flavor. However, compared with countries like China, Thailand, India, and Korea, Indonesian food is not widely known by the international community. The number of restaurants that serve Indonesian food in America for example, less than 20 outlets, while a restaurant serving Chinese food in the United States more than 30,000 outlets.

One of the factors that cause Indonesian food is less popular is that the food information cannot be accessed easily by foreign travelers during a visit to Indonesia. Food name is written on the menu can be read, but not really showing the information about the food, such as ingredients, how the food is prepared or a

picture about the food itself. Hence, it is required to facilitate foreign travelers who want to find out information about Indonesian food based on restaurant menus. Smartphones equipped with a camera can be used as a tool to provide information about Indonesian food. An Android-based application will be developed to show food information. The application captures a text on the restaurant menus and processes it. Using the results of the image processing, character recognition technology or Optical Character Recognition (OCR) can be used to recognize text from an image of a restaurant menu. The text that successfully recognized by OCR is matched to a database and send back to the user to show detail information about the food.

In this study, we developed a smartphone application to recognize Indonesian restaurant menus. We choose Android as the platform since it is the most widely used worldwide mobile operating system. The number of Android smartphone users reached 87 million in 2016 and still continues to grow. For image recognition, we used Convolution Neural Network (CNN).

II. METHODS

In this study, we use raw image captured from a smartphone camera as an input. The image is then processed using grayscale, noise removal and image binarization to produce noiseless binary image. The binary image is used as an input for character recognition to obtain a word or text query for database. Before we implement our method, we design the system using use case diagram, activity diagram, and design user interface. Finally, we test and validate our application using black box method. Figure 1 shows the diagram of our research methodology.

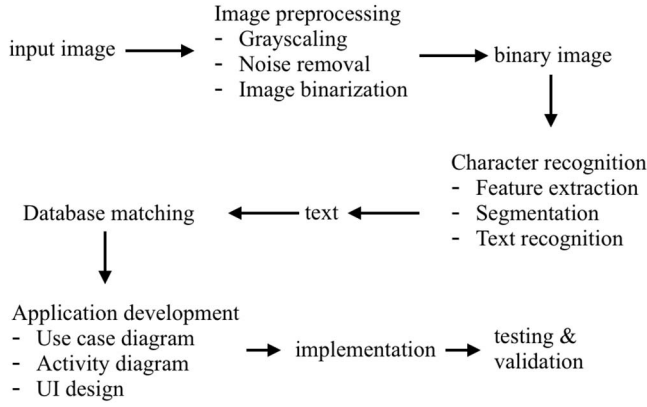


Fig. 1. Research methodology

There are three main processes to recognize the text from the restaurant menu, namely: image preprocessing, image recognition and database matching.

A. Image Preprocessing

Input image for the system is a raw RGB image. It is required to be preprocessed before fed into character recognition. The preprocessing steps are: (1) Grayscale, (2) Noise removal and (3) Image binarization. Grayscale is the initial step after an image captured by the smartphone camera. Converting a color image into a gray image with decolorize algorithm method is quite effective in maintaining the contrast of the image [1]. Decolorize method algorithm receives input RGB image $(R_i, G_i, B_i) \in [0, 1]$ 3 and change into $T_i \in [0, 1]$. The value of R, G and B of each pixel is converted into color values (Y, P, Q) by using (1):

$$\begin{bmatrix} Y_i \\ P_i \\ Q_i \end{bmatrix} = \begin{bmatrix} 0.2989 & 0.5870 & 0.1140 \\ 0.5000 & 0.5000 & -1.000 \\ 1.000 & -1.000 & 0.000 \end{bmatrix} \begin{bmatrix} R_i \\ G_i \\ B_i \end{bmatrix} \quad (1)$$

YPQ color channels produces a grayscale image $Y_i \in (y_{min}, y_{max}) = [0, 1]$. After grayscale, next operation is noise removal using smoothing. By using a smoothing operation, a grayscale image will be blurred to remove detail and noise. The method used in this smoothing process is Gaussian blur that has a smoothing kernel as shown in [2]. In 2D plane, Gaussian distribution has the formula as shown in 2.

$$G(x, y) = \frac{1}{2\pi\sigma^2} e^{-\frac{x^2+y^2}{2\sigma^2}} \quad (2)$$

Where x and y are the horizontal and vertical distance from the point of origin and σ is the standard deviation of the Gaussian distribution. The value of the Gaussian distribution is

used as a convolution matrix that is applied to the image. Estimated discrete convolution for a 3×3 matrix with $\sigma = 1$ are:

$$\begin{bmatrix} \frac{1}{16} & \frac{1}{8} & \frac{1}{16} \\ \frac{1}{8} & \frac{1}{4} & \frac{1}{8} \\ \frac{1}{16} & \frac{1}{8} & \frac{1}{16} \end{bmatrix} \quad (3)$$

Final step of image preprocessing is image binarization. The purpose of image binarization is to convert grayscale image into binary image (black and white image). In this study, we use adaptive threshold method to convert grayscale image from previous step into binary image. Unlike global threshold, adaptive threshold uses value T as a threshold value that depends on the neighbor pixels.

B. Image recognition

To recognize the preprocessed image, we use CNN. CNN is known to have better accuracy compared to artificial neural network (ANN) (3, 4, 5). Figure 2 shows the architecture of CNN to be applied for image recognition process.

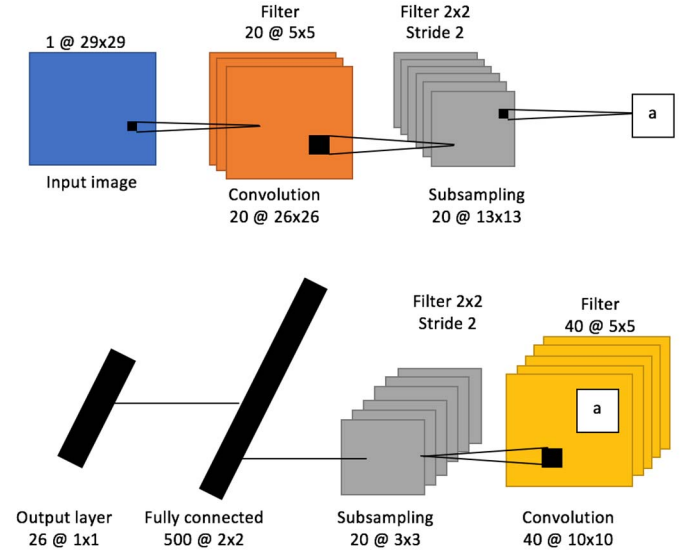


Fig. 2. CNN architecture for the application

In Figure 2, the initial part of the CNN architecture is the input layer which is a preprocessed image data with the size of 29×29 . The next process is a convolution layer that convolves input data using 20 filters of 5×5 . The convolution process yields 20 feature maps with size 26×26 . Each features map will be subsampled with filter 2×2 and stride 2. This step will reduce the dimensionality of each feature map into 13×13 . As shown in Figure 2, the results of subsampled feature maps forwarded into 2nd convolution layer using 40 filters with size 5×5 to produces a total of 40 feature maps. Max pooling operation (subsampling) is also performed on each feature maps to produces 20

subsampled feature maps with size 3x3. Each subsampled feature maps act as an input for fully connected layer which is similar as multilayer perceptron in artificial neural network. Next layer after fully connected layer is the output layer. In this case, the output layer consists of 26 node that represents probability of alphabet A to Z.

The training process is a necessary process to obtain correct weight matrices in the CNN. The steps of training process consist of forward propagation (from input image to output layer) and back-propagation process as follows:

1. Initialization step: define filter size and initialize weights with random values.
2. Forward propagation: take image as input, move forward to 1st convolution, 1st subsampling, 2nd convolution, 2nd subsampling, fully connected layer, output layer.
3. Calculate the total error of output layer compared to desired output.
4. Use backpropagation to adjust the weights.
5. Repeat step 2-4 until stopping criteria is met.

C. Database Matching

SQLite is database management system library provided by Android Operating System. The application uses SQLite to store offline data and information about the food. The information provided in the database are:

1. Name
2. The origin
3. Ingredients
4. Meals information
5. Picture

The name of the food in the database will be the main search query after the image successfully translated into a text.

D. Flow of the Application

Figure 3 shows use case diagram of the application.

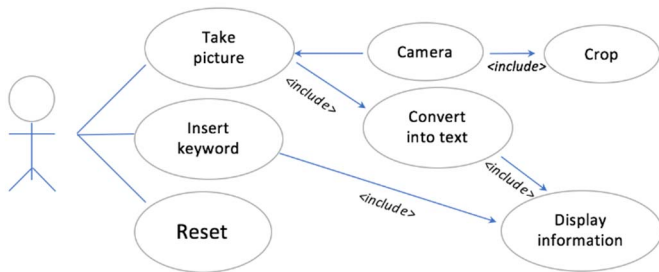


Fig. 3. Use case diagram of the application

There are 3 main menus on the application: Take picture, Insert keyword and Reset. Take Picture will launch the smartphone camera activity to let user take picture of restaurant menu. The obtained picture is manually cropped to focus on a word that user wants to get information about. Once it is cropped, the application will convert into text and match with the database to display information. The user is also able to insert keyword manually to get information. This is the case when the system failed to recognize text obtained from camera.

Figure 4 shows the flow diagram of the application.

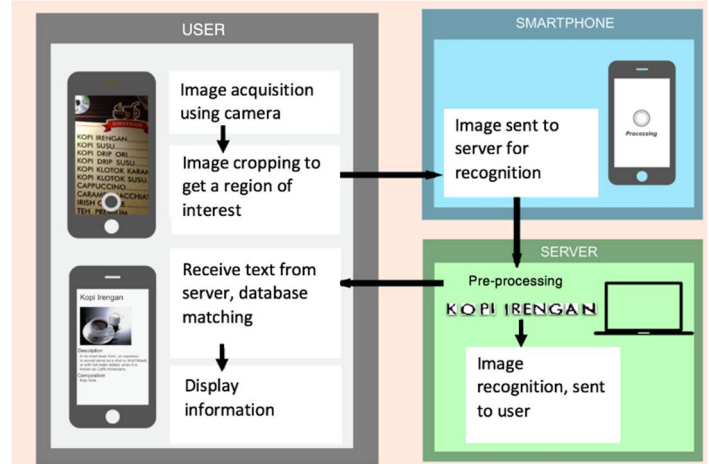


Fig. 4. Diagram flow of application

The application starts by showing a list of menu and a button to take image from camera. User is required to select region of interest by cropping the image. The cropped image is sent to server to perform pre-processing and image recognition using CNN. The result of image recognition is sent back to user in the form of text. The text will be matched with local database to show information about the food.

III. EXPERIMENTAL RESULTS

The user interface of the application consists of 3 main functions as shown in the figure 4. The first function is search function. Search function is used to search food information by entering food name manually (Figure 4a). The second function is to capture image from restaurant menu and manually crop it to obtain region of interest (Figure 4b) and the last function is to show food information based on the manual search or image recognition (Figure 4c).

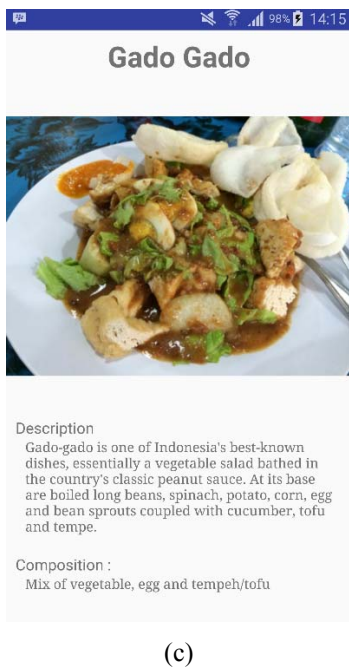
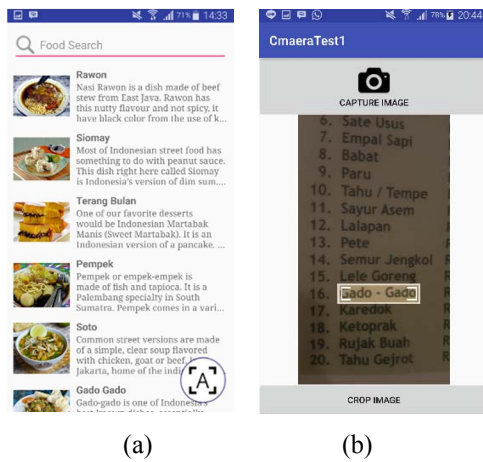


Fig. 5. Interface of the application; (a) manual food search; (b) capture and crop the image; (c) food information

In this application, all image processing and text recognition were done on the server. Figure 5a shows an example of cropped image that sent to the server and preprocesses it using MatLab 2016b which is running continuously on the server. Figure 4b shows the results of preprocessing which consists of grayscaling, noise removal and adaptive threshold. The result of preprocessing is then segmented to obtain the characters. Each character is normalized to matrix with size 29x29 and forwarded to CNN engine to recognize or convert into a text.

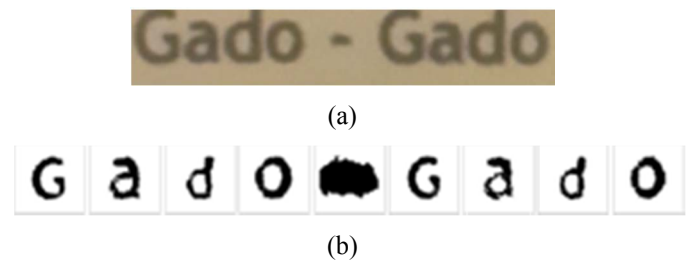


Fig. 6. (a) Cropped image that received by server; (b) Results of preprocessing

The converted text is sent back to the client's smartphone and matched with local database stored in application. Since the matrix size of character is quite small (29x29), in many cases, characters were misconverted and consequently, the result of final text also mismatch compared to the real name of the food. For example, the word "Gado-Gado" was misconverted into "gadobgado", "Ayam goreng" was misconverted into "ayamgofehs", etc. Therefore, Levensthein distance method [6] is used to measure the similarity between converted text and keyword on the database. The minimum value of Levensthein distance is 0 and the maximum value is 1 which means the converted text has exact same characters and its order with the original food name. In this study, we only show the food information if it has minimum 0.5 similarity value of database matching.

We tested the application using 2 different restaurant menus which consist of more than 20 different food names. The first menu uses Sans Serif font and the second menu uses Times New Roman. All of the food names and information were stored in the SQLite database. Figure 6 shows the restaurant menus we used to test the application.



Fig. 7. Restaurant menus to test the application

To measure the accuracy, we used Samsung Galaxy Note 4 with 16 MP camera. The camera has autofocus feature and yields an optimal image.

We evaluate 3 kinds of angle to capture the menu, 0°, 30° and 60°. Two lighting conditions, natural light and light bulb were also considered in the experiments. Figure 7 shows an example of 1st menu image taken with 0° angle. The image was cropped (1st row of Figure 7), preprocessed and segmented in several characters (2nd row of Figure 6). The segmented characters will be the input for CNN. The recognition results are shown in the 3rd row of Figure 7. The word “Ketoprak” was recognized as “ketopfdk”. Since the word “ketopfdk” is 75% similar as “ketoprak” in the database, the system will show information about “ketoprak”.

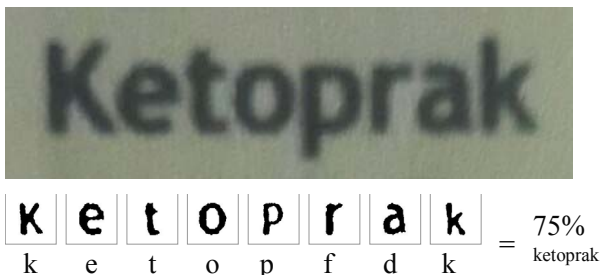


Fig. 8. The word “ketoprak” recognized as “ketopfdk”.

Figure 8 shows an example of cropped image from 2nd menu with its recognition accuracy. The font in the second menu is Times New Roman. In this case, the word “Sate Ayam” was recognized as “satenyam” which has 75% similarity with “sate ayam” in the database.

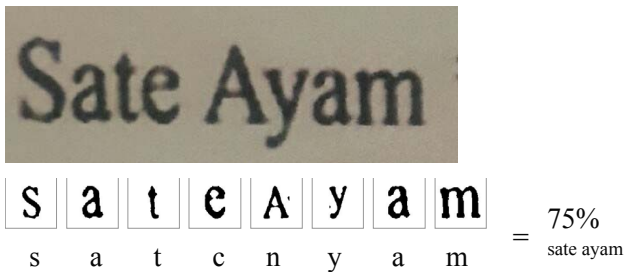


Fig. 9. The word “Sate Ayam” recognized as “satenyam”.

Table 1 shows the accuracy of both restaurant menu with different angles.

TABLE I.

TABLE II. RECOGNITION ACCURACY UNDER DIFFERENT ANGLE AND LIGHT SOURCE

Angle	Light sources	Accuracy (1st menu)	Accuracy (2nd menu)
0°	Natural light	100%	56%

	Light bulb	85%	56%
30°	Natural light	80%	44%
	Light bulb	85%	18%
60°	Natural light	100%	56%
	Light bulb	100%	50%

As shown in table 1, the best accuracy for first menu (sans serif font) is obtained for camera angle of 0° under natural light and 60° camera angel. When using camera angle of 30°, the accuracy dropped to 80% for natural light and 85% for light bulb. In the second menu (times new roman font), the application can only show food information less than 60% of all condition. It seems that times new roman font is the main factor of less accuracy compared to sans-serif font.

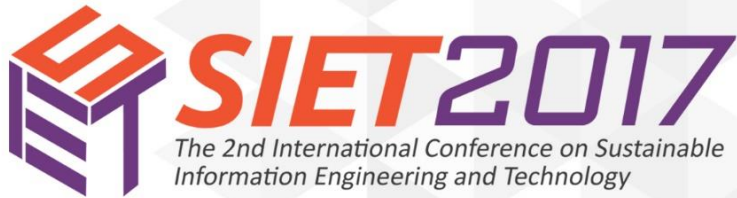
IV. CONCLUSION

We have developed an Android-based application for recognition of Indonesian restaurant menus using convolution neural network. The obtain the best accuracy, the menus should take under the natural light condition with camera angle 0° or 60°. Manual cropping also affects the accuracy. Therefore, it is suggested to perform automatic cropping to get consistent and better accuracy.

Although CNN is known to have better accuracy compared to ANN, it is useful to conduct accuracy comparison between CNN and ANN for this application in the future.

REFERENCES

- [1] Grundland, Mark, and Neil A. Dodgson. 2005. The decolorize algorithm for contrast enhancing, color to grayscale conversion. University of Cambridge, Technical Report UCAM-CL-TR-649.
- [2] Chung, Moo K. 2012. Gaussian kernel smoothing. Lecture notes 1-10.
- [3] Zhang, Y., 2015. Deep Convolutional Network for Handwritten Chinese Character Recognition. CS231N Course Project, p. 8.
- [4] Krizhevsky, A., Sutskever, I., & Hinton, G. E. (2012). Imagenet classification with deep convolutional neural networks. In Advances in neural information processing systems (pp. 1097-1105).
- [5] Lo, S. C. B., Chan, H. P., Lin, J. S., Li, H., Freedman, M. T., & Mun, S. K. (1995). Artificial convolution neural network for medical image pattern recognition. *Neural networks*, 8(7), 1201-1214.
- [6] Soukoreff, R. W., & MacKenzie, I. S. (2001, March). Measuring errors in text entry tasks: an application of the Levenshtein string distance statistic. In *CHI'01 extended abstracts on Human factors in computing systems* (pp. 319-320). ACM.



The 2nd International Conference on
Sustainable Information Engineering and Technology (SIET 2017)
Batu City, Indonesia, November 24th - 25th 2017

Program Book of Sustainable Information Engineering and Technology (SIET)





**Program Book of
Sustainable Information Engineering and Technology (SIET)
2017
The 2nd International Conference**

Batu City, Indonesia

24th – 25th November 2017

Published by:



Faculty of Computer Science
Brawijaya University

Welcome Message from The General Chair of 2nd SIET 2017



The Second International Conference on Sustainable Information Engineering and Technology (2nd SIET 2017) is designed to become a federated educational event to fostering prospective participants to share their recent theoretical knowledge, research findings and experiences in dealing with sustainable information engineering and technology.

The 2nd SIET 2017 aims to bring together academia, researchers, business entrepreneurs, practitioners, and policy makers who are responsible for delivering sustainable and/or eco-friendly solutions through leveraging advanced information engineering and technology for competitive advantage and cost savings in modern industrial sector as well as public and business sectors.

The Second International Conference on Sustainable Information Engineering and Technology held on November 24-25, 2017 in the beautiful place, Batu Malang, Indonesia. There are 181 abstract submissions. The committee decided to 54 abstracts rejected. Furthermore, there are 127 full paper submissions. Each submission is reviewed by 3 Reviewer of the Program Inviting Reviewer 2nd SIET 2017, 14 October 2017 In Malang Indonesia. The committee decided to accept 99 papers. The Conference also includes 4 keynote speakers.

We are honored to have Professor Norman Mariun from Universiti Putera Malaysia, Professor Deron Liang from National Central University Taiwan, Associate Professor Lukito Edi Nugroho from University of Gadjahmada and Fatwa Ramdani, D.Sc., S.Si., M.Sc. from Universitas Brawijaya as keynote speakers.

We would like to thank all participant who will present their academic works in The 2nd SIET 2017, Malang and especially to our distinguished guests and keynote speakers for their collaboration and contribution for the success of the The 2nd SIET 2017.

We wish you a successful conference and have a good time in Batu Malang, Indonesia.

Sincerely yours,

Tibyani
The 2nd SIET 2017 General Chair

Welcome Message from the Dean Of Faculty of Computer Science, Universitas Brawijaya



To all the committee, and all academic civitates of Faculty of Computer Science, Universitas Brawijaya, I am very pleased for the participation of the participants, the keynote speakers and all the important parts involved on the implementation of the Second International Conference on Sustainable Information Engineering and Technology (SIET) 2017 conjunction with 3rd ISyG 2017 and 2nd SENTRIN 2017 on November 24-25 2017 at Royal Orchids Garden Hotel and Condominiums, Batu Malang, East Java, Indonesia.

I believe that the 2nd SIET 2017 will bring the best in terms of researchers, technology and science on an international scale to forge partnerships and cooperation, and to share research progress between campuses, institutions, and small to large scale industries in order to optimize the management and the use of the available resources into multi-disciplinary science.

This event has a very wide coverage that provides a forum for all parties involved in the development of Information Engineering and Technology as well as on indirectly related science and application. The great hope of the event is that it is able to foster optimal collaboration of all elements and build science and technology together quickly, rapidly and appropriately for the world.

I then express my sincere gratitude for the willingness of all attendees, keynote speakers and all organizing committees for the maximum effort that has been made to obtain the selection of relevant papers with better innovations, creativity and scientific contributions.

Finally, the implementation of this event is hopefully able to provide inspiration of better and more optimal researches for the success and prosperity of all mankind from the developed science and technology. Success for this conference, for everybody, and may you feel enjoy, happy and comfortable during your stay in Batu Malang, East Java, Indonesia.

Sincerely,

Wayan Firdaus Mahmudy, S.Si., M.T, Ph.D
Dean of the Faculty of Computer Science
Universitas Brawijaya

Conference Information

- Date : November 24th (Friday) –25th (Saturday) 2017
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- Indah Agustien Siradjuddin, Universitas Trunojoyo, ID
- Indrazno Siradjuddin, Politeknik Negeri Malang, ID
- Irwan Alnarus Kautsar, Universitas Muhammadiyah Sidoarjo, ID
- Istiadi, Universitas Widyagama, ID

- Iwan Syarif, Electronic Engineering Polytechnic Institute of Surabaya, ID
- Kenjiro Sugimoto, Waseda University, JP
- Khairul Anam, Universitas Jember, ID
- Moechammad Sarosa, Politeknik Negeri Malang, ID
- Mohammad Abu Jamifin, Politeknik Negeri Perkapalan Surabaya, ID
- Mokhammad Amin Haryadi, Universitas Islam Negeri Maulana Malik Ibrahim Malang, ID
- Muhammad Ashar, Universitas Negeri Malang, ID
- Muhammad Aziz Muslim, Universitas Brawijaya, ID
- Muhammad Udin Harun AL Rasyid, Electronic Engineering Polytechnic Institute of Surabaya, ID
- Muladi, Universitas Negeri Malang, ID
- Noor Danish Ahrar Mundari, Eternal University, IN
- Noor Ifada, Universitas Trunojoyo, ID
- Nuraini rahmawati, Institut Teknologi Sepuluh Nopember Surabaya, ID
- Rayi Yanu Tara, Universitas Brawijaya, ID
- Robbi Rahim, APIKES Imelda Medan, ID
- Romy Budhi Widodo, Universitas Ma Chung, ID
- Rosa Andrie Asmara, Politeknik Negeri Malang, ID
- Sabar Setiawidayat, Universitas Widyagama, ID
- Saiful Bukhori, Universitas Jember, ID
- Sarjono, Badan Pengkajian dan Penerapan Teknologi, ID
- Shahreen Binti Kasim, Universiti Tun Hussein Onn Malaysia, MY
- Siti Sendari, Universitas Negeri Malang, ID
- Tessy Badriyah, Electronic Engineering Polytechnic Institute of Surabaya, ID
- Tri Astoto Kurniawan, Universitas Brawijaya, ID
- Tri Harsono, Electronic Engineering Polytechnic Institute of Surabaya, ID

Publication Chairs:

- Imam Cholissodin, Universitas Brawijaya, ID

Financial Chairs:

- Sri Suyati Luhur Utami, Universitas Brawijaya, ID
- Heru Dintanufi, Universitas Brawijaya, ID

Local Organizing Committee:

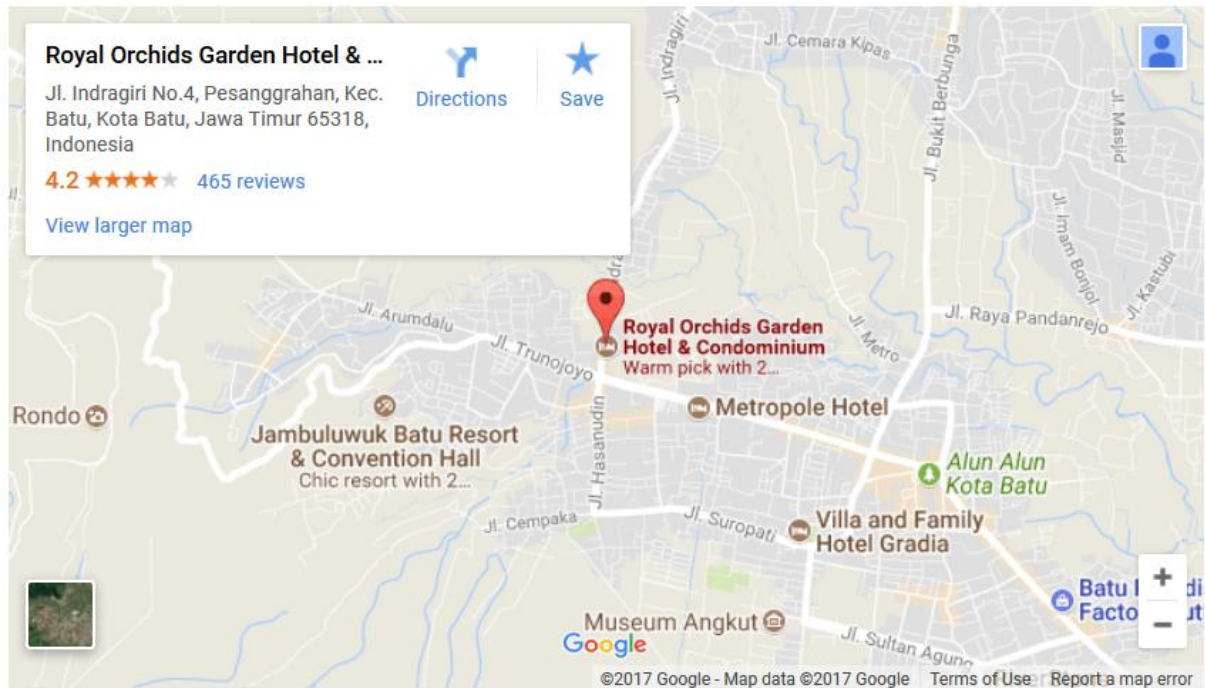
- Yuita Arum Sari, ID
- Denny Sagita Rusdianto, ID
- Adhitya Bhawiyuga, ID
- Mochammad Hannats Hanafi Ichsan, ID
- Rakhmadhany Primananda, ID
- Hurriyatul Fitriyah, ID
- Rizal Maulana, ID
- Randy Cahya Wihandika, ID
- Budi Darma Setiawan, ID
- Muhammad Tanzil Furqon, ID
- Widhi Yahya, ID

Venue Map

Royal Orchids Garden Hotel, Batu-Malang

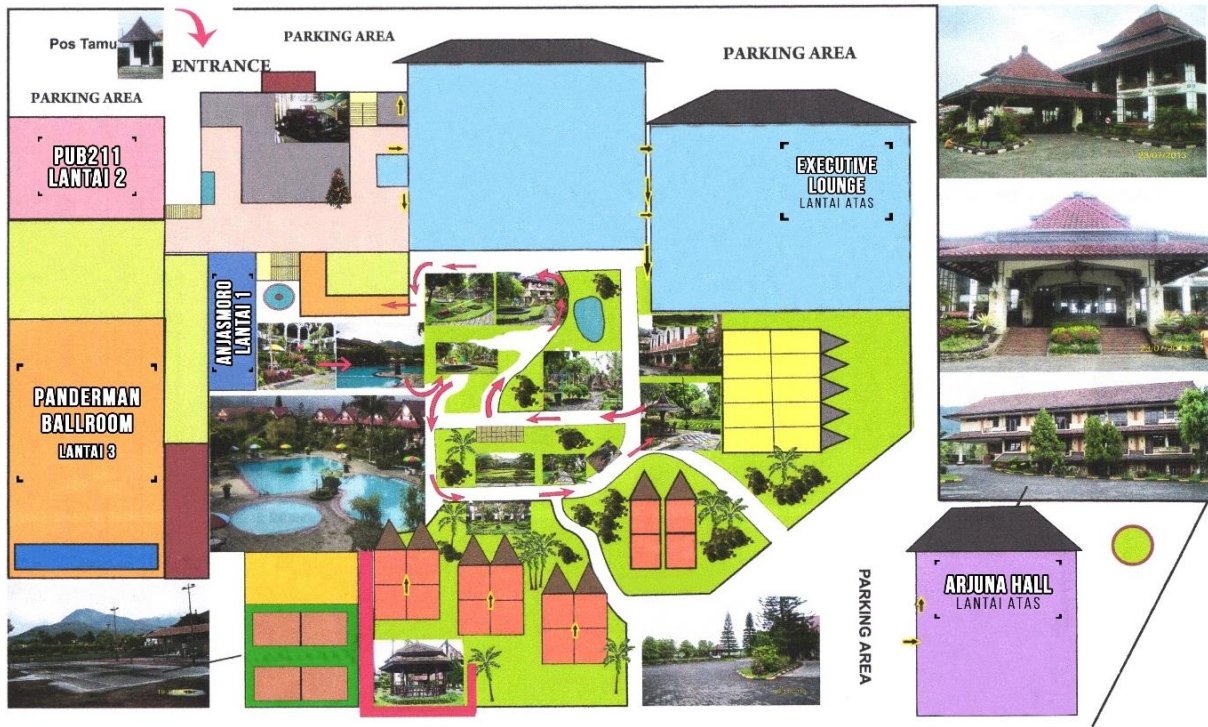
Jl. Indragiri 4, Batu-Malang

Ph. 0341-593083 | Fax. 0341-591064

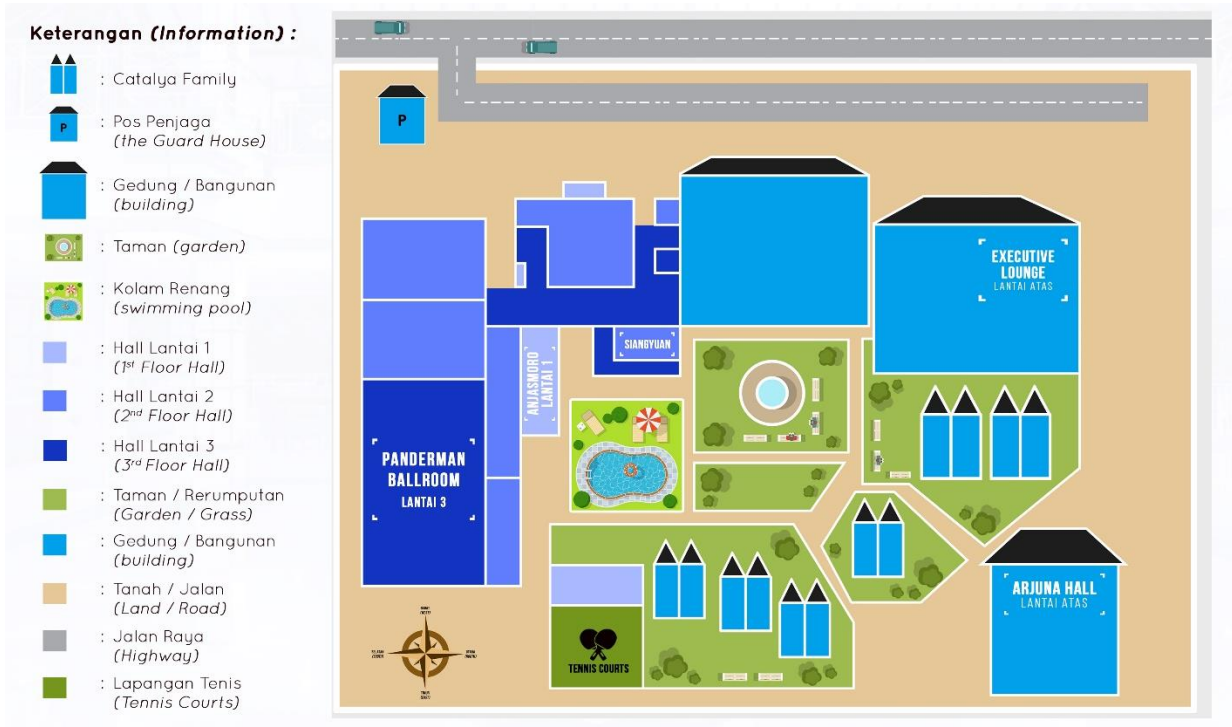


Google Maps Link
<http://q-r.to/baox0W>

Map 1 of Royal Orchids Garden Hotel, Batu-Malang



Map 2 of Royal Orchids Garden Hotel, Batu-Malang



Program Schedule

Friday, November 24th, 2017-CONFERENCE			
Time	Event	Event Details	Rooms
07.30-08.30	Registration		
08.30-08.35	Opening Ceremony	Opening by MC	Panderman 1
08.35-08.40		Opening speech from the General Chair of Filkom Conferences (SIET, ISYG, SENTRIN) 2017, Gembong Edhi Setyawan, S.T., M.T.	
08.40-08.45		Opening speech from the Dean of Faculty of Computer Science, Universitas Brawijaya (Wayan Firdaus Mahmudy , S.Si, M.T, Ph.D.)	
08.45-09.45		Keynote Speech I Prof. Deron Liang from National Central University, TW	
09.45-09.50	Ceremonial gift, from the Dean of Faculty of Computer Science, Universitas Brawijaya to Prof. Deron Liang		
09.50-09.55	SIET, ISYG, SENTRIN Photo Session		
09.55-10.15	Coffee Break		
10.15-11.15	Keynote Speech II	Assoc. Prof. Lukito Edi Nugroho from Universitas Gajah Mada, ID	Panderman 1
11.15-13.30	Lunch		
13.30-15.15	Parallel Session I	Six parallel sessions of SIET, ISYG and SENTRIN	Panderman 1, Panderman 2 for SENTRIN Mantra, Anjasmoro, Executive Lounge, Arjuna Hall for SIET and ISYG
15.15-15.30	Coffee Break		

15.30-17.10	Parallel Session II	Six parallel sessions of SIET, ISYG and SENTRIN	Panderman 1, Panderman 2 for SENTRIN Mantra, Anjasmoro, Executive Lounge, Arjuna Hall for SIET and ISYG
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Saturday, November 25th, 2017-CONFERENCE			
Time	Event	Event Details	Rooms
07.30-08.00	Registration		
08.00-09.00	Keynote Speech III	Prof. Norman Bin Mariun from Universiti Putra Malaysia, MY	Panderman 1
09.00-09.15	Coffee Break		
09.15-10.15	Keynote Speech IV	D.Sc. Fatwa Ramdani, S.Si., M.Sc. , from Universitas Brawijaya, ID	Panderman 1
10.15-12.00	Parallel Session III	Six parallel sessions of SIET	Panderman 1, Panderman 2, Mantra, Anjasmoro, Executive Lounge, Arjuna Hall for SIET
12.00-13.00	Lunch		
13.00-14.45	Parallel Session IV	Six parallel sessions of SIET	Panderman 1, Panderman 2, Mantra, Anjasmoro, Executive Lounge, Arjuna Hall for SIET
14.45-15.00	Coffee Break		
15.00-16.45	Parallel Session V	Five parallel sessions of SIET	Panderman 1, Panderman 2, Mantra, Anjasmoro, Executive Lounge, Arjuna Hall for SIET
17.00-17.15	Closing Ceremony (Awards Announcement and Photo Session)	Awards Announcement and Closing remarks	Panderman 1

Technical Program

Friday, November 24th, 2017-CONFERENCE						
Time	Panderman 1					
07.30-08.30	Registration					
08.30-08.35	Opening by MC					
08.35-08.40	Opening speech from the General Chair of Filkom Conferences (SIET, ISYG, SENTRIN) 2017, Gembong Edhi Setyawan, S.T., M.T.					
08.40-08.45	Opening speech from the Dean of Faculty of Computer Science, Universitas Brawijaya (Wayan Firdaus Mahmudy, S.Si, M.T, Ph.D.)					
08.45-09.45	Keynote Speech I Prof. Deron Liang from National Central University, TW					
09.45-09.50	Ceremonial gift, from the Dean of Faculty of Computer Science, Universitas Brawijaya to Prof. Deron Liang					
09.50-09.55	SIET, ISYG, SENTRIN Photo Session					
09.55-10.15	Coffee Break					
10.15-11.15	Keynote Speech II Assoc. Prof. Lukito Edi Nugroho from Universitas Gajah Mada, ID					
11.15-13.30	Lunch					
Time	Panderman 1	Panderman 2	Mantra	Anjasmoro	Executive Lounge	Arjuna Hall
13.30-15.15	SENTRIN 1	SENTRIN 2	ISYG 1	ISYG 2	ISYG 5	SIET 1
15.15-15.30	Coffee Break					
15.30-17.10	SENTRIN 3	SENTRIN 4	ISYG 3	ISYG 4	SIET 2	SIET 3

Saturday, November 25th, 2017-CONFERENCE						
Time	Panderman 1					
07.30-08.00	Registration					
08.00-09.00	Keynote Speech III Prof. Norman Bin Mariun from Universiti Putra Malaysia, MY					
09.00-09.15	Coffee Break					
09.15-10.15	Keynote Speech IV D.Sc. Fatwa Ramdani, S.Si., M.Sc. , from Universitas Brawijaya, ID					
Time	Panderman 1	Panderman 2	Mantra	Anjasmoro	Executive Lounge	Arjuna Hall
10.15-12.00	SIET 4		SIET 5	SIET 6	SIET 7	SIET 8
12.00-	Lunch					

13.00						
13.00-14.45	SIET 9	SIET 10	SIET 11	SIET 12	SIET 13	SIET 14
14.45-15.00	Coffee Break					
15.00-16.45	SIET 15	SIET 16	SIET 17	SIET 18	SIET 19	SIET 20
17.00-17.15	Closing Ceremony and Awards Announcement					

Parallel Session

PARALLEL SESSION : SIET 1	November 24th, 2017
Data Mining	13.30-15.15
Venue : Arjuna Hall	

[ABS-33] Optimization of Fulfillment Nutritional Needs of Toddlers using PSO Algorithm with Flexible Budgeting

Leni Istikomah, Imam Cholissodin, Marji

[Abs-47] A Algorithm Hybrid Model Of Bayesian For Detection Performance In Unhealthy Lifestyle

Ilham

[ABS-51] Implementation Of Naive Bayes Classifier Algorithm On Social Media (Twitter) To The Teaching Of Indonesian Hate Speech

Naufal Riza Fatahillah, Pulut Suryati, Cosmas Haryawan

[ABS-73] Modeling Backpropagation Neural Network for Rainfall Prediction in Tengger East Java

Ida Wahyuni, Nakhel Rifki Adam, Wayan Firdaus Mahmudy, Atiek Iriany

[ABS-106] Finding Similar Clustering Pattern Between Students Academic Performance And Non-Curricular Activities Data

Nur Ayuni Ramadhani, Utomo Pujianto

PARALLEL SESSION : SIET 2	November 24th, 2017
e-Healthcare, e-Learning, e-Manufacturing, e-Commerce	15.30-17.10
Venue : Executive Lounge	

[ABS-19] Determinants Of E-Commerce Service Quality, Recovery Service Quality, And Satisfaction In Indonesia

Hendra, Ginting, Rini, Sembiring

[ABS-34] The Analysis Of Consumers Intention Model For Using E-Payment System In Indonesia

Sfenrianto, Junadi, Melva Hermayanty Saragih

[ABS-50] An implementation of Delay-Disruption Tolerant Networking Approach in E-learning, Case Study: belajardisini.com

Eko Sakti Pramukantoro, Rakhmadhany Primananda

[ABS-71] Design of E-Commerce Chat Robot for Automatically Answering Customer Question

Adhitya Bhawiyuga, Moch. Ali Fauzi, Eko Sakti Pramukantoro, Widhi Yahya

[ABS-74] Reliability Testing Using Hybrid Exploratory Basis Of Tour And Fuzzy Inference System Tsukamoto

Titis Sari Putri, Fatwa Ramdani

PARALLEL SESSION : SIET 3	November 24th, 2017
Image processing and pattern recognition	15.30-17.10
Venue : Arjuna Hall	

[ABS-15] Android Based Application for Recognition of Indonesian Restaurant Menus Using Convolution Neural Network

Windra Swastika, Yoko, Hendry Setiawan, Mochamad Subianto

[ABS-29] Chicken Meat Freshness Identification using the Histogram Color Feature

Rosa Andrie Asmara, Faisal Rahutomo, Qonitatul Hasanah

[ABS-36] Colour Image Segmentation For Malaria Parasites Detection Using Cascading Method

Yonathan Ferry Hendrawan, Cucun Very Angkoso, Rima Tri Wahyuningrum

[ABS-60] Retinal Blood Vessel Segmentation Using Multi-Scale Line Operator and K-Means for Data Preprocessing

Winda Cahyaningrum, Randy Cahya Wihandika, Agus Wahyu Widodo

PARALLEL SESSION : SIET 4	November 25th, 2017
Decision Support System	10.15-12.00
Venue : Panderman 1	

[ABS-43] A Dual Dynamic Migration Policy for Island Model Genetic Algorithm

Alfian Akbar Gozali, Shigeru Fujimura

[ABS-30] Development of an Adaptive interval value fuzzy number based on MCGDM model by Hybrid AHP and TOPSIS methods

Yeni Kustiyahningsih

[ABS-37] Modified Genetic Algorithm for High School Time-Table Scheduling with Fuzzy Time Window

Ruth Ema Febrita, Wayan Firdaus Mahmudy

[ABS-192] Heuristic Evaluation and ISO 9126 in Implementation of Decision Support Sytem for Selection of Outstanding Marketing Officer BRI Katamso Yogyakarta

Ripto Mukti Wibowo, Adhistya Erna Permanasari, Indriana Hidayah

[ABS-57] An Initial Framework of Hybrid Evolutionary Algorithm (EA) with Multiple Criteria Decision Making (MCDM): Plant Forecasting

Januardi Nasir, Azizul Azhar Bin Ramli

PARALLEL SESSION : SIET 5

November 25th, 2017

Decision Support System**10.15-12.00****Venue : Mantra****[ABS-79] On The Usage of Hybrid 1-D Convolutional Network and Long- Short-Term-Memory Network for Multiple-Site Fatigue Damage Prediction on Aircraft Lap Joints**

Muhammad Ihsan Mas, Timotius Devin, Lintang Adyuta Sutawika, Mohamad Ivan Fanany

[ABS-90] Multiplication of V and Cb Color Channel Using Otsu Thresholding for Tomato Maturity Clustering

Yuita Arum Sari, Sigit Adinugroho, Putra Pandu Adikara, Abidatul Izzah

[ABS-100] Feature Selection With Genetic Algorithm For Alcoholic Detection Using Electroencephalography

Rivaldy Septyasurya, Indah A. Siradjuddin, and Arif Muntasa

[ABS-114] Automatic Arrhythmia Identification Based on Electrocardiogram Data Using Hybrid of Support Vector Machine and Genetic Algorithm

Reiza Adi Cahya, Candra Dewi, Bayu Rahayudi

[ABS-121] A Review Paper on Attendance Marking System based on Face Recognition

Khem Puthea, Rudy Hartanto and Risanuri Hidayat

PARALLEL SESSION : SIET 6

November 25th, 2017

Information retrieval**10.15-12.00****Venue : Anjasmoro****[ABS-22] Tourism Destination Rating System Based on Social Media Analysis (Proposal and dataset development)**

Diana Mayangsari Ramadhani, Faisal Rahutomo, Cahya Rahmad

[ABS-85] Focused Web Crawler for Indonesian Recipe

Gusti Ahmad Fanshuri Alfarisy and Fitra A. Bachtiar

[ABS-97] Improving Classification Performance Of Public Complaints With Tf-Igm Weighting

Fakhris Khusnu Reza Mahfud, Aris Tjahyanto

[ABS-99] Increased Information Retrieval Capabilities on e-Commerce Websites using Scrapping Techniques

Deborah Kurniawati, Deny Triawan

[ABS-193] Clusster Testing for Music Genre Based On Active Frequency Using K-Means Method

M. Syahrul Munir, Hardianto Wibowo

PARALLEL SESSION : SIET 7	November 25th, 2017
e-Healthcare, e-Learning, e-Manufacturing, e-Commerce	10.15-12.00
Venue : Executive Lounge	

[ABS-144] The Acceptance of E-Payment among Indonesian Millennials

Bayu Kelana, Anggar Riskinanto, Deliar Rifda Hilmawan

[ABS-145] E-Learning Readiness Measurement on Indonesian Student from Individual Perspective

Annisa Syatitah Muharina, Bayu Kelana

[ABS-146] Tahani Model of Fuzzy Database for an Adaptive Metacognitive Scaffolding in Hypermedia Learning Environment (Case: Algorithm and Structure Data Course)

Akhsin Nurlayli, Teguh Bharata Adji, Adhistrya Erna Permanasari, Indriana Hidayah

[ABS-148] Data Warehouse Development for Hotel Reservation system

Abba Suganda Girsang, Sani Muhamad Isa, Bambang Susilo, MaxLian, Danang Satya, Salman Al Fariz, Dudi Ramdani

[ABS-169] SPOC Adoption in Accounting Course among Indonesian Undergraduate Students

Anggar Riskinanto, Bayu Kelana, Indah Navidah Hayati

PARALLEL SESSION : SIET 8	November 25th, 2017
Software Engineering	10.15-12.00
Venue : Arjuna Hall	

[ABS-96] Implementation Of Mobile-Based Monitoring Sales System In Semi Tani Shop

Hendrik Setyo Utomo, Rabbini Sayyidati, Oky Rahmanto

[ABS-110] Pioneering the Automation of Internal Quality Assurance System of Higher Education (IQAS-HE) Using DevOps Approach

Acep Taryana, Iwan Setiawan, Eko Bayu, Ari Fadli

[ABS-113] The Use Of Curve Wizard Method For Generating Rough Surface In Cad Model And Data Transferring Analysis In Cae Model

Kartini, G.A. Sipayung, R.R.S. Wicaksono, E. Saputra, R. Ismail, J. Jamari, A.P. Bayuseno

[ABS-132] A Comparative Study Of File Type Selection During Data Transfer Of Homogen Rough Surface From Cad Model To Cae Model

G.A. Sipayung, R. Ismail, Kartini, E. Saputra, J. Jamari, A.P. Bayuseno

[ABS-176] Developing Food Sensory Test System with Preference Test (Hedonic and Hedonic Quality)

Prawidya Destarianto, Hendra Yufit Riskiawan, Khafidurrohman Agustianto, Syamsiar Kautsar

PARALLEL SESSION : SIET 9

November 25th, 2017

Natural Language Processing**13.00-14.45****Venue : Panderman 1****[ABS-25] Road Traffic Topic Modeling on Twitter using Latent Dirichlet Allocation**

Ahmad Fathan Hidayatullah, Muhammad Rifqi Maarif

[ABS-53] Deep Belief Network Optimization in Speech Recognition

Murman Dwi Prasetyo, Tomohiro Hayashida, Ichiro Nishizaki, Shinya Sekizaki

[ABS-127] Classification Method Comparison on Indonesian Social Media Sentiment Analysis

Tirana Noor Fatyanosa, Fitra A. Bachtiar

[ABS-153] Time Series Neural Network Model for Part-of-Speech Tagging Indonesian Language

Theo Tanadi

[ABS-13] Sentiment Analysis of Customer Engagement on Social Media in Transport Online

Melva Hermayanty Saragih, Abba Suganda Girsang

PARALLEL SESSION : SIET 10

November 25th, 2017

Data Mining**13.00-14.45****Venue : Panderman 2****[ABS-109] Comparison Of Illiteracy Cluster Pattern And Population Data Using Fuzzy C-Means.**

Nimatul Rochmaniyah, Utomo Pujiyanto

[ABS-111] Non-Linear Modelling of Variables Relationship in Multiple Time-Series Data with Extended Dynamic Interaction Network

Harya Widiputra, Elliana Gautama, Marsudi Kisworo

[ABS-122] Optimization Fuzzy Neural Network with Simulated Annealing on Jatropha Curcas Plant Disease Identification

Diny Melsye Nurul Fajri, Triando Hamonangan Saragih, Andi Hamdianah

[ABS-123] Jatropha Curcas Disease Identification Using Fuzzy Neural Network

Triando Hamonangan Saragih, Diny Melsye Nurul Fajri, Andi Hamdianah

[ABS-130] Gold Price Movement Forecasting using Hybrid FIS-ES

Andreas Nugroho Sihananto, Fitra A. Bachtiar

PARALLEL SESSION : SIET 11

November 25th, 2017

Image Processing and Pattern Recognition**13.00-14.45****Venue : Mantra****[ABS-134] Indonesian Food Items Labeling for Tourism Information Using Convolution Neural Network**

Renaldi Primaswara Prasetya, Fitra A. Bachtiar

[ABS-150] Improving Performance Batik Image Classification based on Bag of Visual Word using Ensemble Classifier

Mulaab, Achmad Jauhari

[ABS-156] Arabic Letter Segmentation using Modified Connected Component Labeling

Fakhry Ikhsan Firdaus, Achmad Khumaini, Fitri Utaminingrum

[ABS-161] Smoker's Detection System based Tongue Reflectance Analysis in Hyperspectral Imaging

Iqbal Fachrizal, Bramma Kiswanjaya, Adhi Harmoko Saputro

[ABS-164] Text Detection and Recognition using Multiple Phase Method On Various Product Label for Visual Impaired People

Rizdania, Fitri Utaminingrum

PARALLEL SESSION : SIET 12

November 25th, 2017

Smart System**13.00-14.45****Venue : Anjasmoro****[ABS-117] New And Renewable Energy : A Review And Perspectives**

Deria Pravitarsari, Sapto Nisworo

[ABS-118] Potential of Irrigation Channels as New Renewable Energy Sources

Sapto Nisworo, Deria Pravitarsari

[ABS-185] Internet-Based Monitoring and Protection on PV Smart Grid System

Sholeh Hadi Pramono, Eka Maulana, Sapriesty Nainy Sari

[ABS-143] IoT based Electrical Energy Consumption Monitoring System Prototype : Case Study in G4 Building Universitas Negeri Malang

Dyah Lestari, Irawan Dwi Wahyono, Irham Fadlika

[ABS-102] Data Gathering in Rural Area using Publish/Subscribe over Wireless Mesh Network

Eko Sakti Pramukantoro, Kasyful Amron, Hanif Kuncahyo Adi

PARALLEL SESSION : SIET 13

November 25th, 2017

Smart City and e-Government

13.00-14.45

Venue : Executive Lounge

[ABS-17] Environmental Electronic Governance (EEG) In Indonesia: Its Current Conditions, Challenges, And Obstacles

Teguh Kurniawan

[ABS-83] Systematic Review of Critical Success Factors of E-Government: Definition and Improvement

Ruci Meiyanti, Muhammad Mishbah, Darmawan Napitupulu, Dana Indra Sensuse, Yudho Giri Sucahyo

[ABS-84] Influential Variables of Behavioral Intention to Use E-Government Services in Indonesia Using The Unified Theory of Acceptance and Use of Technology 2 Model

Ruci Meiyanti, Deki Satria, Dana Indra Sensuse

[ABS-31] Evaluation of Information Technology Implementation on Business Goal Improve And Maintain Business Process Functionality at Economic Development Group East Java Representative Office

Awalludiyah Ambarwati, Ariinta Deraya Ratulangi

[ABS-82] A Systematic Review of Conceptual Frameworks of Smart City Initiative

Ruci Meiyanti, Dana Indra Sensuse

PARALLEL SESSION : SIET 14

November 25th, 2017

Information Technology

13.00-14.45

Venue : Arjuna Hall

[ABS-89] User Experience Measurement On Virtual Dressing Room Of Madura Batik Clothes

Ari Kusumaningsih, Arik Kurniawati, Cucun Very Angkoso, Eko Mulyanto Yuniarno, Mochammad Hariadi

[ABS-16] Garbage Transportation Route Basedon Vehicle Capacity and Container Condition in Central Surabaya

Ricky Setiawan Hartanto, Edwin Hendrawan

[ABS-48] Persuasiveness Web 2.0 in Behavioral Intention: A Conceptual Model

Yohana Dewi Lulu Widyasari, Lukito Edi Nugroho, Adhistya Erna Permanasari

[ABS-72] Location Determination Of City Transport Shelter Based On The Prediction Of Passenger Ocupancy On Route Optimization System (Studi Case : City Transport In Bandung)

Sri Suryani Prasetyowati, Yuliant Sibaroni, Mahmud Imrona

[ABS-1] Performance Testing Analysis on Web Application: Study Case Student Admission Web System

Mayang Anglingsari Putri, Hilman Nuril Hadi, Fatwa Ramdani

PARALLEL SESSION : SIET 15	November 25th, 2017
Conceptual Modeling, Languages and Design	15.00-16.45
Venue : Panderman 1	

[ABS-120] A Knowledge Base Repository Model for Multiple Domain Problem of Distributed Expert System Seviles

Istiadi, Emma Budi Sulistiarini, Dedy Usman Effendi, Rudy Joegijantoro

[ABS-147] Business Intelligence for Physical Examination Platform Service Reporting System

Abba Suganda Girsang, Sani Muhamad Isa, Aditya, Arie Purnama, Christopher Aryaguna, Evans Andita Sukmana, and Ferico Samuel

[ABS-152] Integrated Social Media Knowledge Capture Model in Medical Domain of Indonesia

Farrell Yodihartomo, Dicky Prima Satya

[ABS-160] Management Counseling System For Junior High School Students With Knowledge Management System Approach

Novita, Agnes I.S., Faried, Isnin

[ABS-105] Positive Impact of Customer Relationship Management (CRM) Implementation to Improving The Services of Animal Polyclinics Customers

Edy Prayitno, Novita Amylia Astuti

PARALLEL SESSION : SIET 16	November 25th, 2017
Data Mining	15.00-16.45
Venue : Panderman 2	

[ABS-137] The Performance of Genetic Algorithm Learning Vector Quantization 2 Neural Network on Identification of The Types of Attention Deficit Hyperactivity Disorder

Brilliant Aristyo Rahadian, Candra Dewi, Bayu Rahayudi

[ABS-170] Classification of Provinces Based on Schools Dropout Rate using C4.5 Algorithm

Annas Gading Pertiwi, Triyanna Widyaningtyas, Utomo Pujianto

[ABS-194] Decision Tree to Analyze the Cardiotocogram Data for Fetal Distress Determination

Adhistya Erna Permanasari, Akhsin Nurlayli

[ABS-129] Drought Forecasting Using ANFIS on Tuban Regency, Indonesia

Andreas Nugroho Sihananto, M. Shochibul Burhan, Arief Andy Soebroto, Wayan Firdaus Mahmudy, Fatwa Ramdani, Ahmad Luthfi, Hartanto

[ABS-197] Tide Level Forecast Using Grammatical Evolution

Nerfita Nikentari, Nola Ritha, Lidya Wati

PARALLEL SESSION : SIET 17	November 25th, 2017
Image Processing and Pattern Recognition	15.00-16.45
Venue : Mantra	

[ABS-171] Prediction of Soluble Solid Contents Mapping on Averrhoa Carambola using Hyperspectral Imaging

Maisyarah Yuniar Rangkuti, Cuk Imawan, and Adhi Harmoko Saputro

[ABS-172] Prediction System of Bruising Depth of Guava using Visual-NIR Imaging

Ida Ratna Nila, Cuk Imawan, and Adhi Harmoko Saputro

[ABS-175] Prediction of Paddy Field Area based on Aerial Photography using Multispectral Camera

Prasepvianto Estu Broto, Adhi Harmoko Saputro, Dony Kushardono

[ABS-7] Post-processing and Band Selection for Hyperspectral Image Data Classification with AdaBoost.MH

Destia Sandya Prasvita

PARALLEL SESSION : SIET 18	November 25th, 2017
Smart System	15.00-16.45
Venue : Anjasmoro	

[ABS-184] Effect of Rotational Speed Spin Coating on pH Sensor Performance Based Titanium Dioxide (TiO₂)

Eka Maulana, Onny Setyawati, Novvy Nurdiana Dewi

[ABS-195] WEB Based Real Time Monitoring Electrical Quantities Measurement

Dikpride Despa, Gigih F. Nama, Meizano A Muhammad, K. Anwar

[ABS-8] The Recognition of Mango Varieties Based on The Leaves Shape and Texture Using Backpropagation Neural Network Method

Fathorazi Nur Fajri, Nur Hamid, Ricardus Anggi Pramunendar

[ABS-42] Implementation of Semantic System In The Smart Home Lights Device Based On Agent

Agung Prasetio, Sabriansyah Rizqika Akbar, Bayu Priyambadha

[ABS-44] Message Queue Telemetry Transport Protocols Implementation for Wireless Sensor Networks Communication - A Performance Review

Sabriansyah Rizqika Akbar, Kasyful Amron, Harry Mulya, Sofi Hanifah

PARALLEL SESSION : SIET 19
Computer Engineering and Robotics
Venue : Executive Lounge

November 25th, 2017
15.00-16.45

[ABS-9] Optimizing Single Low-End LAMP Server Using NGINX Reverse Proxy Caching
 Mahendra Data, Muhammad Luthfi, Widhi Yahya

[ABS-52] Design and Implementation 8 bit CPU Architecture on Logisims For Undergraduate Learning Support
 Mochammad Hannats Hanafi Ichsan, Wijaya Kurniawan

[ABS-28] Performance Analysis of A* Algorithm to Determine Shortest Path of Fire Fighting Robot
 Akhmad Alfian Hidayatullah, Anik Nur Handani, Muhammad Jauharul Fuady

[ABS-151] A Control Scheme for Typist Robot using Artificial Neural Network
 Wahyu K. Dewanto, Syamsiar Kautsar, Khafidurrahman Agustianto

[ABS-196] Numerical Analysis and Design of Inverted L Antenna for UHF TV receiver Application
 Chandrasena Setiadi, Erfan Rohadi, Moehammad Sarosa, Isa Mahfudi

PARALLEL SESSION : SIET 20
Media, Game and Mobile Technologies
Venue : Arjuna Hall

November 25th, 2017
15.00-16.45

[ABS-59] Mobile App for Stock Prediction Using Improved Multiple Linear Regression
 Abidatul Izzah, Yuita Arum Sari, Ratna Widyastuti

[ABS-101] Metamorphosys Edugame Using 2048 Game Rules
 Arik Kurniawati, Fahrur Rozi, Yonathan Ferry Hendrawan

[ABS-136] Optimized Walking Straight Guidance System for Visually Impaired Person That Use Android Smartphone
 Rosa Andrie Asmara, Fais Al Huda, Cahya Rahmad, Banni Satria Andoko

[ABS-155] Design of Public Transportation Navigation System on Android Wear Device
 Komang Candra Brata, Aryo Pinandito, Mahardeka Tri Ananta

[ABS-178] Analysis of Web Content Delivery Effectiveness and Efficiency in Responsive Web Design Using Material Design Guidelines and User Centered Design
 Aryo Pinandito, Hanifah Muslimah Az-zahra, Lutfi Fanani, Anggi Valeria Putri



The 2nd International Conference on Sustainable Information Engineering and Technology (SIET 2017)
Batu City, Indonesia, November 24th - 25th 2017

