**LEMBAR**
**HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW***
**KARYA ILMIAH : PROSIDING**

| | | | | |
|---|---|---|---|---|
| Judul Karya Ilmiah | : | Design of self balancing pitch control in fixed wing unmanned aerial vehicle with fuzzy logic controller | | |
| Jumlah Penulis | : | 5 Orang | | |
| Status Pengusul | : | Penulis ke-1 | | |
| Identitas Prosiding | : | a. Judul Prosiding | : | 2015 2nd International Conference on Information Technology, Computer, and Electrical Engineering (ICITACEE) |
| | | b. ISBN/ISSN | : | 978-1-4799-9863-0 |
| | | c. Thn Terbit, Tempat Pelaks. | : | 2015, Semarang, Indonesia |
| | | d. Penerbit/Organiser | : | IEEE |
| | | e. Alamat Repository/Web | : | https://ieeexplore.ieee.org/document/7437801 |
| | | Alamat Artikel | : | http://eprints.undip.ac.id/77989/1/icitacee20152.pdf |
| | | f. Terindeks di (jika ada) | : | Scopus |

Kategori Publikasi Makalah (beri ✓pada kategori yang tepat) : [√] *Prosiding* Forum Ilmiah Internasional
[ ] *Prosiding* Forum Ilmiah Nasional

Hasil Penilaian *Peer Review* :

| Komponen Yang Dinilai | Nilai Reviewer | | Nilai Rata-rata |
|---|---|---|---|
| | Reviewer I | Reviewer II | |
| a. Kelengkapan unsur isi prosiding (10%) | 2,50 | 2,50 | 2,50 |
| b. Ruang lingkup dan kedalaman pembahasan (30%) | 7,50 | 7,50 | 7,50 |
| c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%) | 7,00 | 7,50 | 7,25 |
| d. Kelengkapan unsur dan kualitas terbitan/prosiding(30%) | 7,00 | 7,00 | 7,00 |
| **Total = (100%)** | **24,00** | **24,50** | **24,25** |
| **Nilai Pengusul = (60% x 24,25)= 14,55** | | | |

Semarang,

Reviewer 2

Dr. Iwan Setiawan, S.T., M.T.
NIP. 197309262000121001
Unit Kerja : Teknik Elektro FT UNDIP

Reviewer 1

Dr. Wahyudi, S.T., M.T.
NIP. 196906121994031001
Unit Kerja : Teknik Elektro FT UNDIP

**LEMBAR**
**HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW***
**KARYA ILMIAH : PROSIDING**

| | | | | |
|---|---|---|---|---|
| Judul Karya Ilmiah | : | Design of self balancing pitch control in fixed wing unmanned aerial vehicle with fuzzy logic controller | | |
| Jumlah Penulis | : | 5 Orang | | |
| Status Pengusul | : | Penulis ke-1 | | |
| Identitas Prosiding | : | a. Judul Prosiding | : | 2015 2nd International Conference on Information Technology, Computer, and Electrical Engineering (ICITACEE) |
| | | b. ISBN/ISSN | : | 978-1-4799-9863-0 |
| | | c. Thn Terbit, Tempat Pelaks. | : | 2015, Semarang, Indonesia |
| | | d. Penerbit/Organiser | : | IEEE |
| | | e. Alamat Repository/Web | : | https://ieeexplore.ieee.org/document/7437801 |
| | | Alamat Artikel | : | http://eprints.undip.ac.id/77989/1/icitacee20152.pdf |
| | | f. Terindeks di (jika ada) | : | Scopus |

Kategori Publikasi Makalah (beri ✓pada kategori yang tepat) : [√] *Prosiding* Forum Ilmiah Internasional
[ ] *Prosiding* Forum Ilmiah Nasional

Hasil Penilaian *Peer Review* :

| Komponen Yang Dinilai | Nilai Maksimal Prosiding | | Nilai Akhir Yang Diperoleh |
|---|---|---|---|
| | Internasional ☐ | Nasional ☐ | |
| a. Kelengkapan unsur isi prosiding (10%) | 2,50 | | 2,50 |
| b. Ruang lingkup dan kedalaman pembahasan (30%) | 7,50 | | 7,50 |
| c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%) | 7,50 | | 7,00 |
| d. Kelengkapan unsur dan kualitas terbitan/prosiding(30%) | 7,50 | | 7,00 |
| **Total = (100%)** | **25,00** | | **24,00** |
| **Nilai Pengusul = (60% x 24,00)= 14,44** | | | |

**Catatan Penilaian Paper oleh Reviewer :**

1. **Kesesuaian dan kelengkapan unsur isi paper:** *Isi paper cukup baik dan memenuhi standar kualifikasi untuk publikasi internasional.*
2. **Ruang lingkup dan kedalaman pembahasan:** *Lingkup jurnal sesuai, pembahasan paper cukup detail.*
3. **Kecukupan dan kemutakhiran data/informasi dan metodologi:** *Referensi mutakhir, metode bukan novelty, aplikasi pengembangan.*
4. **Kelengkapan unsur dan kualitas terbitan:** *Kualitas terbitan baik (terindex Scopus Q4).*

Semarang,

Reviewer 1

Dr. Wahyudi, S.T., M.T.
NIP. 196906121994031001
Unit Kerja : Teknik Elektro FT UNDIP

**LEMBAR**
**HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW***
**KARYA ILMIAH : PROSIDING**

| | | | | |
|---|---|---|---|---|
| Judul Karya Ilmiah | : | Design of self balancing pitch control in fixed wing unmanned aerial vehicle with fuzzy logic controller | | |
| Jumlah Penulis | : | 5 Orang | | |
| Status Pengusul | : | Penulis ke-1 | | |
| Identitas Prosiding | : | a. Judul Prosiding | : | 2015 2nd International Conference on Information Technology, Computer, and Electrical Engineering (ICITACEE) |
| | | b. ISBN/ISSN | : | 978-1-4799-9863-0 |
| | | c. Thn Terbit, Tempat Pelaks. | : | 2015, Semarang, Indonesia |
| | | d. Penerbit/Organiser | : | IEEE |
| | | e. Alamat Repository/Web | : | https://ieeexplore.ieee.org/document/7437801 |
| | | Alamat Artikel | : | http://eprints.undip.ac.id/77989/1/icitacee20152.pdf |
| | | f. Terindeks di (jika ada) | : | Scopus |

Kategori Publikasi Makalah (beri ✓pada kategori yang tepat) : [√] *Prosiding* Forum Ilmiah Internasional
[ ] *Prosiding* Forum Ilmiah Nasional

Hasil Penilaian *Peer Review* :

| Komponen Yang Dinilai | Nilai Maksimal Prosiding | | Nilai Akhir Yang Diperoleh |
|---|---|---|---|
| | Internasional [ ] | Nasional [ ] | |
| a. Kelengkapan unsur isi prosiding (10%) | 2,50 | | 2,50 |
| b. Ruang lingkup dan kedalaman pembahasan (30%) | 7,50 | | 7,50 |
| c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%) | 7,50 | | 7,50 |
| d. Kelengkapan unsur dan kualitas terbitan/prosiding(30%) | 7,50 | | 7,00 |
| **Total = (100%)** | **25,00** | | **24,50** |
| **Nilai Pengusul = (60% x 24,50)= 14,70** | | | |

**Catatan Penilaian Paper oleh Reviewer :**

1. **Kesesuaian dan kelengkapan unsur isi paper:** *Isi paper cukup baik dan merupakan hasil eksperimen yang lengkap.*
2. **Ruang lingkup dan kedalaman pembahasan:** *Lingkup jurnal cukup luas, pembahasan paper cukup detail.*
3. **Kecukupan dan kemutakhiran data/informasi dan metodologi:** *Referensi mutakhir, metode dan aplikasi bukan novelty.*
4. **Kelengkapan unsur dan kualitas terbitan:** *Kualitas terbitan baik, terindex Scopus.*

Semarang,

Reviewer 2

Dr. Iwan Setiawan, S.T., M.T.
NIP. 197309262000121001
Unit Kerja : Teknik Elektro FT UNDIP

# Document details

‹ Back to results | ‹ Previous 16 of 18 Next ›

Export Download Print E-mail Save to PDF Add to List More... ›

View at Publisher

ICITACEE 2015 - 2nd International Conference on Information Technology, Computer, and Electrical Engineering: Green Technology Strengthening in Information Technology, Electrical and Computer Engineering Implementation, Proceedings
21 March 2016, Article number 7437801, Pages 211-215
2nd International Conference on Information Technology, Computer, and Electrical Engineering, ICITACEE 2015; Semarang; Indonesia; 16 October 2015 through 18 October 2015; Category numberCFP1589Z-PRT; Code 121061

## Design of self balancing pitch control in fixed wing unmanned aerial vehicle with fuzzy logic controller (Conference Paper)

Triwiyatno, A. ✉, Syafei, W.A. ✉, Prakoso, T., Setiyono, B., Wijaya, A.P.

Department of Electrical Engineering, Engineering Faculty, Diponegoro University, Semarang, Indonesia

## Abstract

View references (19)

In UAV flight controller's design, the occurrence of errors due to the delay in the system response to the reference signal from the pilot and the lack of stability in flat conditions due to interference or unbalanced mechanical load. When this happens UAV can not be controlled and the flight conditions can not be maintained any more. Fuzzy controller offers a solution for the development of UAV's stability controllers, specialized in the design of the autopilot system that controls the pitch angle of the UAV. This research has been developing a prototype of fixed wing UAV that can be controlled wirelessly and has ability to maintain the balance on the pitch angle of the flat conditions (self-balancing). Run test results show that the applied fuzzy method succesfully controls the pitch angle to maintain a flat condition the developed UAV. © 2015 IEEE.

## SciVal Topic Prominence

Topic: Aircraft control | Inertial navigation systems | Flight control systems

Prominence percentile: 43.495

## Author keywords

fuzzy controller | microcontroller | pitch angle | self-balancing | UAV fixed wing

## Indexed keywords

Engineering controlled terms: Aircraft control | Antennas | Fixed wings | Fuzzy logic | Green computing | Microcontrollers | System stability | Unmanned aerial vehicles (UAV)

Engineering uncontrolled terms: Autopilot systems | Flight conditions | Flight controllers | Fuzzy controllers | Fuzzy logic controllers | Pitch angle | Reference signals | Self-balancing

Engineering main heading: Controllers

ISBN : 978-1-4799-9861-6

# 2015 IOITAOEE

THE 2nd INTERNATIONAL CONFERENCE ON INFORMATION TECHNOLOGY, COMPUTER, AND ELECTRICAL ENGINEERING

October 16 - 18th, 2015

# PROCEEDINGS

"GREEN TECHNOLOGY STRENGTHENING IN INFORMATION TECHNOLOGY, ELECTRICAL, AND COMPUTER ENGINEERING IMPLEMENTATION"

IEEE

Conferences > 2015 2nd International Confer...

# Novel device architectures and carbon based materials for future nanoelectronics

Publisher: IEEE

1 Author(s) Razali Ismail View All Authors







**Abstract:** The Metal-Oxide-Semiconductor Field-Effect Transistor (MOSFET) constitutes the backbone of today's microelectronics industry. MOSFETs are the building blocks of very-larg... **View more**

## Metadata

**Abstract:**
The Metal-Oxide-Semiconductor Field-Effect Transistor (MOSFET) constitutes the backbone of today's microelectronics industry. MOSFETs are the building blocks of very-large-scale-integrated (VLSI) circuits in microprocessors, memory chips and telecommunications microcircuits. A modern microprocessor can contain more than 2 billion MOSFETs. MOSFETs are mainly used as switches in logic microcircuits. To a large extent, the success of modern microelectronics is based on the continuous miniaturization or scaling of silicon MOSFET, which makes them smaller, faster, and cheaper. Over the past few decades, the miniaturization in silicon integrated circuits (IC's) has been well characterized and envisioned by Moore's Law, which predicted that the numbers of transistors on a chip will double every 18 to 24 months. So far, Moore's Law has been a useful way of describing the progress of ICs and the number of transistors fitted into each generation of processors. However, physical and performance limitations are encountered with the continuous downscaling of the transistor into the nanometer regime which motivates the semiconductor industry to explore alternative device technologies. Novel device architectures and materials are to be investigated in order to continue to increase the speed and scalability of MOSFET devices. This will lead to a new paradigm for future nanoelectronic device design. In [illegible] the primary challenges that the industry has identified is how to decrease the size of semiconductors while increasing the performance standard to meet consumer demands with the hope of maintaining the Moore's exponential growth. Hence "Beyond Moore'

plan is introduced to identify alternatives to the conventional MOSFET transistor. This plan includes new device designs such as the vertical MOSFET, dual-gate FET and FinFET as an alternative to the existing planar transistor. In addition, it is also r...

**(View more)**

**Published in:** 2015 2nd International Conference on Information Technology, Computer, and Electrical Engineering (ICITACEE)

**Date of Conference:** 16-18 Oct. 2015

**Date Added to IEEE *Xplore*:** 24 March 2016

**ISBN Information:**
**Electronic ISBN:** 978-1-4799-9863-0
**Print ISBN:** 978-1-4799-9861-6
**DVD ISBN:** 978-1-4799-9860-9
**USB ISBN:** 978-1-4799-9862-3

**INSPEC Accession Number:** 15872258

**DOI:** 10.1109/ICITACEE.2015.7437758

**Publisher:** IEEE

**Conference Location:** Semarang, Indonesia

Razali Ismail
Cambridge University, U.K.



## Contents

**Brief Biography**

Razali Ismail received the B.Sc. and M.Sc. degrees in Electrical and Electronic Engineering from the University of Nottingham, Nottingham, U.K. in 1980 and 1983 respectively and the Ph.D. degree from Cambridge University, Cambridge, U.K., in 1989.



### Authors

Razali Ismail
Cambridge University, U.K.

### Keywords

### Metrics

Conferences > 2015 2nd International Confer...

# Novel device architectures and carbon based materials for future nanoelectronics

Publisher: IEEE

1 Author(s) Razali Ismail View All Authors







**Abstract:** The Metal-Oxide-Semiconductor Field-Effect Transistor (MOSFET) constitutes the backbone of today's microelectronics industry. MOSFETs are the building blocks of very-larg... **View more**

## Metadata

**Abstract:**
The Metal-Oxide-Semiconductor Field-Effect Transistor (MOSFET) constitutes the backbone of today's microelectronics industry. MOSFETs are the building blocks of very-large-scale-integrated (VLSI) circuits in microprocessors, memory chips and telecommunications microcircuits. A modern microprocessor can contain more than 2 billion MOSFETs. MOSFETs are mainly used as switches in logic microcircuits. To a large extent, the success of modern microelectronics is based on the continuous miniaturization or scaling of silicon MOSFET, which makes them smaller, faster, and cheaper. Over the past few decades, the miniaturization in silicon integrated circuits (IC's) has been well characterized and envisioned by Moore's Law, which predicted that the numbers of transistors on a chip will double every 18 to 24 months. So far, Moore's Law has been a useful way of describing the progress of ICs and the number of transistors fitted into each generation of processors. However, physical and performance limitations are encountered with the continuous downscaling of the transistor into the nanometer regime which motivates the semiconductor industry to explore alternative device technologies. Novel device architectures and materials are to be investigated in order to continue to increase the speed and scalability of MOSFET devices. This will lead to a new paradigm for future nanoelectronic device design. In [illegible] the primary challenges that the industry has identified is how to decrease the size of semiconductors while increasing the performance standard to meet consumer demands with the hope of maintaining the Moore's exponential growth. Hence "Beyond Moore'

plan is introduced to identify alternatives to the conventional MOSFET transistor. This plan includes new device designs such as the vertical MOSFET, dual-gate FET and FinFET as an alternative to the existing planar transistor. In addition, it is also r...

**(View more)**

**Published in:** 2015 2nd International Conference on Information Technology, Computer, and Electrical Engineering (ICITACEE)

**Date of Conference:** 16-18 Oct. 2015

**Date Added to IEEE *Xplore*:** 24 March 2016

**ISBN Information:**
**Electronic ISBN:** 978-1-4799-9863-0
**Print ISBN:** 978-1-4799-9861-6
**DVD ISBN:** 978-1-4799-9860-9
**USB ISBN:** 978-1-4799-9862-3

**INSPEC Accession Number:** 15872258

**DOI:** 10.1109/ICITACEE.2015.7437758

**Publisher:** IEEE

**Conference Location:** Semarang, Indonesia

Razali Ismail
Cambridge University, U.K.



## Contents

**Brief Biography**

Razali Ismail received the B.Sc. and M.Sc. degrees in Electrical and Electronic Engineering from the University of Nottingham, Nottingham, U.K. in 1980 and 1983 respectively and the Ph.D. degree from Cambridge University, Cambridge, U.K., in 1989.



### Authors

Razali Ismail
Cambridge University, U.K.

### Keywords

### Metrics

# 2015 2nd International Conference on Information Technology, Computer, and Electrical Engineering (ICITACEE)

# Conference Committee

**General Chair** : R. Rizal Isnanto (Universitas Diponegoro)
**Co-Chair** : Mochammad Facta (Universitas Diponegoro)
**Secretary** : Dania Eridani

**Organizing Committee**:

Munawar Agus Riyadi
Adian Fatchur Rochim
Rinta Kridalukmana
Oky Dwi Nurhayati
Kurniawan Teguh Martono
Eko Didik Widianto
Ike Pertiwi Windasari
Adnan Fauzi
Andi Widiasmoro
Okta Purnamasari
Melati Mawas Titi

**Steering Commitee:**

Hiroshi Ochi (Kyushu Institute of Technology, Jepang)
Hiroshi Furukawa (Kyushu University, Jepang)
Kuncoro Wastuwibowo (IEEE Indonesia Section)
Trio Adiono (IEEE Solid State Circuits Indonesian Chapter)
Heri Mauridhie (Sepuluh Nopember Institute of Technology)
Razali Ismail (University Teknologi Malaysia)
Taufik (California Polytechnic State, USA)

**Technical Program Committee**:

Wahyul Amien Syafei (Diponegoro University, Indonesia)
R. Rizal Isnanto (Diponegoro University, Indonesia)
Mochammad Facta (Diponegoro University, Indonesia)
Teguh Prakoso (Diponegoro University, Indonesia)
Munawar Agus Riyadi (Diponegoro University, Indonesia)
Oky Dwi Nurhayati (Diponegoro University, Indonesia)
Aris Triwiyatno (Diponegoro University, Indonesia)
Hermawan (Diponegoro University, Indonesia)
Sidiq Syamsul Hidayat (Semarang State Polytechnics, Indonesia)
Trio Adiono (Bandung Institute of Technology, Indonesia)
Heri Mauridhie (Sepuluh Nopember Institute of Technology, Indonesia)
Masayuki Kurosaki (Kyushu University, Jepang)
Adhi Susanto (Gadjah Mada University, Indonesia)

# TABLE OF CONTENTS

### *Green Technology*

### *Electronics and Devices*



### *Power Systems*

# Two phase flow imaging using infra red tomography

**Publisher: IEEE**



4 Author(s) Sallehuddin Ibrahim ; Mohd Amri Md Yunus ; Mohd Taufiq Md Khairi ; Muh… View All Authors







**Abstract:** Data on flow regimes is important in measuring and analyzing industrial process flow. This paper presents an investigation on the use of an infra red tomography system us... **View more**

## Metadata

**Abstract:**
Data on flow regimes is important in measuring and analyzing industrial process flow. This paper presents an investigation on the use of an infra red tomography system using 16 × 16 infra red sensors to monitor solid particles conveyed by a pneumatic conveyor in a vertical gravity flow rig. The sensor output is processed by a signal conditioning circuit followed by a data acquisition system before being displayed by a computer. The operation of the whole measurement is controlled by a digital timing controller. Four types of flow models i.e. single pixel, multiple pixels, half flow and full flow were experimented with. The system has been tested with solid particles at various flow rates using several algorithms and has shown to be capable of providing images of the flow concentration profiles.

**Published in:** 2015 2nd International Conference on Information Technology, Computer, and Electrical Engineering (ICITACEE)

**Date of Conference:** 16-18 Oct. 2015

**Date Added to IEEE *Xplore*:** 24 March 2016

**INSPEC Accession Number:** 15886214

**DOI:** 10.1109/ICITACEE.2015.7437800

**Publisher:** IEEE

**ISBN Information:**

**Conference Location:** Semarang, Indonesia

Sallehuddin Ibrahim
Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Johor Bahru, Malaysia

Mohd Amri Md Yunus
Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Johor Bahru, Malaysia

Mohd Taufiq Md Khairi
Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Johor Bahru, Malaysia

Muhammad Abu Bakar Sidik
Institut of High Voltage and High Current (IVAT), Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Johor, Malaysia

## Contents



Tomography derives from the two Greek words i.e. tomo which means slice and graph which means picture [1]. The history of tomography dated back to the discovery of x-ray. The discovery of x-ray by Wilhelm Roentgen in 1895 proved to be a significant contribution in modern medicine. Such invention enabled us to probe both non-living and living objects without invading the subject itself [2]. However this type of projection still has some flaws as the images were formed by superimposing all planes normal to the direction of X-ray propagation. Beginning from 1930s conventional tomography made use of the tomographic method based on the X-ray radiation which provided two and three dimensions of images [3]. In the late 1960s the use of tomography attracted the interest of those in the process industries including those involved in flow measurement [3]. They began to explore ways of exploiting tomography to extract vital data on flow.



## Authors

Sallehuddin Ibrahim
Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Johor Bahru, Malaysia

Mohd Amri Md Yunus
Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Johor Bahru, Malaysia

Mohd Taufiq Md Khairi
Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Johor Bahru, Malaysia

Muhammad Abu Bakar Sidik
Institut of High Voltage and High Current (IVAT), Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Johor, Malaysia

## Figures

## References

## Keywords

# Autoregressive moving average modeling in the financial sector

**Publisher: IEEE**



6 Author(s) Peihao Li ; Chaoqun Jing ; Tian Liang ; Mingjia Liu ; Zhenglin Chen ; Li Guo **View All Authors**







**Abstract:** Time series modelling has long been used to make forecast in different industries with a variety of statistical models currently available. Methods for analyzing changing... **View more**

## Metadata

**Abstract:**
Time series modelling has long been used to make forecast in different industries with a variety of statistical models currently available. Methods for analyzing changing patterns of stock prices have always been based on fixed time series. Considering that these methods have ignored some crucial factors in stock prices, we use ARIMA model to predict stock prices given the stock-trading volume and exchange rate as independent variables to achieve a more stable and accurate prediction process. In this paper we will introduce the modeling process and give the estimate SSE (Shanghai Stock Exchange) Composite Index to see the model's estimation performance, which proves to be feasible and effective.

**Published in:** 2015 2nd International Conference on Information Technology, Computer, and Electrical Engineering (ICITACEE)

**Date of Conference:** 16-18 Oct. 2015

**Date Added to IEEE *Xplore*:** 24 March 2016

**INSPEC Accession Number:** 15886216

**DOI:** 10.1109/ICITACEE.2015.7437772

**Publisher:** IEEE

**ISBN Information:**

**Conference Location:** Semarang, Indonesia

Peihao Li
Northwestern Polytechnical University, Xi'an, China

Chaoqun Jing
Northwestern Polytechnical University, Xi'an, China

Tian Liang
Northwestern Polytechnical University, Xi'an, China

Mingjia Liu
Northwestern Polytechnical University, Xi'an, China

Zhenglin Chen
Northwestern Polytechnical University, Xi'an, China

Li Guo
Northwestern Polytechnical University, Xi'an, China

## Contents



Autoregressive moving average model (ARIMA) is a statistical analysis model which utilizes time series data to predict future data. It is a form of regression analysis that seeks to predict future movements along the seemingly random walk taken by stocks and the financial market by examining the differences between values in the series instead of using the actual data values. Lags of the differenced series are referred to as “autoregressive” and lags within forecasted data are referred to as “moving average.” The general model includes autoregressive as well as moving average parameters, and explicitly includes differencing in the formulation of the model. Specifically, the three types of parameters in the model are: the autoregressive parameters (p), the number of differencing passes (d), and moving average parameters (q) [1]. These models are fitted to time series data either to better understand the data or to predict future points in the series (forecasting). They are applied in some cases where data show evidence of non-stationarity, where an initial differencing step (corresponding to the “integrated” part of the model) can be applied to reduce the nonstationarity [2]. ARIMA modeling can take into account trends, seasonality, cycles, errors and non-stationary aspects of a data set when making forecast.

## Authors

Peihao Li
Northwestern Polytechnical University, Xi'an, China

Chaoqun Jing
Northwestern Polytechnical University, Xi'an, China

Tian Liang
Northwestern Polytechnical University, Xi'an, China

Mingjia Liu
Northwestern Polytechnical University, Xi'an, China

# Statistical methods' application in Comprehensive Sustainability Index and its application in regional sustainability measurement

Publisher: IEEE

Cite This

2 Author(s) Peihao Li ; Mingjia Liu View All Authors







**Abstract:** In this paper, we apply efforts to explore the insights of sustainable development of states and to develop a model based on factor analysis aiming at evaluating sustaina... **View more**

## Metadata

**Abstract:**
In this paper, we apply efforts to explore the insights of sustainable development of states and to develop a model based on factor analysis aiming at evaluating sustainability in a qualitative and quantitative method, thus distinguishing more sustainable countries which can help elaborate sustainable development plans, and evaluate the effectiveness of such plans. We use the term Comprehensive Sustainability Index (CSI) to measure sustainability and such index is determined by a linear combination of a set of indicators. Two primary challenges of establishing such sustainability model lie in the selection of indicators and determination of weights of indicators. We select 10 representative indicators coming from three aspects: social development, economic development and environmental protection. Considering it's difficult for us to figure out the insight relations among sustainability indicators, we use factor analysis to convert observations of correlated variables into values of linearly uncorrelated variables called factors thus determining the weights of indicators. In the evaluation section, we select 15 countries to form the sample-5 least developed countries, 5 developing countries and 5 developed countries. By calculating the value of CSI of each country, we find out that there are clear differences among the CSIs of the three kinds of countries. And based on such differences, we reach classification of CSI. Furthermore, we define sustainable development by comparing CSI (whether the CSI is greater than certain value). By comparing the contribution of each indicator to the CSI and the variation trend of the indicator, which is represented by the gradient of the regression curve, we detect disadvantageous aspects of certain countries' efforts toward

a more sustainable future. Based such analysis, we put forward our 20 Year Development Plan. We also conclude with concrete values of indicators that are required to be achieved.

**Published in:** 2015 2nd International Conference on Information Technology, Computer, and Electrical Engineering (ICITACEE)

**Date of Conference:** 16-18 Oct. 2015

**Date Added to IEEE *Xplore*:** 24 March 2016

**ISBN Information:**

**INSPEC Accession Number:** 15872279

**DOI:** 10.1109/ICITACEE.2015.7437787

**Publisher:** IEEE

**Conference Location:** Semarang, Indonesia

Peihao Li
School of Astronautics, Northwestern Polytechnical University, Xi'an, China

Mingjia Liu
School of Software Engineering and Microelectronics, Northwestern Polytechnical University, Xi'an, China

## Contents





**Authors**

Peihao Li
School of Astronautics, Northwestern Polytechnical University, Xi'an, China

Mingjia Liu
School of Software Engineering and Microelectronics, Northwestern Polytechnical University, Xi'an, China

# A mobile Diabetes educational system for fasting Type-2 diabetics in Saudi Arabia

**Publisher: IEEE**



1 Author(s) Mohammed Alotaibi **View All Authors**







**Abstract:** The diagnosis and management of Diabetes is often a complicated process. The complications especially increases during the month of Ramadan wherein Muslim patients are ob... **View more**

## Metadata

**Abstract:**
The diagnosis and management of Diabetes is often a complicated process. The complications especially increases during the month of Ramadan wherein Muslim patients are obliged to observe fasting. Recent mobile health technologies are increasingly used in improving the self-management of chronic diseases such as diabetes and several studies have proven its efficiency. Further, research has shown that increased awareness of the disease helps the diabetics to effectively manage their disease and consequently reduce the complications arising due to diabetes. In this paper, an education program for fasting diabetes patients in Kingdom of Saudi Arabia is presented. The education program makes use of an intelligent mobile diabetes management system named SAED, tailored for Type-2 diabetes patients in Kingdom of Saudi Arabia to increase the awareness of the disease amongst the patients. The aim of the education program is to empower the diabetics with relevant knowledge about disease management during the fasting period in particular and improve their awareness about the disease in general. The proposed structure of the education program is presented in this paper which will be tested and evaluated extensively in a randomized controlled trial in Saudi Arabia.

**Published in:** 2015 2nd International Conference on Information Technology, Computer, and Electrical Engineering (ICITACEE)

**Date of Conference:** 16-18 Oct. 2015

**Date Added to IEEE *Xplore*:** 24 March 2016

**ISBN Information:**

**INSPEC Accession Number:** 15886205

**DOI:** 10.1109/ICITACEE.2015.7437793

**Publisher:** IEEE

**Conference Location:** Semarang, Indonesia

Mohammed Alotaibi
Faculty of Computer Science and Information Technology, University of Tabuk, Saudi Arabia

## Contents

**I. Introduction**

Globally, Diabetes Mellitus is one of the most common chronic diseases. It has been estimated that approximately 382.8 million people between the ages of 20 and 79 are suffering with this condition around the world. The worldwide costs for treatment of diabetes and its related complications in 2013 was estimated to be around $548 billion [1]. Specifically, the Kingdom of Saudi Arabia (KSA) has the seventh highest prevalence of diabetes in the world with over one-fifth of its population suffering with the disease [2]. Clearly, Diabetes is a serious public health concern and hence requires significant attention for better diagnosis and management.



### Authors

Mohammed Alotaibi
Faculty of Computer Science and Information Technology, University of Tabuk, Saudi Arabia

### Figures

### References

### Keywords

### Metrics

2015 ICITACEE
THE 2nd INTERNATIONAL CONFERENCE ON INFORMATION TECHNOLOGY, COMPUTER, AND ELECTRICAL ENGINEERING

"GREEN TECHNOLOGY STRENGTHENING IN INFORMATION TECHNOLOGY, ELECTRICAL, AND COMPUTER ENGINEERING IMPLEMENTATION"

# CERTIFICATE

awarded to :

## Aris Triwiyatno

as

## PRESENTER

IN THE 2nd INTERNATIONAL CONFERENCE ON INFORMATION TECHNOLOGY, COMPUTER, AND ELECTRICAL ENGINEERING

**(ICITACEE 2015)**

Department of Computer Engineering, Diponegore University
Semarang, October 16th, 2015

ICITACEE 2015
Computer Engineering Department
Diponegoro University

**Ir. M. Agung Wibowo, MM, MSc, PhD**
Dean of Faculty Engineering, Diponegoro University

**Dr. R. Rizal Isnanto, S.T, M.M., M.T.**
General Chair

No. 776/UN7.P/HK/2015