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Tarumanagara International Conference on the Application of Technology and Engineering 2023

Continuous Research in Generating Innovation to Support the Welfare of Global Society

October 6, 2023 Via zoom

KEYNOTE SPEAKERS

Dr. Ayub Ahmed Janvekar
Vellore Institute of Technology, India

***Prof. Dr. Mahadzir Bin Ishak**
Universiti Malaysia Pahang Al-Sultan Abdullah, Malaysia
(*to be confirmed)

IMPORTANT DATES

SUBMISSION DEADLINE
September 23, 2023

ACCEPTANCE NOTIFICATION
September 26, 2023

CAMERA READY & REGISTRATION
October 2, 2023

CONFERENCE DATE
October 6, 2023

REGISTRATION FEES

Presenters	
International	USD 200
Indonesian	IDR 2,500,000
Student	IDR 2,000,000
Additional pages	IDR 2,000,000
Participants	
International	USD 75
Indonesian	IDR 600,000
Students	IDR 400,000

PAPER SUBMISSION

Submissions must be original and should not have been published previously or be under consideration for publication while being evaluted for TICATE 2023.
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TICATE | Kampus Merdeka INDONESIA JAYA

Tarumanagara International Conference on the Application of Technology and Engineering

Certificate

No: 005 /TICATE-UNTAR/X/2023

OF ACHIEVEMENT

Joni Fat, ST. ME. MT.

FOR THE CONTRIBUTION AS:

PRESENTER

PAPER TITLE:

Triangle Hedging and Averaging Trading Robot for Metatrader 4 Platform

Universitas Tarumanagara, Friday October 6th, 2023

Prof. Dr. Ir. Agustinus Purna Irawan, M.T., M.M., IPU., A.E.
Rector

Didi Widya Utama, S.T., M.T., Ph.D.
Chairman

Jakarta, 25th of September 2023
No. : 001-TIM/3440/UNTAR/IX/2023

ABSTRACT ACCEPTANCE NOTIFICATION
Reference Number **: TICATE-005**
Title : Triangle Hedging and Averaging Trading Robot for Metatrader 4 Platform
Author : Joni Fat, Handian Satria Utama, Hendry Candra, Wati Asriningsih Pranoto, Axel Irving Yoshua, Tyven Christopher Gilbert

Dear Sir/Madam,

Thank you for your paper submission to the TICATE 2023. We are pleased to inform you that your fullpaper submission is accepted for presentation in TICATE 2023. Due to some outstanding reviews for other submissions, however, the review result is not yet available. Currently the review is still on progress. In the meantime, we recommend that you check your manuscript to minimize obvious errors, such as formatting and grammatical errors.

We invite you to present your paper at the conference. All the paper presented in TICATE 2023 will be published in International Journal of Application on on Sciences, Technology and Engineering.

Further updated information will be published in our website (http://ticate.untar.ac.id)

If you have any questions, please do not hesitate to contact us.

Sincerely,

Didi Widya Utama, ST., MT., Ph.D.
Chairman of Ticate 2023

Paper ID	:	Triangle Hedging and Averaging Trading Robot For Metatrader 4 Platform
Title	:	005

1. Abstract

- Abstract summarizes the objective or scope of study [ ] Weak [X] Satisfactory [ ] Strong
- State the major conclusions drawn from the results [ ] Weak [X] Satisfactory [ ] Strong

Reviewer Notes :

2. Introduction

- Purpose/ goal/ importance of the study clearly stated [ ] Weak [X] Satisfactory [ ] Strong
- The approach to carrying out the study is briefly started [ ] Weak [X] Satisfactory [ ] Strong

Reviewer Notes :

3. Designs and method

- Quality of Study Methodology [ ] Weak [X] Satisfactory [ ] Strong
- Describes technical experiments and proposed methods of data analysis [ ] Weak [X] Satisfactory [ ] Strong

Reviewer Notes :

4. Discussion

- Overall context of the research is clearly stated [ ] Weak [X] Satisfactory [ ] Strong
- Explanation why original hypothesis is supported / not supported [ ] Weak [X] Satisfactory [ ] Strong
- Conclusions are drawn from the evidence of results [ ] Weak [X] Satisfactory [ ] Strong

Reviewer Notes :

5. References

- References appropriate and sufficient [ ] Weak [X] Satisfactory [ ] Strong
- Proper and consistent formatting and sequencing of references cited [ ] Weak [ ] Satisfactory [X] Strong

Reviewer Notes :
.

6. Recommendation:

[ ] Accept [X] Minor revision [ ] Major revision [ ] Reject

7. Comment

TRIANGLE HEDGING AND AVERAGING TRADING ROBOT FOR METATRADER 4 PLATFORM

Joni Fat[1], Hadian Satria Utama[2],Henry Candra[3], Wati Asriningsih Pranoto[4], Axel Irving Yoshua[5], Tyven Christopher Gilbert[6]

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Enter : dd-mm-yyyy, revision: dd-mm-yyyy, accepted for publication : dd-mm-yyyy

ABSTRACT

This research designs and tests a trading robot designed for the MetaTrader 4 platform. The basic concept of this trading robot is triangular hedging, which involves trading three related currency pairs simultaneously. This robot is designed to automatically execute trades on three currency pairs that form a triangle, with the aim of exploiting price differences and correlations between these currency pairs. In addition, the robot also incorporates an averaging strategy, which makes it possible to correct losing trading positions by opening additional positions at better prices. This averaging strategy helps reduce potential losses and increase the chances of profits in the long term. This robot is also equipped with risk management, including stop loss and take profit settings, which helps protect traders' capital from large losses and keeps risks under control. Testing of the robot is carried out using the forward test method with a demo account. Testing was carried out between 9 June 2023 to 20 September 2023. The initial capital for the demo account was 100USD. The research results show that robots have the potential to generate stable profits (175.58%) and manage risks well (61.42% - although this risk level is still relatively very high). The designed robot can be a valuable alternative tool for Forex traders looking for a more diversified and effective approach to trading. With the use of these robots, traders can make trading decisions that are more informed and responsive to market changes, increasing the chances of success in Forex investments.

Keywords: *Averaging, Forex, Trading Robot, Triangle Hedging.*

1. PREFACE

Introduction

The foreign exchange (forex) market is one of the largest and most liquid financial markets in the world, with trading activity reaching trillions of dollars per day. However, Forex is also known as a very complex and high-risk market. High volatility, rapid changes and global factors affecting exchange rates make trading in these markets a serious challenge. Technology has played an increasingly important role in solving these challenges and improving business outcomes (Smith & Jouganatos, 2018). One innovation is the development of a trading robot that combines a triangle hedging strategy with averaging on the MetaTrader 4 (MT4) platform. This trading robot aims to improve the efficiency and performance of Forex trading by providing

more responsive and versatile solutions to traders operating in a changing environment. Several previous studies have shown the effectiveness of using trading robots to improve trading in the Forex market. For example, the use of trading robots with different trading strategies could increase profits and reduce risks in Forex trading (Arantes et al., 2019). Another example is the use of trading robots that use market sentiment analysis, which can generate significant profits in forex trading (Kwon and Kim, 2019).

This trading robot combines two proven trading strategies, namely triangle hedging and averaging (Johnson & Smith, 2019; Wang & Li, 2021). Triangle hedging means trading three related currency pairs simultaneously to take advantage of price differences between them. This strategy allows robot to exploit price imbalances and correlations between currency pairs. On the other hand, the averaging strategy allows the robot to open additional positions at a better price to compensate for lost trading positions. This helps reduce potential losses and increases the chances of winning in the long run (Stamoulis & Sogiakas, 2017).

Problem Formulation

The purpose of this research is to answer several questions about the development and implementation of trading robots in complex currency markets. Some of the questions addressed in this study include:

1. Can combining triangle hedging and averaging strategies in a trading robot improve forex trading? In this case, it is evaluated whether using these two strategies together will give better trading results.
2. How do these trading robots perform in different market conditions? The robot is tested against real market data in various market conditions, including volatile and stable markets, to assess how well it adapts and makes consistent profits.
3. Can this trading robot manage risk well? Risk management is an important factor in currency trading. Robots must be able to effectively protect the investor's capital and reduce the possibility of large losses.

2. RESEARCH METHOD

The purpose of the research method used in this study is to develop, test and optimize a trading robot for the MetaTrader 4 (MT4) platform. The following steps and methods are used:

1. Development of trading robots, including algorithm development. The trading robot algorithm was developed by combining triangle hedging and averaging strategies. It includes programming and coding algorithms that allow the robot to make trading decisions based on pre-planned strategies.
2. Testing robot performance using real market data. Robot testing is done in real market situations on a demo account. This test tests the robot's ability to adapt to dynamic and unstable market conditions.
3. Risk assessment and capital management:
    a. Risk Analysis: Analysis can be used to understand the potential losses and risk level associated with the trading strategy of the robot (Wu & Shieh, 2019).
    b. Capital Management: Applying appropriate capital management strategies to protect traders' capital.

4. Integration with the MT4 platform. The trading robot has been integrated into the MetaTrader 4 platform, and tests have been carried out in the MT4 environment to ensure the functionality of this robot on the platform commonly used by Forex traders.
5. Analysis of results:
   a. Robot Performance: Analyze trading robot test results, including performance, risk/reward and performance under various market conditions.
   b. Risk assessment: The risks associated with the trading strategy, including the possibility of large losses, are carefully assessed.

3. RESULT AND DISCUSSION

The results of this study show that the developed trading robot has significant potential to improve trading in the Forex market. The integration with the MetaTrader 4 (MT4) platform works well (Figure 1). This robot shows stability while working in an MT4 environment which is used by many Forex traders. Interacting with this robot through MT4 is relatively simple and intuitive through its user interface (UI), allowing traders to use the robot effectively (Figure 2).

Figure 1. Integration Robot to MetaTrader 4 (MT4) Platform

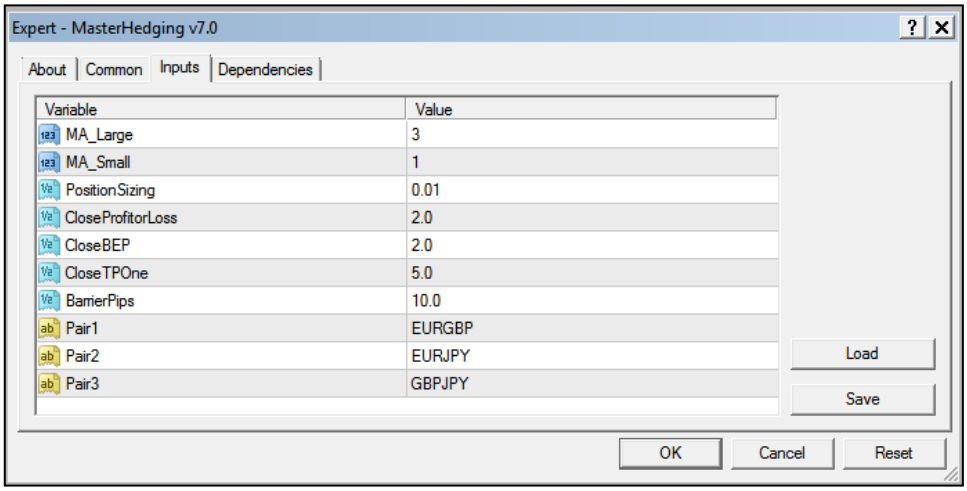

Figure 2. UI

This trading robot was able to generate consistent profits during the testing period. The trial period is June 9, 2023 - September 20, 2023 (Figure 3). During the trial period, the profit of the demo account was 175.58%. As a result, the basic capital increased from USD 100 to USD 275.58. But the loss value is still floating, namely -$87.05. Robots also have sensitive abilities to adapt to changing market conditions. When the market experiences high volatility, the robot is

able to reduce the risk, although the withdrawal value is still relatively high, i.e. 61.42%. From the trade made by the robot, it can be seen that the robot is able to take profits and cut losses (Figure 4). Figure 5 shows the demo account balance, profit/loss, and equity.

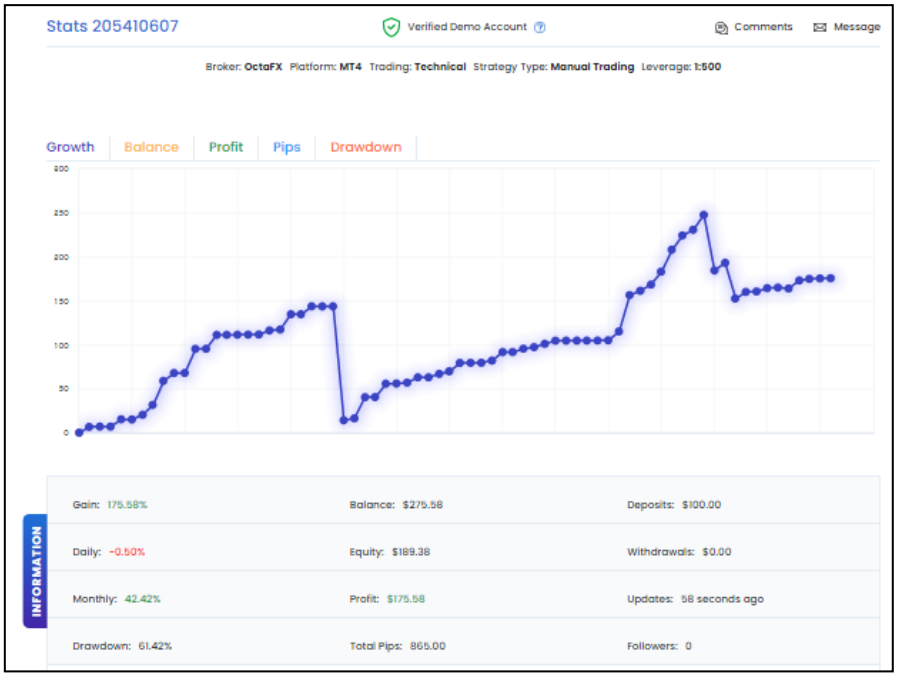

Figure 3. Trial Result for The Period of June 9, 2023 - September 20, 2023

Closed Transactions:

Ticket	Open Time	Type	Size	Item	Price	S / L	T / P	Close Time	Price	Commission	Taxes	Swap	Profit
192287253	2023.06.09 04:33:36	balance	D/Demo										100.00
192309509	2023.06.09 08:58:00	sell	0.03	gbpaud	1.87116	0.00000	0.00000	2023.06.09 13:21:00	1.86966	0.00	0.00	0.00	3.02
192356686	2023.06.09 14:08:00	sell	0.03	gbpaud	1.86852	0.00000	0.00000	2023.06.09 20:05:00	1.86674	0.00	0.00	0.00	3.60
192435736	2023.06.09 20:08:00	sell	0.03	gbpaud	1.86623	0.00000	0.00000	2023.06.12 01:14:32	1.86623	0.00	0.00	0.00	0.00
192500107	2023.06.12 01:26:00	sell	0.03	gbpaud	1.86550	0.00000	0.00000	2023.06.12 05:15:34	1.86550	0.00	0.00	0.00	0.00
192521956	2023.06.12 05:43:00	buy	0.03	euraud	1.59422	0.00000	0.00000	2023.06.13 03:50:01	1.59422	0.00	0.00	0.00	0.00
192525523	2023.06.12 06:23:00	sell	0.03	gbpaud	1.86506	0.00000	0.00000	2023.06.12 07:22:01	1.86493	0.00	0.00	0.00	0.27
192531899	2023.06.12 07:22:01	sell	0.03	eurgbp	0.85423	0.00000	0.00000	2023.06.16 21:42:02	0.85284	0.00	0.00	0.00	5.35
192697012	2023.06.13 00:14:06	sell	0.03	gbpaud	1.85186	0.00000	0.00000	2023.06.13 09:21:38	1.85185	0.00	0.00	0.00	0.02
192740134	2023.06.13 08:15:00	buy	0.03	euraud	1.59562	0.00000	0.00000	2023.06.13 08:15:18	1.59562	0.00	0.00	0.00	0.00
192783584	2023.06.13 12:18:00	buy	0.03	euraud	1.59452	0.00000	0.00000	2023.06.13 12:49:04	1.59452	0.00	0.00	0.00	0.00
192980521	2023.06.14 10:19:02	sell	0.03	gbpaud	1.86114	0.00000	0.00000	2023.06.14 10:54:01	1.86024	0.00	0.00	0.00	1.83
193112592	2023.06.14 19:55:00	buy	0.03	euraud	1.59032	0.00000	0.00000	2023.06.14 21:41:01	1.59350	0.00	0.00	0.00	6.48
193168326	2023.06.15 00:13:00	sell	0.03	gbpaud	1.86080	0.00000	0.00000	2023.06.15 05:06:34	1.86080	0.00	0.00	0.00	0.00
193169315	2023.06.15 00:53:00	buy	0.03	euraud	1.59394	0.00000	0.00000	2023.06.15 01:00:09	1.59382	0.00	0.00	0.00	-0.25

Figure 4. Take Profit and Cut Loss

Open Trades:

Ticket	Open Time	Type	Size	Item	Price	S / L	T / P		Price	Commission	Taxes	Swap	Profit
206361877	2023.09.19 05:04:11	buy	0.03	eurgbp	0.86335	0.00000	0.00000		0.86233	0.00	0.00	0.00	-3.79
206067932	2023.09.15 13:59:00	sell	0.03	eurusd	1.06549	0.00000	0.00000		1.06846	0.00	0.00	0.00	-8.91
205194789	2023.09.08 06:05:00	buy	0.03	gbpaud	1.95725	0.00000	0.00000		1.91959	0.00	0.00	0.00	-72.90
206505078	2023.09.20 03:38:00	sell	0.03	usdchf	0.89749	0.00000	0.00000		0.89804	0.00	0.00	0.00	-1.84
										0.00	0.00	0.00	-87.44
												Floating P/L:	**-87.44**

Working Orders:

Ticket	Open Time	Type	Size	Item	Price	S / L	T / P	Market Price				
No transactions												

Summary:

Deposit/Withdrawal:	**100.00**	**Credit Facility:**	**0.00**		
Closed Trade P/L:	**175.58**	**Floating P/L:**	**-87.44**	**Margin:**	**26.30**
Balance:	**275.58**	**Equity:**	**188.14**	**Free Margin:**	**161.84**

Figure 5. Open Trades, Balance and Equity

4. CONCLUSIONS AND RECOMMENDATIONS

The results of these tests show significant achievements in the business of this robot. The conclusions of this study are as follows:

1. Significant demo profit: During the trial period, this trading robot was able to achieve 175.58% return from the demo account. The initial capital of USD 100 was successfully raised to USD 275.58. These results demonstrate the robot's ability to produce significant gains under simulated conditions.
2. Capital Growth: The robot was able to use triangle hedging and averaging strategies to optimize trading results, resulting in significant capital growth during the trial period.
3. Floating Loss: Although there are significant gains, it should be noted that the floating loss is still -87.05 USD. This shows that this robot is not completely without risk and possible losses must be further managed.

Acknowlegdement

The author would like to thank LPPM Tarumanagara University and the Directorate General of Vocational Education, Ministry of Education, Culture, Research and Technology (Kemdikbudristek) of the Republic of Indonesia for providing research grant funding in 2023 with the Applied Research Scheme-Downstream Pathway based on Decree Number 0536/E5/PG.02.00/2023 dated 30 May 2023. Also, thank you to the chair and staff of LPPM and the Electrical Engineering Study Program of Tarumanagara University who have facilitated this research activity.

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PROGRAM BOOK

Tarumanagara International Conference on the Application of Technology and Engineering (TICATE 2023)

Continuous Research in Generating Innovation to Support the Welfare of Global Society

Friday October 6th, 2023

Online via ZOOM

Untar Jakarta

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TABLE OF CONTENTS

WELCOMING MESSAGE

FROM THE CHAIRMAN OF TICATE 2023

Good morning, Ladies and Gentlemen.

The Tarumanagara International Conference on The Applications of Social Science and Humanities (TICASH) 2023 and the International Conference on the Application of Technology and Engineering (TICATE) 2023 organizing committee would like to warmly welcome all delegates attending the conference at Universitas Tarumanagara, Jakarta, Indonesia.

The TICASH and TICATE conferences bring together professionals from different countries to share ideas and exchange knowledge in the fields of social sciences, humanities, technology, and engineering. These conferences provide a platform for high-level international discussions and presentations on recent advances and new applications in these fields to foster research and generate innovation to support the welfare of global society, as stated in our conference theme, **"Continuous Research in Generating Innovation to Support the Welfare of Global Society."**

We extend our special thanks to our Rector, Prof. Dr. Agustinus Purna Irawan, for initiating this international conference. We also express our gratitude to our keynote speakers, Prof. Geetha Subramaniam from INTI International University, Malaysia; Prof. Andriew Lim, Ph.D. from the Hospitality Business School of Hotelschool The Hague; Dr. Ayub Ahmed Janvekar from Vellore Institute of Technology, India; and Prof. Dr. Hairul Azhar Abdul Rashid from Multimedia University, Malaysia.

We would also like to acknowledge and express our gratitude to authors, presenters, and scholars from Indonesia, Malaysia, Jamaica, Philippines, Thailand, U.S., India and Taiwan, who have contributed and actively participated in this international conference.

We appreciate your support and participation in the conference and hope it benefits you.

Thank you.

Chairman TICASH & TICATE 2023
Didi Widya Utama, S.T., M.T., Ph.D.

FOREWORDS

FROM THE RECTOR OF UNIVERSITAS TARUMANAGARA

Ladies and Gentlemen, I am very pleased to address the Tarumanagara International Conference on The Applications of Social Science and Humanities (TICASH) 2023 and the International Conference on the Application of Technology and Engineering (TICATE) 2023. Certainly, the post-pandemic era has reshaped how we share knowledge and collaborate, breaking down geographical boundaries and maximizing the potential of online conferences through immersive virtual platforms, inclusive design, and dynamic content delivery. These conferences transcend geographical constraints, inviting experts and enthusiasts from diverse backgrounds to participate actively.

Ladies and Gentlemen, the theme for both conferences are "Continuous Research in Generating Innovation to Support the Welfare of Global Society." These are not just relevant and important but also necessary. These events aim to provide a forum and facilitate the exchanges of knowledge and experiences of practitioners and academicians in their respective fields, namely social science, humanities, technology, and engineering. TICASH and TICATE are also great opportunities to discuss how social science and technology can solve problems and generate innovative research to support global society welfare.

I would like to thank Prof. Geetha Subramaniam, INTI International University, Malaysia; Prof. Andriew Lim, Hospitality Business School of Hotelschool the Hague, Dr. Ayub Ahmed Janvekar, Vellore Institute of Technology of India; Prof. Dr. Hairul Azhar Abdul Rashid., Multimedia University Malaysia, for being keynote speakers in TICASH 2023 and TICATE 2023.

I am grateful to the Institute of Research and Community Engagement at Universitas Tarumanagara, especially the organizing committee, for their hard work, dedication, and commitment to making these conferences successful.

As I conclude my opening remarks, I want to express my eagerness to collaborate with other institutions in various areas on behalf of my university, Universitas Tarumanagara. This could include academic visits, joint teaching programs, research activities, exchanging academic materials and undergraduate and graduate students, and any other areas that would be mutually beneficial. We are open to exploring opportunities for collaboration.

So, ladies and gentlemen, thank you for allowing me to address you all, and once again, welcome to TICASH and TICATE 2023. I am looking forward to a very productive few days.

Thank you.

Rector of Universitas Tarumanagara,

Prof. Dr. Ir. Agustinus Purna Irawan, M.T., M.M., I.P.U., ASEAN Eng.

TIME AND VENUE

The Tarumanagara International Conference on the Application of Technology and Engineering (TICATE) will be held with the following details:

Venue : Auditorium Building M, 8th floor
Campus I Universitas Tarumanagara
Jl. Letjen S. Parman No. 1, Grogol
Jakarta Barat, Indonesia 11440
Date : October 6th, 2023
Time : 08.30 – 17.00 WIB (GMT+7)

CONFERENCE TOPIC

This year, the committee organized an international conference in the field of Technology and Engineering with the theme: **Continuous Research in Generating Innovation to Support the Welfare of Global Society.**

This conference aims to collect a variety of positive thoughts about Applications of Technology and Engineering and also related topics. Hopefully it will be a forum for practitioners, government, academicians and experts to share and exchange their ideas, thoughts and experiences related to the topics. Thus it is expected to contribute more comprehensive and applicable problem-solving framework.

KEYNOTE SPEAKERS

Dr. Ayub Ahmed Janvekar
Vellore Institute India

Prof. Dr. Hairul Azhar Abdul Rashid
Vice President
(Market Exploration, Engagement, Touchpoints)
Multimedia University Malaysia

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TOPIC	SUB TOPIC
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TOPIC	SUB TOPIC
Electrical and Electronic Engineering	– Power Generation, Transmission and Distribution – Power Electronics, Systems and Applications – Electrical Machines and Adjustable Speed Drives – Electrical Power Systems – Circuits and Systems – Communication Systems – Analog and Digital Electronics – Electric Drives and Control – Instrumentation Engineering – Power System Engineering – Smart Grids Technologies & Applications – Computer Application Technology – Control Technology – Telecommunication Engineering – Network Engineering Communication – Signal and Image Processing – 4G/3G/LTE Mobile Networks Applications – Renewable Energy Sources, Smartgrids Technology & Application – High Voltage Engineering and Insulation Technology Controls
Food and Agriculture Technology	– Agricultural Machinery – Biotechnology – Bio Fuel – Food Processing – Food Safety – Technologies in secure food packaging – Irrigation & water management – Forest and Natural Resource Management – New strategies in food packaging
Materials Sciences and Engineering	– Destructive and Non-destructive Testing, Microstructural characterization, Failure Analysis – Materials Application / Energy/ Biomedical / High Temperature – Materials Characterization, Modelling and Performance – Materials-Environment Interaction and Protection – Materials Recycling and Other Related Topics – Materials Processing and Product Manufacturing – New Materials for Structural and Functional Applications – Innovative Composites, Functionally Graded Materials

TOPIC	SUB TOPIC
Informatic Engineering & Technologies	– Computer Application Technology – Software Engineering – Multimedia Technology – Mobile Computing – Artificial Intelligent – Computer Vision – Information Systems – Database Systems
Medical & Health Technology	– Active Implantable Technology – Electromechanical Medical Technology – Hospital Hardware – Ophthalmic and Optical Technology – Dental Technology – Laboratory Equipment

EVENT SCHEDULE

Friday, October 6, 2023
Timezone: GMT +7 (Western Indonesia Time)

TIME	PROGRAM
08.30 – 09.00	Registration (Video looping on Zoom)
09.00 - 09.15	Opening National Anthem Mars Tarumanagara Dance Performance
09.15 - 09.20	Report from the Chairperson: Didi Widya Utama, Ph.D
09.20 - 09.25	Welcoming Speech by Prof. Dr. Ir. Agustinus Purna Irawan, M.T., M.M., I.P.U., ASEAN Eng. (Rector of Universitas Tarumanagara)
09.25 - 09.30	Photo session
09.30 - 09.50 09.50 - 10.10 10.10 - 10.40	**Plenary Session I - TICASH** 1. Prof. Dr. Geetha Subramaniam (INTI International University) 2. Prof. Andriew Lim (Hospitality Business School, Hotel School, The Hague) Q&A Moderator: Dr. dr. Shirly Gunawan, Sp. FK. (Universitas Tarumanagara)
10.40 - 10.45	Certificate handling & Short Break
10.45 - 11.05 11.05 - 11.25 11.25 - 11.55	**Plenary Session II - TICATE** 1. Dr. Ayub Ahmed J. (Vellore Institute India) 2. Prof. Dr. Hairul Azhar Abdul Rashid- V.P. MEET (Multimedia University Malaysia) Q&A Moderator: Andy Prabowo, S.T., M.T., Ph.D. (Universitas Tarumanagara)
11.55 - 12.00	Certificate handling and announcement by MC
12.00 - 13.00	Lunch Break (Friday Prayer)
13.00 - 13.30	Preparation for Breakout Room
13.30 - 15.00	**Parallel Session I**
15.00 - 15.15	Break
15.15 - 16.45	**Parallel Session II**
16.45 - 17.00	Closing

PARALLEL SESSION SCHEDULE

TICATE PARALLEL SESSION SCHEDULE

Session 1: Friday, Oct 6th, 2023 (13.30 – 15.00 WIB)
Session 2: Friday, Oct 6th, 2023 (15.15 – 16.45 WIB)

Room Details

Room	Topics	
	Session 1	Session 2
TICATE-1	Information System and Technology	Information System and Technology
TICATE-2	Architecture, Civil, Industrial Engineering	Information System and Technology
TICATE 3	Industrial Engineering	Industrial Engineering

PARALLEL SESSION 1: SESSION SCHEDULE

Room : TICATE-1
Topic : Information System and Technology
Moderator : Novario Jaya Perdana

Schedule	ID	Paper Title	Author(s)	Institution(s)
13.00 – 13.08	1	Mobile Based Legal Services Dashboard Application Development Project Management	Dedi Trisnawarman, Ahmad Redi, Novario Jaya Perdana, Veronika	Universitas Tarumanagara
13.08 – 13.16	40	Design of Student Graduation Prediction System Using Naive Bayes and Website-Based Decision Tree	Muhammad Isnaini Syaifudin, Bagus Mulyawan, Novario Jaya Perdana	Universitas Tarumanagara
13.16 – 13.24	42	Optimizing Supplier Selection in Multi Jaya Abad Building Store Using AHP	Krisna Wijaya Liu, Desi Arisandi, Novario Jaya Perdana	Universitas Tarumanagara
13.24 – 13.32	34	Sustainable and Reliable IoT-based Solution System for Smart Farming in Indonesia	Hugeng, Dedi Trisnawarman, Axel I.Y. Huntarso, Filbert H. Juwono	Universitas Tarumanagara, Xi'an Jiaotong-Liverpool University
13.32 – 13.40	33	Implementation of Virtual Conversation with the Cosine Similarity Method in Tourism Service Applications in East Kalimantan	Nikolaus Rio Saputra, Viny C Mawardi	Universitas Tarumanagara
13.40 – 13.48	24	Designing 2D Shooter Game Ricochet on Windows Platform	Hansen Salim, Jeanny Pragantha, Darius Andana Haris	Universitas Tarumanagara
13.48 – 13.56	25	Designing of Z-Clean Home Service Website	Orlando Claudio, Bagus Mulyawan, Darius Andana Haris	Universitas Tarumanagara
13.56 – 14.04	26	Website Based Maliki Toast Cashier System Design	Vito, Bagus Mulyawan, Darius Andana Haris	Universitas Tarumanagara
14.04 – 14.12	27	Designing VR Shooter Game "How Fast" On Google Cardboard	Edgar Johan Chuang, Jeanny Pragantha, Darius Andana Haris	Universitas Tarumanagara
14.12 – 14.20	29	PT Satya Abada Visimed Inventory Application Design	Eriana Retno Putri, Bagus Mulyawan	Universitas Tarumanagara
14.20 – 14.28		Q&A Session		

**schedule in GMT+7

PARALLEL SESSION 1: SESSION SCHEDULE

Room : TICATE-2
Topic : Architecture, Civil, Industrial Engineering
Moderator : Fermanto Lianto

Schedule	ID	Paper Title	Author(s)	Institution(s)
13.00 – 13.08	30	Design of System Information Management for Toko Berlian Parfume Website	Yosia Alvien Lie Fandy	Universitas Tarumanagara
13.08 – 13.16	6	Optimizing Natural Lighting in Ruko in the Pondok Lestari Housing Complex: A Case Study	Deni Soenarto, Fermanto Lianto, Rudy Trisno	Universitas Tarumanagara
13.16 – 13.24	7	Classification of Siberian Husky and Golden Retriever Dogs Using Convolutional Neutral Network Method	Christie Redja, Kelvin, Meirista Wulandari	Universitas Tarumanagara
13.24 – 13.32	11	Analysis of Settlement Facilities in Tangerang District, Tangerang City	Agung Kurniawan, Fermanto Lianto, Rudy Trisno	Universitas Tarumanagara
13.32 – 13.40	23	Recognition of Workout Exercise Based on Image Processing Using CNN MobileNetV2 and EfficientNetB3	Andrew Hendisituo, Meirista Wulandari, Wahidin Wahab	Universitas Tarumanagara
13.40 – 13.48	3	Risk Handling of IT Mandiri Building	Mega Waty, Hendrik Sulistio, Bagus Tri Wizaksono	Universitas Tarumanagara
13.48 – 13.56	8	Design of Rotary Table of Auto Tightening Front Cushion Machine at PT. Matahari Megah	Agus Halim, Hadi Sutanto, Anthon De Fretes, Kevin Raynaldo	Universitas Tarumanagara, Universitas Katolik Atma Jaya, PT. Matahari Megah
13.56 – 14.04	9	Designing Vertical Axis Wind Turbine for Small Scale Power Generation With 3D Printer	Joni Fat, Meirista Wulandari, Mark Davisson Djunaedi	Universitas Tarumanagara
14.04 – 14.12	10	Implementation of an Automatic Weight Printing System Using a Loadcell Conveyor	Mingaung Leo, Joni Fat, Hugeng Hugeng	Universitas Tarumanagara
14.12 – 14.20	12	The Philosophy of the Pondok Ume as an Effort to Overcome Floods in the Rangkui River Area of Pangkalpinang, Bangka	Aditia Syaputra, Fermanto Liato, Rudy Trisno	Universitas Tarumanagara
14.20 – 14.28		Q&A Session		

**schedule in GMT+7

PARALLEL SESSION 1: SESSION SCHEDULE

Room : TICATE-3
Topic : Industrial Engineering
Moderator : Wilson Kosasih

Schedule	ID	Paper Title	Author(s)	Institution(s)
13.00 – 13.08	2	Design of Automatic Electric Drills to Detect and Adjust Depth and Ergonomic Lidar and Gyroscope Based	Ricky Farrel, Dion Dwi Wijaya, Elbert, Victor Imanuel, Yulius Tanuwijaya, Lina Gozali	Universitas Tarumanagara
13.08 – 13.16	31	Research Mapping of Innovation, Entrepreneurship, Intrapreneurship, and business Incubators	Lina Gozali, Christopher Robin, Pricilia Micca Zulfan	Universitas Tarumanagara
13.16 – 13.24	32	Strategic Planning on Electric Motorcycle Manufacturing Company with Hoshin Kanri and Balanced Scorecard Methods	Lithrone Laricha Salomon, Wilson Kosasih	Universitas Tarumanagara
13.24 – 13.32	35	Improving Project Quality, Budgeting and Safety Management of Coating Processes in Oil and Chemical Companies	Mario Ajipangestu, Lina Gozali, Frans Jusuf Daywin	Universitas Tarumanagara
13.32 – 13.40	36	Controlling Raw Material Supplies to Minimize Bullwhip Effect in Making Water Pump Housings by Die Casting	Megalita Permata Putri, Lina Gozali, Juliana Kristina	Universitas Tarumanagara
13.40 – 13.48	37	Ergonomic Adjustable Chair as an Innovative Product Modification Using Water Hycinth Waste	Ronaldo Setiawan, Lina Gozali, Frans Jusuf Daywin	Universitas Tarumanagara
13.48 – 13.56	38	Packaging Factory Layout Design Using Systematic Layout Planning and Computerized Relationship Layout Planning Methods	Vanecia Marchella Hardinanerl, Lina Gozali, Lamto Widodo, Geraldo Rafael	Universitas Tarumanagara
13.56 – 14.04	39	Feasibility Study on Opening a New Business Branch for SME Victoria Property Flower Decoration	Michael William, Lina Gozali, Frans Jusuf Daywin	Universitas Tarumanagara
14.04 – 14.12	4	Triangle Hedging Trading Robot with Currency Pair Correlation for The Forex Market	Joni Fat, Handian Satria Utama, Hendry Candra, Wati Asriningsih Pranoto, Axel Irving	Universitas Tarumanagara

Schedule	ID	Paper Title	Author(s)	Institution(s)
			Yoshua, Tyven Christopher Gilbert	
14.12 – 14.20	5	Triangle Hedging and Averaging Trading Robot for Metatrader 4 Platform	Joni Fat, Handian Satria Utama, Hendry Candra, Wati Asriningsih Pranoto, Axel Irving Yoshua, Tyven Christopher Gilbert	Universitas Tarumanagara
14.20 – 14.28		Q&A Session		

**schedule in GMT+7

PARALLEL SESSION 2: SESSION SCHEDULE

Room : TICATE-1
Topic : Information Systems and Technology
Moderator : Novario Jaya Perdana

Schedule	ID	Paper Title	Author(s)	Institution(s)
15.15 – 15.23	13	Designing a Web-Based Booking Service Application at Grasions Workshop	Amanda Keisha Arnadi, Ezra Shandra Dewi, Wasino, Jap Tji Beng	Universitas Tarumanagara
15.23 – 15.31	14	Implementation of Web-Based Transaction Services at Cahaya Semi Workshop	Aurelia Stevani, Sharlene Ashley Clarence, Vira Leananda, Desi Arisandi, Jap Tji Beng	Universitas Tarumanagara
15.31 – 15.39	15	Web-Based E-Recruitment Application Development Using the Waterfall Method: A Case Study of the Company PT. XYZ	Ezra Shandra Dewi, Wasino, Amanda Keisha, Octarifa Angele, Tjap Tji Beng	Universitas Tarumanagara
15.39 – 15.47	16	Use Of Information System Technology in Printing Business Development	Felix Ciawi, Metha Tasyakuran Andini, Wasino, Octarifa Angela, Jap Tji Beng	Universitas Tarumanagara
15.47 – 15.55	17	Designing a Website-Based Application for Selling Wooden Furniture at UD. Kurnia Illahi	Sharlene Ashley Clarence, Aurelia Stevani, Vira Leananda, Desi Arisandi, Jap Tji Beng	Universitas Tarumanagara
15.55 – 16.03	18	Designing a Web-Based Agricultural Product Sales Application at Toko Tani Citra in Bangka	Sharlene Ashley Clarence, Aurelia Stevani, Vira Leananda, Desi Arisandi, Jap Tji Beng	Universitas Tarumanagara
16.03 – 16.11	19	Web-Based Arts Service Booking Application System	Metha Tasyakuran Andini, Felix Ciawi, Wasino, Jap Tji Beng	Universitas Tarumanagara
16.11 – 16.19	20	Designing Escape from Them 2D Platformer Survival Game for Windows	Dionathan, Darius Andana Haris, Jeanny Pragantha	Universitas Tarumanagara
16.19 – 16.27	21	Designing A 2D Platformer Game "Frog Mario" Based on Windows	Eiji Yoshikawa, Jeanny Peagantha, Darius Andana Haris	Universitas Tarumanagara
16.27 – 16.35	22	Website Based Scheduling System for The Living Word Community	Kevin Jasson Lie, Zyad Rusdi, Darius Andana Haris	Universitas Tarumanagara
16.35 – 16.43		Q&A Session		

**schedule in GMT+7

PARALLEL SESSION 2: SESSION SCHEDULE

Room : TICATE-2
Topic : Information System and Technology
Moderator : Titin Fatimah

Schedule	ID	Paper Title	Author(s)	Institution(s)
15.15 – 15.23	41	Joint K-Means and Modified KNN for Fault Resolving Time Prediction of Telecommunication Trouble Ticket	Indri Yani Berutu	Universitas Tarumanagara
15.23 – 15.31	43	Streamlining Laundry Services: Enhancing Customer Experience with the 'Hassle-Free Pickup' Feature in Reine Laundry's Mobile App	Joel Eko Budianto, Tony	Universitas Tarumanagara
15.31 – 15.39	44	Wiken Cakes Website: A Solution to Customer Problems	Michelle Naomi Yoan Vanessa, Tony, Novario Jaya Perdana	Universitas Tarumanagara
15.39 – 15.47	45	Web-Based Application to Classify Student's Report of MBKM Programs in IBIKFTI	Tisa Sudargo, Tony	Universitas Tarumanagara
15.47 – 15.55	46	Cryptocurrency Price Prediction Using Support Vector Regression	Thomas Stephen, Lely Hiryanto ST., M.SC., Ph.d.	Universitas Tarumanagara
15.55 – 16.03	28	Designing Last Stand 2D Shooter on Windows Platform	Justine Widjaja, Jeanny Pragatha, Dariuys Andana Haris	Universitas Tarumanagara
16.03 – 16.11	50	Web-Based Inventory System Application PT Sapta Tunas Teknologi	Nicholas Saputra, Bagus Mulyawan	Universitas Tarumanagara
16.11 – 16.19	54	Development of a Web-Based Sales and Service Information System at Srikandi FC	Agung Darmawan, Bagus Mulyawan	Universitas Tarumanagara
16.19 – 16.27	55	Implementation of Apriori Algorithm for Recommending Plastic Product Sales Package at Kembar Jaya Plastic Store	Nathanael Victorious, Bagus Mulyawan, Novario Jaya Perdana	Universitas Tarumanagara
16.27 – 16.35	56	Mobile-Based Food Recommendation System Using Hybrid Filtering Methods	Venny Cyntia, Bagus Mulyawan, Manatap Sitorus	Universitas Tarumanagara
16.35 – 16.43		Q&A Session		

**schedule in GMT+7

PARALLEL SESSION 2: SESSION SCHEDULE

Room : TICATE-3
Topic : Industrial Engineering
Moderator : Wilson Kosasih

Schedule	ID	Paper Title	Author(s)	Institution(s)
15.15 – 15.23	47	The Making of a Disaster Hazard Map to Increase the Rural Area Resilience in Giritengah Village, Borobudur, Indonesia	Titin Fatimah, Klara Puspa Indrawati	Universitas Tarumanagara, University of Oregon
15.23 – 15.31	51	The Impact of Supply Chain 4.0 on Enhancing Product Quality in the Chemical Industry of Indonesia	Mohammad Agung Saryatmo, Vatcharapol Sukhotu	Universitas Tarumanagara, Naresuan University, Thailand
15.31 – 15.39	52	PLC Program Optimization on Modular Production System Distribution and Pick & Place Station	Didi Widya Utama, Hilman Owanda, Agus Halim, Zulfan Yus Andi	Universitas Tarumanagara, National Yunlin University of Science and Technology, Taiwan, Bangka Belitung Manufacturing Polytechnic
15.39 – 15.47	53	Finite Element Analysis Below Knee Prosthesis Made from Epoxy Bamboo Fiber Composite Material	A.P. Irawan, Didi Widya Utama, A.S. Setiawan, Ayub Ahmed J.	Universitas Tarumanagara, Universitas Katolik Musi Charitas, Vellore Institute India
15.47 – 15.55		Q&A Session		

**schedule in GMT+7