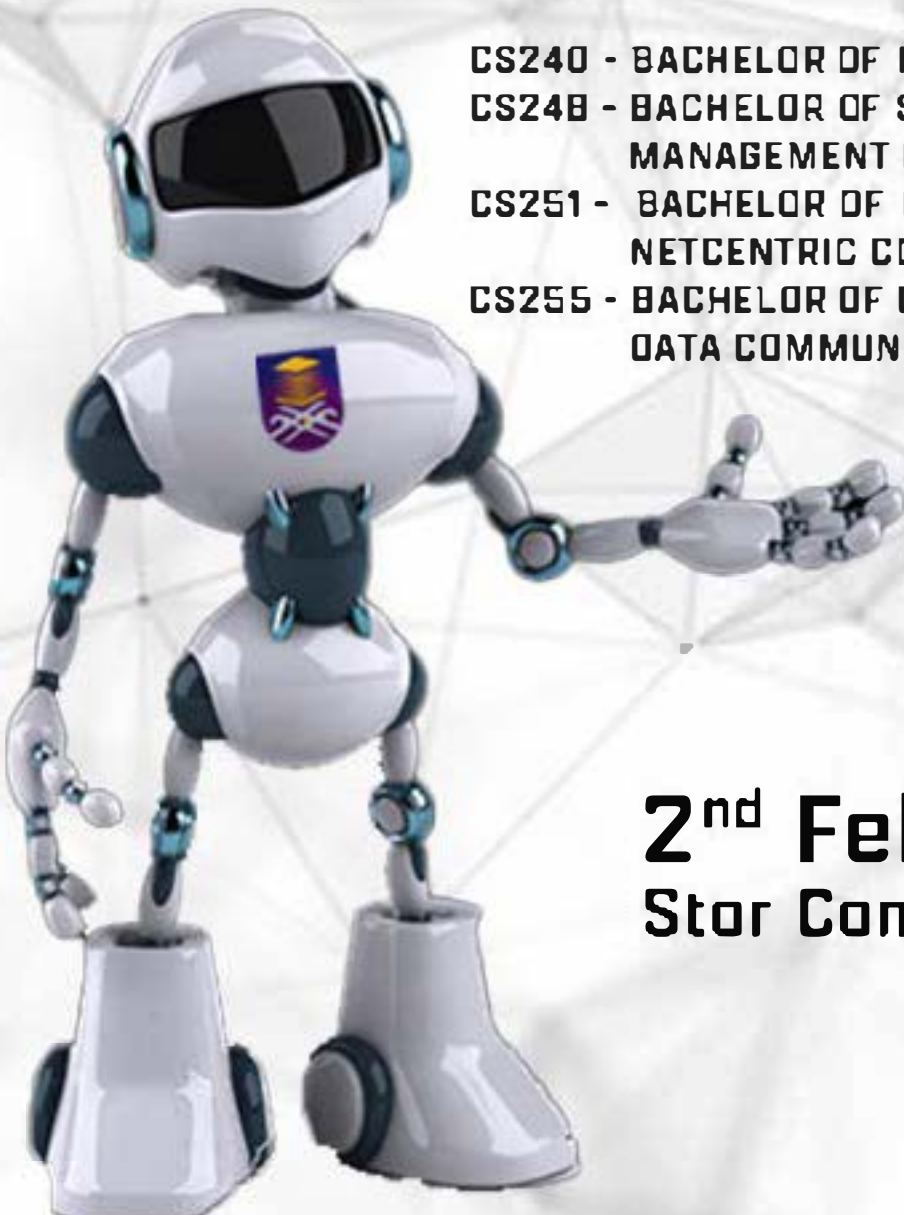


---

RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES

# REMACS 5.0

---

- 
- CS240 - BACHELOR OF INFORMATION TECHNOLOGY [HONS.]
  - CS248 - BACHELOR OF SCIENCES [HONS.]  
MANAGEMENT IN MATHEMATICS
  - CS251 - BACHELOR OF COMPUTER SCIENCE [HONS]  
NETCENTRIC COMPUTING
  - CS255 - BACHELOR OF COMPUTER SCIENCE [HONS]  
DATA COMMUNICATION & NETWORKING

**2<sup>nd</sup> February 2023**  
**Stor Complex, UiTM Perlis**

---

Organized by:  
College of Computing, Informatics and Media  
Universiti Teknologi MARA Perlis Branch

**Research Exhibition in Mathematics and Computer Sciences  
(REMACS 5.0)**

Research Exhibition in Mathematics and Computer Sciences (REMACS 5.0)

© 2023 College of Computing, Informatics and Media, UiTM Perlis Branch. Some Rights Reserved.

This work is licensed under the Creative Commons Attribution-ShareAlike 4.0 International License (CC-BY-SA 4.0). You are free to:

- Share - copy and redistribute the material in any medium or format
- Adapt - remix, transform, and build upon the material for any purpose, even commercially
- Under the following terms:

**Attribution** - You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

**ShareAlike** - If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original.

**No additional restrictions** - You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.

For more information on the Creative Commons Attribution-ShareAlike 4.0 International License, please visit: <https://creativecommons.org/licenses/by-sa/4.0/>

#### *Editors*

Rafiza Ruslan, Mohamad Najib Mohamad Fadzil, Noorfaizalfaird Mohd Nor, Mohammad Hafiz bin Ismail

e ISBN: 978-629-97934-0-3



Perpustakaan Negara Malaysia

#### *Published by*

MOHAMMAD HAFIZ BIN ISMAIL

Universiti Teknologi MARA

02600 Arau, Perlis

Tel: +604 988 2028

<https://fskmpерlis.uitm.edu.my/remacs50/>

# CONTENTS

<b>Preface</b>	<b>iii</b>
<b>Committee</b>	<b>iv</b>
<b>Event Schedule</b>	<b>v</b>
<b>List of Papers</b>	<b>vi-xxiii</b>
<b>Articles</b>	<b>1-278</b>

# Preface

It is with great pleasure that we present this extended abstract book, titled "The 5<sup>th</sup> Research Exhibition in Mathematics and Computer Sciences (REMACS 5.0)". This book is a collection of research work in the fields of Computer Science and Mathematics, contributed by the final year students from Universiti Teknologi MARA, Perlis Branch. The aim of this book is to showcase the diversity and depth of research in these two interrelated fields.

Mathematics and Computer Science are two fields that have seen tremendous growth and advancement in recent years. With the rise of new technologies and the increasing demand for data-driven solutions, researchers in these fields have been working hard to develop new theories, algorithms, and models that can help solve some of the most pressing problems of our time. This book is a testament to their hard work and dedication.

The abstracts in this book cover a wide range of topics, including algebra, analysis, logic, computer architecture, algorithms, artificial intelligence, machine learning, computer network, netcentric computing and many more. The work presented here is both theoretical and practical, and has the potential to impact many areas of society, from finance and healthcare to education and security.

We hope that this book will serve as a valuable resource for future students in the fields of Mathematics and Computer Science. We also hope that it will inspire more students to pursue innovative and groundbreaking research in these two fields. Finally, we would like to express our gratitude to all the contributors for their hard work and dedication, without which this book would not have been possible.



RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES  
**REMACS 5.0**

# COMMITTEE

## PATRON

- PROF. MADYA Ts. DR SHUKOR SANIM MOHD FAUZI

## ADVISORS

- Ts. DR SITI ZULAIHA AHMAD
- PN SUZANAWATI ABU HASAN
- PN NORA YANTI CHE JAN

## PROGRAMME DIRECTOR

- EN MUHAMAD ARIF HASHIM

## PROGRAMME DEPUTY DIRECTOR

- DR NURIZATUL SYARFINAS AHMAD BAKHTIAR

## SECRETARY

- PN SITI SARAH RASELI
- CIK SITI SARAH MD ILYAS

## TRESURER

- PN NORPAH MAHAT

## PROMOTION

- PROF. MADYA DR RIZAUDDIN SAIAN
- DR RUZITA AHMAD
- PN NORWAZIAH MAHMUD

## EXHIBITION

- DR AZNOORA OSMAN
- EN MOHAMAD HAFIZ ISMAIL
- EN ROS SYAMSUL HAMID
- PN RAIHANA ZAINORDIN
- DR HUDA ZUHRAH AB.HALIM

## REGISTRATION COORDINATORS

- Ts. DR ABIDAH HJ MAT TAIB
- DR NUR FATIHAH FAUZI
- PN NOR HAYATI SHAFII
- PN WAN NURSHAZELIN WAN SHAHIDAN

## TECHNICAL & LOGISTIC

- EN MOHD FARIS MOHD FUZI
- EN IMAN HAZWAM ABD HALIM
- EN MOHD FAZRIL IZHAR MOHD IDRIS
- EN MOHD HASBULLAH MOHD RAZALI

## EVENT MGT & PROTOCOL

- PN ROMIZA MD NOR
- EN ABDUL HAPES MOHAMMED
- PN DIANA SIRMAYUNIE MOHD NASIR

## CERTIFICATE

- EN ALIF FAISAL IBRAHIM
- EN HALIMI AB HALIM

## PROGRAMME BOOK

- PN RAFIZA RUSLAN
- EN MOHAMAD NAJIB MOHAMAD FADZIL
- Ts. NOORFAIZALFARID MOHD NOOR

## BANQUET

- CIK KU AZLINA KU AKIL
- DR NUR IZZATI KHAIRUDIN



# EVENT SCHEDULE

8:00 – 8:30 am

- Registration

8:00 am – 12:00 pm

- FYP Project Presentation

12:00 - 2:00pm

- Lunch Break

2:15 – 2:35 pm

- National & Wawasan Setia Anthems
- Doa Recitation

2:35 – 2:45 pm

- Welcoming Address by Director of REMACS 5.0

2:45 – 2:55 pm

- Officiating & Closing Remarks from Rector of UiTM Perlis

2:55 – 3:00 pm

- REMACS 5.0 Montage

3:00 – 4:00 pm

- Awarding of Winners:
  - Best Poster
  - Best Project Award

- Photo Session

- End of Ceremony

*Dress Code: Formal / Corporate*

## List of Papers

Article Title	Page
<b>WEB-BASED BLOOD DONATION MANAGEMENT WITH REWARDS SYSTEM</b> Ahmad Syakir Mohd Sakeri and Nadia Abdul Wahab	1
<b>FINAL YEAR PROJECT MANAGEMENT SYSTEM (FMS)</b> Aimuni Nadhrah Yazit and Ros Syamsul Hamid	3
<b>UNIBUKU: UiTM Book Reselling Web Application</b> Anis 'Aisyah Md Nazri and Mohammad Hafiz bin Ismail	5
<b>STUDENT INTERNSHIP PLACEMENT USING PERSONAL DECISION AID</b> Anis Nabila Azizi and Azmi Abu Seman	7
<b>INTERNSHIP MONITORING AND ASSESSMENT SYSTEM</b> Ezza Liyana Jalaludin and Azmi Abu Seman	9
<b>AR FOR PLANTATION AND AGROTECHNOLOGY AREA AT UITM PERLIS</b> Faizah Ahmad Rodi and Nor Arzami Othman	11
<b>MOBILE APPLICATION FOR COLLEGE LAUNDRY BOOKING SYSTEM IN UITM PERLIS</b> Haizatul Zulaikha Annual and Siti Zulaiha Ahmad	13



<b>SKIN CARE E-COMMERCE MOBILE PLATFORM WITH PRODUCT RECOMMENDATION BASED ON SKIN TYPE</b>	15
Haziq Asyraf Abu Hanifah and Nadia Abdul Wahab	
<b>HEALER – MENTAL HEALTH PERSONAL DECISION AID</b>	17
Huda Nabila Ishak and Norfiza Ibrahim	
<b>VETERINARY CLINIC MANAGEMENT SYSTEM</b>	19
Mas Nur Alya Binti Mohd Yusof and Prof. Madya Ts. Dr. Shukor Sanim Bin Mohd Fauzi	
<b>SOCIAL MARKETPLACE WEB APPLICATION FOR UITM PERLIS STUDENTS</b>	21
Mohamad Azimi Zakariah and Muhammad Nabil Fikri Jamaluddin	
<b>FASTBLOOD: BLOOD DONOR MOBILE APP INTEGRATED WITH QR CODE</b>	23
Muhamad Saifullah Yussri and Nora Yanti Che Jan	
<b>MOBILE APPLICATION FOR HEALTHY SLEEP RECOMMENDATION WITH CALM TECHNOLOGY</b>	25
Muhammad Arif Haikal Meli and Romiza Md. Nor	
<b>ROADMATE: IMPROVING RIDESHARING AND CARPOOLING VIA MOBILE APP</b>	27
Muhammad Farid Muhammad Dahri, Arifah Fasha Rosmani	
<b>FELINERINARY: CAT HEALTH MANAGEMENT APP WITH APPOINTMENT REMINDERS USING PUSH-NOTIFICATION</b>	29
Muhammad Hakimie Azraei Mahzir, Siti Sarah Md. Ilyas	

<b>MOBILE INTERVENTION FOR USED CLOTHING MANAGEMENT WITH GEOLOCATION</b>	31
Muhammad Haziq Anuar, Siti Sarah Md Ilyas	
<b>UITM ARAU BICYCLE RESERVATION APP WITH IMPLEMENTATION OF QR CODES (UBIKE COLLEGE)</b>	33
Muhammad Nur Hakimi Azman, Siti Zulaiha Ahmad	
<b>EASYRENT: A WEB BASED RECOMMENDATION SYSTEM FOR SHOP RENTAL – A CASE STUDY IN JITRA, KEDAH</b>	35
Nur Azlina Ariffin, Nora Yanti Che Jan	
<b>MEDCARE: A WEB-BASED CLINIC APPOINTMENT SYSTEM WITH SHORT MESSAGE SERVICE (SMS) NOTIFICATION</b>	37
Nur Elya Fhazlein Zamri, Mohd Nizam Osman	
<b>FASTPARK MOBILE APPLICATION USING GEOLOCATION</b>	39
Nur Hazmiera Mohd Hazline, Nora Yanti Che Jan	
<b>AN ISLAMIC MULTIMEDIA LEARNING APPLICATION OF MENSTRUATION FOR ADOLESCENT GIRLS</b>	41
Nur Irham Atikah Mohd Rafee @ Sukiman, Aznoora Osman	
<b>FUTSAL BOOKING WEB BASED SYSTEM INTEGRATE WITH TELEGRAM NOTIFICATIONS</b>	43
Nur Izzat Hakim Bin Norazam, Mohd Nizam Bin Osman	
<b>HOUSE RENTAL MANAGEMENT SYSTEM FOR STUDENT IN UITM PERLIS</b>	45
Nur Nadiyah Husna Samsudin, Muhammad Nabil Fikri Jamaluddin,	

<b>PENANG TRAVEL SERVICE PROVIDER APPLICATION USING GEOFENCING</b>	47
Nurezzatul Husna Ismail, Mohd Nizam Osman	
<b>MOBILE APPLICATION SYSTEM FOR CARDIOVASCULAR DISEASE PATIENT</b>	49
Nurul Azwa Atikah Ahmad Tarmizy, Abdul Hapes Mohammed	
<b>WEB-BASED CARBON FOOTPRINT CALCULATOR FOR BAKERY FOOD WASTE</b>	51
Nurul Fatihah Mohamed Yusof, Romiza Md Nor	
<b>FOOD TRUCK FINDER</b>	53
Qistina Amirah Abdul Hadi, Iman Hazwam Abd Halim	
<b>RESPONSIVE WEB-BASED CAFE FOOD ORDERING SYSTEM USING BOOTSTRAP AND QR CODE</b>	55
Siti Nadzirah Parsikun, Khairul Anwar Sedek	
<b>WHEELS4RENT: A WEB-BASED VEHICLE RENTAL AND MANAGEMENT SYSTEM WITH SHORT MESSAGE SERVICE (SMS) NOTIFICATION</b>	57
Siti Zulaikha Zaidi, Mohd Nizam Osman	
<b>IMPLEMENTATIONS OF QR-CODE FOR BUS TRANSPORT PASS USING MOBILE APPS</b>	59
Wajeedah Hamdzar Hamizan, Norziana Yahya	
<b>DEVELOPING A CATERING SERVICES MOBILE APPLICATION FOR LOCAL COMMUNITY</b>	61
Masturina Binti Azmi, Ts Dr Norziana Binti Yahya	

<b>ON-DEMAND HOME SERVICES USING MOBILE APPS FOR DIGITAL HOUSEHOLDS</b>	63
Sarah Nurhasya Abd Aziz, Norziana Yahya	
<b>FAKE NEWS CLASSIFICATION USING MACHINE LEARNING TECHNIQUES</b>	65
Adib Farhan Ahmad Rashdi and Mohd Nizam Osman	
<b>DATA VISUALIZATION OF FAMILY INCOME AND EXPENSES</b>	67
Aimi Amisha Ahmad Sabri and Mohd Nizam Osman	
<b>DATA VISUALIZATION : CAUSES AND RISK FACTORS OF DEATH</b>	69
Amirah Mohd Yusof and Jiwa Noris Hamid	
<b>DEVELOPING GRAPHICAL VISUALIZATION FOR UNDERSTANDING THE PATTERN OF STUDENTS PERFORMANCE IN EXAM</b>	71
Anisah Rosli and Norfiza Ibrahim	
<b>DIABETES RISK PREDICTION SYSTEM AND DATA VISUALIZATION</b>	73
Azizah Mohamad Imran and Hawa Mohd Ekhsan	
<b>WEB-BASED APPLICATION FOR PLACES RECOMMENDER USING MACHINE LEARNING</b>	75
Farah Nurshaziela, Ruzita Ahmad and Shukor Sanim Mohd Fauzi	
<b>DATA VISUALIZATION OF CHRONIC KIDNEY DISEASE SYMPTOMS</b>	77
Hanif Ikmal Ahmad Akibi and Hawa Mohd Ekhsan	

<b>SMART SUPPLY CHAIN MANAGEMENT USING DATA VISUALIZATION</b>	79
Hidayah Hushairi and Jiwa Noris Hamid	
<b>DATA VISUALIZATION OF BLOOD DONATION DURING CORONAVIRUS DISEASE (COVID-19) IN PERLIS</b>	81
Maisarah Aisisa and Khairul Anwar Sedek	
<b>DIABETES PREDICTION USING MACHINE LEARNING</b>	83
Muhammad Adib Mohd Nazri and Mahfudzah Othman	
<b>THE DEVELOPMENT OF DISEASES PREDICTION SYSTEM BASED ON SYMPTOMS</b>	85
Muhammad Faiz Mohd Faisol and Mohd Nizam Osman	
<b>LUNG CANCER PREDICTION USING MACHINE LEARNING TECHNIQUES</b>	87
Muhammad Muhaimin Mohd Fauzi and Mohd Nizam Osman	
<b>OBJECT DETECTION MODEL FOR MANGO LEAF DISEASES</b>	89
Muhammad Norzakwan Mohd Sham and Mohammad Hafiz bin Ismail	
<b>ANALYZING ON HOW FOOD CONSUMPTION CAN AFFECT IN DIABETES</b>	91
Muhammad Saiful Azim Mohd Ariff and Khairul Anwar Sedek	
<b>DASHBOARD : RISK PERCEPTION AND TRAVEL SATISFACTION USING PUBLIC TRANSPORT DURING COVID-19</b>	93
Nafeis Sukaiynah Noor Azli and Jiwa Noris Hamid	

<b>DASHBOARD VISUALIZATION OF MOBILITY COVID-19</b>	95
Noor Syarafana Nordin and Noorfaizalfarid Mohd Noor	
<b>DEVELOPING GRAPHICAL VISUALIZATION FOR ANALYZING STUDENT ADAPTABILITY LEVEL IN ONLINE EDUCATION</b>	97
Nur Balqis Mohd Azuddin and Norziana Yahya	
<b>DATA VISUALIZATION ON STUDENT STRESS LEVEL</b>	99
Nur Syifa Ramzi, Mohammad Hafiz bin Ismail and Tajul Rosli Razak	
<b>DASHBOARD: DATA VISUALIZATION OF COVID-19 CONFIRMED AND DEATHS IN MALAYSIA (COVIM)</b>	101
<b>Nurul Izzati Iddarus, Ruzita Ahmad and Shukor Sanim Mohd Fauzi</b>	
<b>DATA VISUALIZATION OF HUMAN STRESS DETECTION LEVEL</b>	103
Nurul Syahirah Md Saad and Hawa Mohd Ekhsan	
<b>DASHBOARD VISUALIZATION ON RENTAL HOUSE DATA IN PERLIS FOR UITM ARAU STUDENTS</b>	105
Putera Mohd Aliff Bakhtiar Mohd Zahir and Khairul Anwar Sedek	
<b>DATA VISUALIZATION OF HIGHER EDUCATION STUDENTS' PERFORMANCE EVALUATION</b>	107
Siti Nur Syahirah Osman and Hawa Mohd Ekhsan	
<b>FUZZY ANALYTIC HIERARCHY PROCESS TO STUDY THE IMPACTS OF OPEN DISTANCE LEARNING ON UiTM PERLIS STUDENTS</b>	109
Adriana Nazihah Cha Ariff and Norpah Mahat	

<b>FORECASTING UNEMPLOYMENT RATE IN MALAYSIA: COMPARISON BETWEEN ARIMA AND FUZZY TIME SERIES</b>	111
Ahmad Faidhi Amir Faisol and Nur Azriani Mohamad Nor	
<b>STAGNATION POINT FLOW OF NANOFLUIDS OVER STRETCHING/SHRINKING SURFACE WITH HEAT SOURCE/SINK AND CONSTANT WALL TEMPERATURE</b>	113
Aifa Afrina Ahmed Rodzuan, Nur Fatihah Fauzi and Nurizatul Syarfinas Ahmad Bakhtiar	
<b>EVALUATION OF FORECAST PERFORMANCE OF COVID-19 WITH DIFFERENT TIME HORIZONS</b>	115
Amirul Rashid Che Samsol and Azlan Abdul Aziz	
<b>SELECTION THE TYPE OF INVESTMENT IN MALAYSIA USING FUZZY ANALYTIC HIERARCHY PROCESS (AHP)</b>	117
Ardini Athirah Mhd Munawar and Mohd Fazril Izhar Mohd Idris	
<b>PREDICTING STROKE USING ANT COLONY OPTIMIZATION ALGORITHM</b>	119
Azfaruddin Azri and Rizauddin Saian	
<b>STAGNATION POINT FLOW OF HYBRID NANOFLUIDS OVER STRETCHING/SHRINKING SHEET WITH HEAT SOURCE/SINK AND CONSTANT WALL TEMPERATURE</b>	121
Fatin Nur Ayuni Mohd Nor, Nur Fatihah Fauzi and Nurizatul Syarfinas Ahmad Bakhtiar	
<b>ANALYSING THE EFFICIENCY OF LOCAL AND FOREIGN CARS IN MALAYSIA USING DATA ENVELOPMENT ANALYSIS (DEA)</b>	123
Khairul Sanusi Samuil and Anas Fathul Ariffin	

**APPLICATION OF VANILLA LONG SHORT-TERM MEMORY NETWORKS (LSTM) AND AUTO-REGRESSIVE INTEGRATED MOVING AVERAGE (ARIMA) ON EXCHANGE RATE FORECASTING** 125

Mysarah Haslan and Nor Hayati Shafii

**RANKING THE EFFECTIVE PREVENTION MEASURES AGAINST COVID-19 BY USING FUZZY AHP METHOD** 127

Nur Afifah Zabidi and Teoh Yeong Kin

**A NUMERICAL STUDY ON A HIV TRANSMISSION MATHEMATICAL MODEL** 129

Nur Izyan Hasna Suhaili, Nur Izzati Khairudin and Nurizatul Syarfinas Ahmad Bakhtiar

**APPLICATION OF FUZZY DELPHI ON THE FACTOR INFLUENCING BUYING BEHAVIOUR FOR ORGANIC FOOD** 131

Nur Syafiqah Abdul Rashid and Mohd Halimi Ab Hamid

**THE USE OF TRAPEZOIDAL RULE TO APPROXIMATE THE VOLUME OF CLOUDS OF SOIL AT GUNUNG PERLIS TAMAN NEGERI PERLIS** 133

Nur' Afaf Zahiah Khairulfahmi, Mohamad Najib Mohamad Fadzil and Zaki Ahmad Dahlan

**THE USE OF TRAPEZOIDAL RULE TO APPROXIMATE THE VOLUME OF CLOUDS OF SOIL AT GUNUNG PERLIS TAMAN NEGERI PERLIS** 135

Nur' Afaf Zahiah Khairulfahmi, Mohamad Najib Mohamad Fadzil and Zaki Ahmad Dahlan

**AN APPROACH OF FUZZY AHP TO ANALYZE THE FACTORS OF DOMESTIC VIOLENCE AMONG WOMEN IN MALAYSIA** 137

Nurain Syahirah Mahusin and Norpah Mahat



<b>THE USE OF SIMPSON’S RULE TO APPROXIMATE THE VOLUME OF CLODS OF SOIL AT GUNUNG PERLIS, TAMAN NEGERI PERLIS</b>	139
Nurliyana Najwa Husaini Failos, Mohamad Najib Mohamad Fadzil and Zaki Ahmad Dahlan	
<b>FACTORS INFLUENCING THE SELECTION OF HALAL PRODUCTS AMONG PERLIS COMMUNITY USING FUZZY AHP</b>	141
Nurul Asyqin Abu Bakar and Siti Nor Nadrah Muhamad	
<b>ANALYSING ON INFLUENCING FACTORS OF STUDENTS’ CAREER CHOICE USING FUZZY ANALYTIC HIERARCHY PROCESS (FAHP)</b>	143
Salsabila Saimuddi and Khairu Azlan Abd Aziz	
<b>APPLICATION OF FUZZY AHP ON THE SELECTION OF ONLINE SHOPPING PLATFORM IN MALAYSIA</b>	145
Siti Nurmaisarah Zakaria and Khairu Azlan Abd Aziz	
<b>CLASSIFICATION OF DIABETIC PATIENTS WITH IMBALANCED CLASS DISTRIBUTION BY USING A COST-SENSITIVE FOREST ALGORITHM</b>	147
Umami Asyiqin Che Muhammad and Muhammad Hasbullah Mohd Razali	
<b>A FUZZY CONJOINT ANALYSIS APPROACH FOR EVALUATING CREDIT CARD SERVICES: A CASE STUDY OF MALAYAN BANK</b>	149
Umami Umira Mohd Akhir and Zurina Kasim	
<b>SELECTION THE BEST TYPE OF INVESTMENT IN MALAYSIA USING FUZZY TOPSIS</b>	151
Muhamad Aizat Iman Roslan and Fazril Izhar Mohd Idris	

<b>ONLINE EMPLOYMENT PLATFORM SELECTION BY USING FUZZY ANALYTIC HIERARCHY PROCESS</b>	153
Muhammad Iqbal Muhamidi and Mohd Halimi Ab Hamid	
<b>TOURIST TRIP DESIGN PROBLEM WITH USER PREFERENCE AND POPULARITY: A CASE STUDY OF LANGKAWI ISLAND</b>	155
Nabilah binti Anuar Ahmad and Huda Zuhrah Ab. Halim	
<b>ANALYZING FACTORS AFFECTING TO E-LEARNING SUCCESS BY FUZZY ANALYTIC HIERARCHY PROCESS (FAHP)</b>	157
Nor Syahazlin Mohd Zaki and Jasmani Bidin	
<b>EARLY DIABETES RISK PREDICTION USING ANT COLONY OPTIMIZATION ALGORITHM</b>	159
Nur Aisyatul Husna Ahmad Yusri and Rizauddin Saian	
<b>COMPARISON BETWEEN ARIMA MODEL AND FUZZY TIME SERIES: FORECASTING ENDEMIC COVID-19 CASES IN MALAYSIA</b>	161
Nur Atikah Mohd Razali and Nor Azriani Mohamad Nor	
<b>ANALYSING STUDENTS' PERCEPTIONS OF ONLINE MATHEMATICS LEARNING</b>	163
Nur Izza Hazwani Azali Azman and Zurina Kasim	
<b>Reconstruction the Rational Quadratic Bezier Curve Using Properties of Rational Quadratic Bezier and Segmentation</b>	165
Nur Nabilla Azmi and Siti Sarah Raseli	
<b>ANALYSING INFLUENTIAL FACTORS IN UNIVERSITY SELECTION USING FUZZY TOPSIS</b>	167
Nurul Athilah Azaman and Jasmani Bidin	

**NUMBER OF STAFF OPTIMIZATION OF TOLLMAN SCHEDULING WITH INTEGER LINEAR PROGRAMMING** 169

Nurul Athirah Syuhadah Ruslan and Diana Sirmayunie Mohd Nasir

**A FUZZY PROMETHEE APPROACH FOR CHOOSING THE MOST PREFERABLE HEALTH INSURANCE COMPANIES** 171

Nurul Qistina Mohd Kamal and Raihana Zainordin

**THE NUMBER OF EMPLOYED PEOPLE AND TOURIST ARRIVAL IN MALAYSIA USING ARIMA AND FUZZY TIME SERIES MODEL: PRE, DURING AND POST COVID-19** 173

Siti Norashikin Roslan and Siti Fatimah Abd Rahman

**THE PREFERRED SOCIAL NETWORKING SITE (SNS) FOR INFORMATION DISSEMINATION AMONG UiTM STUDENTS USING FUZZY AHP METHOD** 175

Siti Nuraisyah Syafiqah Abdullah and Noorzila Sharif

**MATHEMATICAL MODELLING ANALYSIS OF DIET PLANNING FOR THALASSEMIA PATIENTS** 177

Siti Sarah Md Zulkifli and Siti Nor Nadrah Muhamad

**RANKING FIVE MODELS OF LAPTOPS USING FUZZY PROMETHEE** 179

Wan Nur Syahirah Wan Muhammad Sukardi and Raihana Zainordin

**PREDICTION OF BREAST CANCER DISEASE USING MACHINE LEARNING APPROACH** 181

Wan Nashua Amira and Nor Hayati Shafii

<b>HEAT SOURCE AND CONSTANT WALL TEMPERATURE OF MHD FERROFLUIDS ON EXPONENTIALLY STRETCHING AND SHRINKING SURFACE UNDER STAGNATION POINT REGION</b>	183
Natasya Syafina Ismail, Nurizatul Syarfinas Ahmad Bakhtiar and Nur Fatihah Fauzi	
<b>WEB-BASED UITM BOOK STORE MANAGEMENT SYSTEM INTEGRATED WITH WHATSAPP API AND GOOGLE SERVICES</b>	185
Amir Imran Ahmad and Mohd Nizam Osman	
<b>FACIAL EXPRESSION RECOGNITION USING DEEP LEARNING TECHNIQUES</b>	187
Aznal Anas Azlan and Muhamad Arif Hashim	
<b>ANALYSIS ON RANSOMWARE CHARACTERISTICS USING STATIC ANALYSIS METHOD</b>	189
Maryam Adreena Mohd Mokhtaruddeen and Mohd Faris Mohd Fuzi	
<b>WEB-BASED JEWELRY MANAGEMENT SYSTEM USING WEB SCRAPPING</b>	191
Mohd Irfan Hafizi Bin Fakhurrrazi, Ts. Noorfaizalfarid bin Mohd Noor	
<b>EMPLOYEE ATTENDANCE SYSTEM USING FLUTTER</b>	193
Muhamad Faiz Akmal Bin Mohamad Noor and Sir Alif Faisal Ibrahim	
<b>STAFF RESIDENT COLLEGE (SRK) REPORT MANAGEMENT SYSTEM USING FLUTTER</b>	195
Muhammad ‘Atif Abdul Rahim and Ahmad Yusri Dak	
<b>UiTM PRIHATIN DONATION SYSTEM USING A RESPONSIVE WEB DESIGN APPROACH</b>	197
Muhammad Aiman Bin Rosli and Zulfikri Paidi	

<b>FOOD COURT MANAGEMENT SYSTEM</b>	199
Muhammad Alif Rusyaidi Bin Abdul Rashid and Alif Faisal Bin Ibrahim	
<b>INVENTORY MANAGEMENT SYSTEM FOR SMEs IN KULIM</b>	201
Muhammad Bilal Hakim Bin Azmi and Muhammad Nabil Fikri Bin Jamaluddin	
<b>FINAL YEAR PROJECT SUPERVISOR ACCEPTANCE SYSTEM (FYPSA)</b>	203
Muhammad Fikri Bin Mohd Firdaus and Ros Syamsul Hamid	
<b>UiTM ARAU STUDENT ORIENTATION APPLICATION EXTENDED ABSTRACT</b>	205
Muhammad Hafiz Bin Ghazali and Nurzaid Mohd Zain	
<b>VOAS: VETERINARY ONLINE APPOINTMENT BOOKING SYSTEM</b>	207
Muhammad Harith Bin Mokhtar and Arifah Fasha Binti Rosmani	
<b>ZAKAT MANAGEMENT SYSTEM WITH ELECTRONIC MAIL</b>	209
Muhammad Najmi bin Othman and Noorfaizalfarid bin Mohd Noor	
<b>PINEAPPLE DISEASE DETECTION SYSTEM USING MOBILENETV2 MODEL</b>	211
Muhammad Nu'man Hakim Abdul Aziz and Iman Hazwam Abd Halim	
<b>FIGHTING FISH IDENTIFICATION USING DEEP LEARNING</b>	213
Muhammad NurSyafiq and Mohammad Hafiz bin Ismail	
<b>C++ RUSH: INTERACTIVE GAME IN LEARNING COMPUTER LANGUAGE FOR NOVICE</b>	215
Muhammad Salman Hakim bin Shaiful Nizam and Arifah Fasha binti Rosmani	

<b>E-EXAMINATION SYSTEM FOR ANSWERING OBJECTIVE AND SUBJECTIVE QUESTIONS</b>	217
Muhammad Yasir Zulfikri and Nurzaid Muhd Zain	
<b>SPORT FACILITIES AND EQUIPMENT BOOKING SYSTEM FOR UITM PERLIS</b>	219
Musfira Mohd Azmir and Nurzaid Muhd Zain	
<b>ONLINE HOSPITAL APPOINTMENT CARD WITH QR CODE</b>	221
Nabilatulwidad Binti Abdul Mueiz and Mahfudzah Binti Othman	
<b>MYBUKU PINK MOBILE APPLICATION USING ANDROID</b>	223
NorHafizah Ayob, Mohammad Hafiz bin Ismail and Tajul Rosli Razak	
<b>MOBILE APPLICATION FOR ORDERING FOOD FROM UITM ARAU CAMPUS CAFETERIA</b>	225
Norsyuhana binti Noordin and Nurzaid Mohd Zain	
<b>UITM WEB PRACTICAL LOGBOOK SYSTEM</b>	227
Nur Arifa Najiha Bt Ahmad Zawawi and Mahfudzah Bt Othman	
<b>BLOOD BANK MANAGEMENT SYSTEM</b>	229
Nur Syamimi Izzati Binti Zulkifli and Ros Syamsul Bin Hamid	
<b>WEB-BASED FOR UiTM ARAU FOOD ORDER</b>	231
Nur Zahirah Izzati binti Mohd Zahir and Zulfikri Paidi	

<b>MASK AWARE: IOT FOR FACEMASK DETECTION AND MONITORING</b>	233
Siti Nurfatim Binti Mohtar and Aznoora Osman	
<b>IOT-BASED FLOWER GARDEN CARE SYSTEM USING ESP8266 WIFI MODULE AND TELEGRAM APPLICATION</b>	235
Syahida Atirah Binti Che Omar and Rashidah Binti Ramle	
<b>UITM STUDENT’S ATTENDANCE SYSTEM BASED ON BIOMETRIC FINGERPRINT WITH IoT IMPLEMENTATION</b>	237
Wan Muhammad Rahimi bin Wan Fadzli and Abidah Hj Mat Taib	
<b>CORN LEAF DISEASE DETECTION SYSTEM USING CONVOLUTIONAL NEURAL NETWORK</b>	239
Wan Nurul Izzah Binti Abd Hadi and Iman Hazwam Abdul Halim	
<b>HOMENETSEC: ENHANCING HOME NETWORK SECURITY BY SURICATA INTRUSION DETECTION SYSTEM USING RASPBERRY PI</b>	241
Ahmad Shariff and Abidah Hj Mat Taib	
<b>MALWARE DETECTION IN WINDOWS USING DEEP LEARNING CLASSIFICATION APPROACH</b>	243
Aishah Anuar and Mohd Faris Mohd Fuzi	
<b>E-VOTING SYSTEM PROJECT IN LARAVEL BASED ON WEB-BASED APPLICATION</b>	245
Anis Natasha Zahimi and Ros Syamsul Hamid	
<b>WATER LEVEL MONITORING USING WIFI</b>	247
Azizie Azizan and Iman Hazwam Abd Halim	

<b>FACE SKETCH RECOGNITION SYSTEM USING CLOUD-BASED DEEP LEARNING</b>	249
Faiz Elmie Shah Izahar Shah and Muhamad Arif Hashim	
<b>AN ENHANCEMENT OF SMART TRAFFIC LIGHT IN LORA NETWORK FOR SMALL SCALE AREA</b>	251
Lutfi Hadi Azizul Adry and Rafiza Ruslan	
<b>REMOTE CONTROL DESKTOP SYSTEM</b>	253
Muhammad Akmal Idlan Hissamuddin and Ros Syamsul Hamid	
<b>IoT-Based Smart Chili Farm Monitoring Using Arduino and GSM Module</b>	255
Muhammad Baihaqi Bakar and Rashidah Ramle	
<b>IMAGE AUTHENTICATION SYSTEM USING DEEP LEARNING</b>	257
Muhammad Faisal Amer Faudzli and Muhamad Arif Hashim	
<b>NETWORK AUTOMATIONS ON ACCESS CONTROL LIST (ACL) FOR MULTIVENDOR DEVICES USING ANSIBLE AND NAPALM IN GNS3</b>	259
Muhammad Haziq Ikhmal Suhaimi and Rafiza Ruslan	
<b>PERFORMANCE ANALYSIS OF HTTP FLOODING ATTACK AT APPLICATION LAYER IN MOBILE AD-HOC NETWORK (MANET)</b>	261
Muhammad Hilmi Hafizi Muhamad and Ahmad Yusri Bin Dak	
<b>PERFORMANCE ANALYSIS OF DOS ATTACK AT MAC LAYER IN WLAN</b>	263
Muhammad Naufal Abdul Rahim and Ahmad Yusri Dak	



<b>SMART IRRIGATION SYSTEM USING LORA-BASED IOT DEVICE</b>	265
Muhammad Nizamuddin Abd Muttalib and Iman Hazwam Abd Halim	
<b>ANDROID MALWARE DETECTION USING DEEP LEARNING CLASSIFICATION APPROACH</b>	267
Nur Amirah Amri and Mohd Faris Mohd Fuzi	
<b>STUDENT ATTENDANCE REGISTRATION SYSTEM USING QR CODE FOR TUITION CENTRE</b>	269
Nur Farizah Ishak and Zulfikri Paidi	
<b>STUDENT ATTENDANCE SYSTEM USING FACIAL RECOGNITION BASED ON DEEP LEARNING</b>	271
Syahila Aina Haris and Zulfikri Paidi	
<b>REDUCING DOS ATTACKS BY RUNNING MULTI INSTANCES OF NGINX WEB-SERVER IN DOCKER USING SHELL SCRIPT</b>	273
Ismail Arif M. Zulkepli and Abidah Mat Taib, Nor Alifah Rosaidi	
<b>SMART CHICKEN FEEDER SYSTEM USING NODE MCU ESP8266</b>	275
Ilham Syahmin Nasruddin and Mohd Nizam Osman	
<b>REMOTE MONITORING AND CONTROLLING OF LIGHTS USING IOT</b>	277
Nurul Najihah Yusra Zolkarnain, Nurzaid Muhd Zain and Mahfudzah binti Othman	



# EXTENDED ABSTRACTS

---

RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES  
**REMACS 5.0**

---

# **DASHBOARD : RISK PERCEPTION AND TRAVEL SATISFACTION USING PUBLIC TRANSPORT DURING COVID-19**

**Nafeis Sukaiynah Noor Azli and Jiwa Noris Hamid**

College of Computing, Informatics and Media, Universiti Teknologi MARA Perlis Branch, Malaysia

## **Abstract**

At the beginning of 2020, there was an incident where our world has been attacked with an infectious disease called COVID-19. All human beings are required to maintain mobility and reduce activities outside the home area. In addition, border closures or restrictions on incoming passengers, screening at airports and train stations, and travel advice on areas with community delivery. Nowadays, such things have made it necessary for only a part of society to return to the old norm of working in an existing office or workplace and studying physically. This problem arises when there is a significant change that can also be seen from the shift of public transport selection as the main mode of movement to private vehicles worldwide. This project wants to collect all the data from the answers given by the public transport users themselves. In the meantime, data visualizations were used in this project to show how information was delivered by people.

*Keywords:* COVID-19, public transport, dashboard, travel

## **1. Introduction**

Objective of the project is to analyze the retrieved datasets regarding people's risk perceptions and satisfaction with public transportation during COVID-19, to design a dashboard and visualize the related data with any type of data visualization, and lastly to evaluate the usability and performance of the dashboard. The scope of the project is to develop a dashboard that can analyse, explicate, and displaying as well as visualize the data about user's risk perception and travel satisfaction of public transport users during COVID-19. This can be used to find the exact information of risk user's perception before the pandemic, during a pandemic, after the pandemic, and what is user satisfaction using public transport toward the current living situation for use by public transportation industry, such as travel agencies and management of public transports.

## **2. Methodology**

In this section, it gives an overview on how the project is planned and developed. This figure illustrates the overview of all the phases that will be used to develop this project. There are four phases in developing this project, which are preliminary study, analysis, development and testing phase. The first phase explains on identifying the problem statements, objective, scope and significance of the project. The analysis phase explains about the related topic of the project and hardware and software used for the project. Next, the development phase explains on how the project was developed and the testing phase explains on identifying the user acceptance and feedback from the user.

## **3. Results and Discussion**

The first section explains on the test method that was used in order to test the usability of visualization in the Risk Perception and Travel Satisfaction Dashboard . The testing was done to gain feedback from actual users. The result of the testing was also elaborated in the first section. The usability testing for was conducted by selecting random 30 participants from UiTM Perlis or from any community including of public transport users to test on the dashboard according to the task given . Moreover, a set of questionnaires was given to the participants after tested the dashboard to gain feedback from them.

#### 4. Novelty of Research / Product

These studies have highlighted that human mobility and interaction patterns directly contribute to the spread of infectious diseases, particularly during pandemics. So, the importance of developing a dashboard in this project is to store and display important information from multiple data sources in one easily accessible place. With the development of technology, especially in 2022 today, with the help of smartphones, tablets, and other mobile technologies, dashboards are also used to convey relevant information to audiences anytime and anywhere. Furthermore, a developed dashboard is used to visually display all the data related to human mobility and interaction patterns and their risk and satisfaction when traveling during the time of COVID-19. This project uses visualizations or data visualization, and dashboards to communicate metrics visually to help users understand the complex relationships in their data. This can help public transport agencies or any travel agency to see what users prefer now and are useful for them to make decisions based on the data displayed in the dashboard.

#### 5. Conclusion

In conclusion, once this dashboard is developed, users and stakeholders can use this platform to see, study, and make improvements in trying to provide transportation to passengers here. The dashboard helps predict the data on the risk and satisfaction of its users, and this is an advantage for the travel agency or its management to be more concerned about the perception of public transport users during the COVID-19 pandemic now and in the future.

#### REFERENCES

- Abdullah, M., Dias, C., Muley, D., & Shahin, M. (2020). Exploring the impacts of COVID-19 on travel behavior and mode preferences. *Transportation Research Interdisciplinary Perspectives*, 8(July), 100255
- Dong, H., Ma, S., Jia, N., & Tian, J. (2021). Understanding public transport satisfaction in post COVID-19 pandemic. *Transport Policy*, 101(July 2020), 81–88.
- Fumagalli, L. A. W., Rezende, D. A., & Guimarães, T. A. (2021). Challenges for public transportation: Consequences and possible alternatives for the COVID-19 pandemic through strategic digital city application. *Journal of Urban Management*, 10(2), 97–109.
- Gkiotsalitis, K., & Cats, O. (2021). Public transport planning adaption under the COVID-19 pandemic crisis: literature review of research needs and directions. *Transport Reviews*, 41(3), 374–392.
- Matiza, T. (2020). Post-COVID-19 crisis travel behaviour: towards mitigating the effects of perceived risk. *Journal of Tourism Futures*, 8(1), 99–108.
- Rahman, M. K., Gazi, A. I., Bhuiyan, M. A., & Rahaman, A. (2021). Effect of COVID-19 pandemic on tourist travel risk and management perceptions. *PLoS ONE*, 16(9 September), 1–18.
- Shelat, S., Van De Wiel, T., Molin, E., van Lint, J. W. C., & Cats, O. (2022). Analysing the impact of COVID-19 risk perceptions on route choice behaviour in train networks. *PLoS ONE*, 17(3 March), 1–19.
- Zafri, N. M., Khan, A., Jamal, S., & Alam, B. M. (2022). Risk perceptions of COVID-19 transmission in different travel modes. *Transportation Research Interdisciplinary Perspectives*, 13(June 2021), 100548.

**Research Exhibition in Mathematics and Computer Sciences: REMACS 5.0**  
© 2023 College of Computing, Informatics and Media, UiTM Perlis Branch

e ISBN 978-629-97934-0-3

