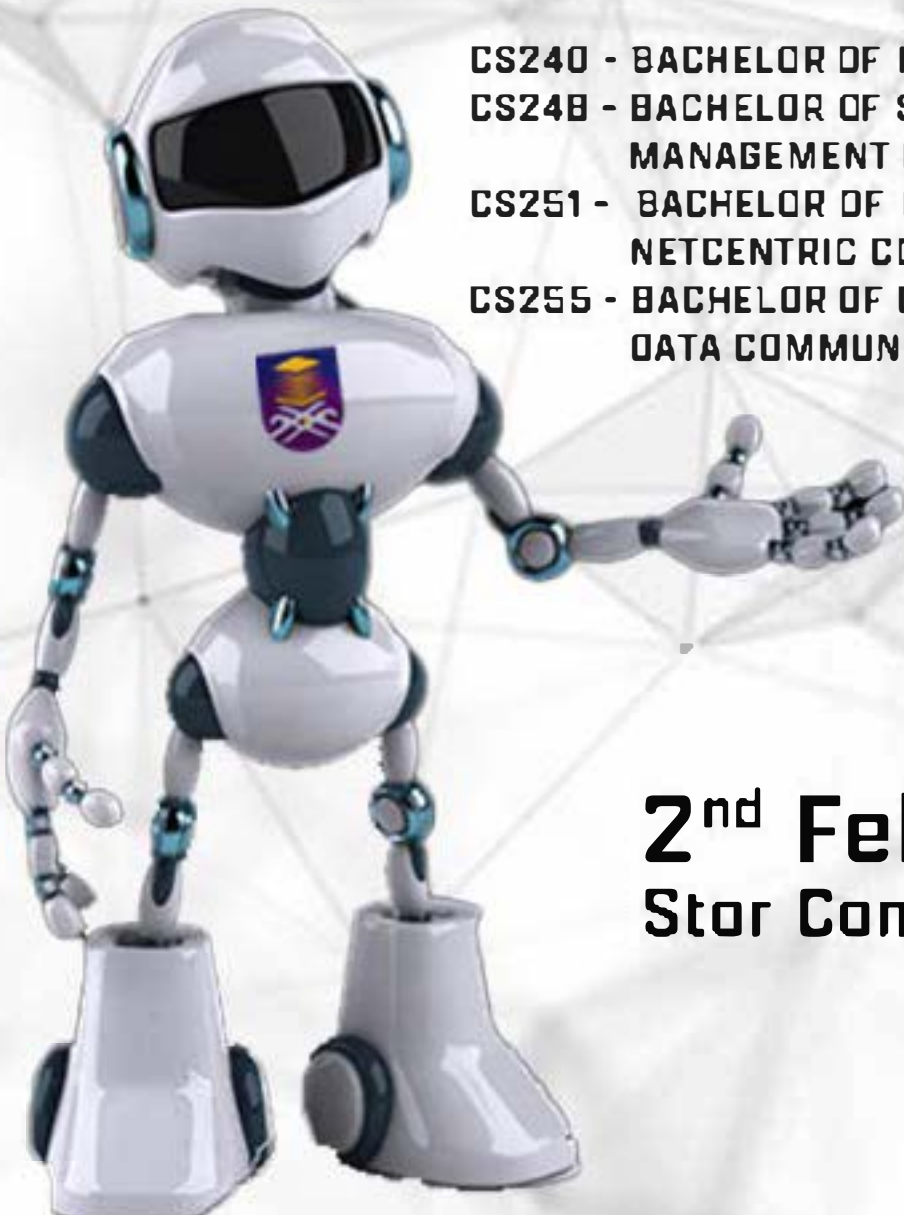


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RESEARCH EXHIBITION IN MATHEMATICS & COMPUTER SCIENCES

# REMACS 5.0

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

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

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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)

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*Editors*

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

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# 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.



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# 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*

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# EXTENDED ABSTRACTS

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

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# WEB-BASED APPLICATION FOR PLACES RECOMMENDER USING MACHINE LEARNING

**Farah Nurshaziela, Ruzita Ahmad and Shukor Sanim Mohd Fauzi**

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

## Abstract

Information about places to visit can be found easily on the internet, however, the information available might be overwhelming and users may have to spend considerable time locating those places that are interesting to them. Hence, tourists nowadays are looking for a simpler way to look for places' recommendation in a certain country that suits their taste. Therefore, the Web-Based Application for Places Recommender using Machine Learning is developed. This system is developed mainly using Streamlit, Pandas, SK-Learn, HTML and CSS and the data that is gathered is encoded using CountVectorizer and then using Cosine Similarity to recommend the places. Then the system is evaluated using User Acceptance Testing by 20 respondents and the results are then used to improve the system.

*Keywords: Recommendation System, Cosine Similarity, CountVectorizer, Machine Learning.*

## 1. Introduction

Tourist nowadays are looking for a simpler way to look for recommendation for places to visit in a certain country that is in line with their taste. Therefore, to overcome the problem, this system is developed with several objectives in mind. The objectives are to identify the requirements and techniques to build an effective web-based places recommender system, to develop a web-based recommender system using machine learning and to evaluate the system using User Acceptance Testing (UAT). The aim is to help the tourist to find a spot to visit that suits their preference. The scope of this research is to develop a web-based application system for places recommendation to the interested users to visit Malaysia which helps the user in finding a tourist spot that is suitable with their preference at the same time giving them a complete information regarding the place.

## 2. Methodology

The data used for this project was collected and scrapped using an Instant Data Scraper from different resources on the Internet. First the data is encoded using CountVectorizer to transform the dataset into vector which is done based on the word frequency that appear across the whole text, then using cosine similarity to compare the similarity between the places to be recommended to the users. The web is develop mainly using Streamlit, Pandas, SK-Learn, HTML and CSS. Then the system is evaluated using User Acceptance Testing by 20 respondents (5 tourism industry expert, 5 students and 10 public).

## 3. Results and Discussion

The summary from the UAT found that 60% of the respondent is very satisfied with the system, while the other 35% is satisfied and the remaining 5% is neutral on the scale of satisfaction with the system. It safe to say that this system managed to achieve the objectives proposed and able to do what it proposed to do in helping both the domestic and international tourists to find a place to visit in Malaysia. However, since the system is developed using Streamlit which is fairly a new framework, there is a lot of limitations such as the limited interface design freedom, restricted choice of buttons and menu, arose during the development of the system.

#### **4. Novelty of Research / Product**

There are a lot of information regarding places to visit on the Internet, however there is a limited to none, where it gave the full information on the places. This system gave that information all in one click. The recommendation given to the users consists of the places' website, phone number so the users could give the places' owner a call just in case of any inquires, a location link if the users wanted to drive directly to the places, food recommendation as well as accommodation nearby the place. This system also allows the user to find their desired places to visit based on their desired category and ratings which is acquired from Google review.

#### **5. Conclusion**

To conclude, this study met all its objectives by developing a Web-Based Application for Places Recommender using Machine Learning. The data regarding the places can be seen being visualised on the system, hence allowing the domestic and international tourist to find their desired tourist spot.

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