

**UNIVERSITI TEKNOLOGI MARA**

**TECHNICAL REPORT**

**GREY RELATIONAL ANALYSIS WITH INTEGRATED  
WEIGHT FOR DIFFERENT TYPE OF DATA  
(P28S18)**

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**Report submitted in partial fulfillment of the requirement  
for the degree of  
Bachelor of Science (Hons.) (Mathematics)  
Center of Mathematical Studies  
Faculty of Computer and Mathematical Sciences**

**DECEMBER 2018**

## **ACKNOWLEDGEMENTS**

Bismillahirrahmanirahim.

First of all, we would like to thank God as finally we were able to finish our final year project with success. This study had been done with an effort from each of our member's even though a little bit problem happened to us. Fortunately, the problem can be solved and we were able to adapt wisely. Moreover, this study has been done properly with the help from individuals and supervisor.

We would like to express our deepest gratitude to our supervisor lecturer, Dr. Nor Azni Binti Shahari for her guidance and support to produce a good outcome for our final year project. She always gave us ideas and comments on our report so that we can improve our report in many ways. From this study, each one of us manages to gain new knowledge about mathematical model and to solve the dataset by using mathematical model.

Besides, thanks to our beloved group members that always sticks together and works hard to handle this study with all effort and responsibility. Hope that all the effort will give a lot of benefits to us and to our research.

Last but not least, we would like to appreciate the lecturers and staffs for giving us knowledge in this field of study. All their supportive words have made us keep strong and positive to finish our project. We would like to express our big thank and gratitude to everyone who willing to help our team and give support while we are completing this study. We believe that without them, we are not in this successful way.

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## **ABSTRACT**

Grey Relational Analysis (GRA) is a method which calculates relational coefficient and relational grade between object by comparing the geometric relation between system's statistical data. However, in the traditional grey relational analysis, the calculation of grey relational grade ignores the influence of each factor or other means the weight used are equal. This study proposed integrated weights in the calculation of grey relational grade by using the entropy method. There are two types of data are used to evaluate this method. First data have the same characteristic which means that the data is in certain range while second data have the different characteristics where the data have different types of criterion. The selection of data normalization based on data characteristics was investigated to see the effect of the model. The result shows that the entropy method does not give effect with non-weight to the data with the same characteristics. However, data with different characteristics, entropy weight give a different result with the non-weight. In addition, this study is conducted using MATLAB software and GUI as a tool to calculate this result. From this study, it can be concluded that GRA can do well in any type of data and entropy method can give more effect to the data with different characteristics compared to the data with the same characteristics.