

## Abstract

The users need of information such as news article make them spend a long time to read those whole news article. For that reason, a solution is needed so users do not need to read the whole news article but still the users get the brief information that represent the news article. The solution is a system which can filter the most important information from a source or some source to create a shortened version of a text by a computer program, that is automatic text summarization system.

This final assignment implements graph-based summarization algorithm and similarity they are textrank and similarity with title applying graph-based ranking concept for sentences to build an automatic text summarization application. Automatic text summarization application produce two kinds of extraction summary, the first is a summary with linear combination of TextRank and similarity with title and the second one is a summary with fuzzy system combined of TextRank and similarity with title. Automatic text summarization scoring each sentences of a text and rank them according to their score. The output of the application is an extractive summary which consist of sentences with high scores.

The evaluation of the summaries using ROUGE evaluation toolkit. The result of the experiment shows that the accuracy of a summary with fuzzy system combined of TextRank and similarity with title is better than a summary with linear combination of TextRank and similarity with title. The fuzzy system parameters also give influence on the summary result. Besides, a summary with fuzzy system combined of TextRank and similarity with title has a better accuraction within 10% of compression rate than within 25% of compression rate.

**Keywords:** text summarization, Textrank, Similarity with Title, Fuzzy system