

Table of Contents

Abstract.....	i
Table of Contents	ii
1.0 Introduction	1
Background	3
Natural Language Processing	3
Text Extraction.....	3
Textrank.....	3
TF-IDF	4
Text Abstraction.....	4
Artificial Neural Network	5
RNN and LSTM.....	5
Word Embedding	8
ROUGE-N and BLEU Metrics	8
Libraries.....	9
Keras	9
NLTK.....	9
Scikit-learn	9
Pandas.....	10
Gensim	10
Flask	10
Bootstrap	10
GloVe.....	10
LXML	11
3.0 Related Work	12
Methodology	15
Choose and clean datasets.....	15
Datasets Information	15
Data Cleaning	17
Data Categorization	19
Extractive Summarization	21

Algorithms	21
Control Experiment	22
Metrics	22
Abstractive Summarization	22
Preparing the dataset	24
Embedding layer	25
Model	26
Test and compare among different datasets	29
Tune the model	29
Build an end-to-end application	30
Results	31
Data Cleaning and Categorizing	31
Extractive Model Performance	33
Abstractive Model Performance	35
Performance Comparison Among Datasets	46
End-to-End Application	47
6.0 Conclusion.....	49
Reference.....	51