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**Department of Computer Science**

**COMP4300 - Graduation Project**

**Final Report 2022/2023**

**Title: Fake News Detection**

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*Also, we would like to thank Dr. Radi Jarrar, because he always had time to answer some of our machine learning questions, and steer us in the needed technologies when we needed it.*

**Abstract**

Fake news and misinformation continue to grow faster and in different variations over time, and due to the COVID-19 pandemic, misinformation in social media sites has increased. In this paper, we review projects that tackled this problem and their different approaches, as well as our solution proposal to this epidemic of fake news. This project's main idea is to combine the summarization technique of TextRank with the data collection of Newspaper3k and to transform the simple Naive Bayes model into a complex Graph-based detection model with Bayesian Networks. With this, we can take advantage of graphs and their ability to form relations that otherwise would go unnoticed. We also propose taking advantage of already established online fake news detection validators in our data collection to improve our final model moving forward.

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# Chapter 1: Introduction

# 1.1 Goals & Objectives

*what* was to be achieved?

Motivation: *why* undertake the project?

Method: *how* was it undertaken or carried out?

# 1.2 Overview of the technical area

# 1.3 Overview of the report

# What material will you be covering and how is it arranged?

# Chapter 2: Background

**2.1 Details of relevant theory**

**2.2 Review of past/reported work**

**Video provides a powerful way to help you prove your point. When you click Online Video, you can paste in the embed code for the video you want to add. You can also type a keyword to search online for the video that best fits your document.**

**Table 2.1 summary**

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**To make your document look professionally produced, Word provides header, footer, cover page, and text box designs that complement each other. For example, you can add a matching cover page, header, and sidebar. Click Insert and then choose the elements you want from the different galleries.**

**Themes and styles also help keep your document coordinated. When you click Design and choose a new Theme, the pictures, charts, and SmartArt graphics change to match your new theme. When you apply styles, your headings change to match the new theme.** (Mohammad Ihraiz, 2022)



Figure 2.1 : Education.

2.3 A\* Algorithm

Hzcxkhzkxc

Zncjzjkcn

Zchkjzcjkzx

A

2.4 machine learning

# Chapter 3: System Analysis

# System Model and System Architecture

**Main work, solution approach, theory, simulation software,**

**Use UML notation to develop your diagram. Use CASE tool which will help you creating the models.**

# 3.1 Product Description

# 3.1.1 System Objectives

# 3.1.2 System Main Features

# 3.1.3 Operating Environments

# 3.1.4 Constrains

# 3.1.5 Functional Requirements

# 3.1.6 Non-Functional Requirements

# 

# 3.2 Functional Decomposition (Use Case Diagram)

# 3.2.1 Actors (actor list and description of their roles)

# 3.2.2 Use Cases

# (summary of the use case, full use case description in the Appendix)

# 3.2.3 Use Cases Diagram

# 3.3 System Models

# 3.3.1 Class Diagram

# 3.3.2 Sequence Diagram

# 3.3.3 Activity Diagram

# 3.3.4 State Chart Diagram

# 3.4 System Architecture

# 3.4.1 Sub-System (descriptions of the sub-systems and their services)

# 3.4.2 Software Architecture

# 3.4.3 Deployment Diagram

# 

# 3.5 Data Management and models

**Chapter 4: Implementation and Testing**

**Chapter 5: Conclusion and Future works**

**5.1 Review of the project**

# 5.2 Future Works

# Bibliography

Asali, A. (2021, 1 23). *Computer*. Retrieved from www.facebook.com

Mohammad Ihraiz, I. (2022). *Java Programming.* Ramallah, Palestine: Springer.

Tala Jamal, Y. A. (2020). *Life is Good* (3rd ed.). Springer.

# Appendices

􀂉 Use Case Specifications

􀂉 Glossary (or data dictionary)

􀂉 Software listings

􀂉 Code

􀂉 Original System Specification