

CYPRUS UNIVERSITY OF TECHNOLOGY  
FACULTY OF ENGINEERING AND TECHNOLOGY



## **Thesis**

**Classification of Harmful and Normal client data  
in social networks with the Help of Machine  
Learning**

Kostas Markou

Limassol, May 2023

CYPRUS UNIVERSITY OF TECHNOLOGY  
FACULTY OF ENGINEERING AND TECHNOLOGY  
DEPARTMENT OF ELECTRICAL ENGINEERING  
COMPUTER ENGINEERING AND INFORMATICS

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# Approval Form

CYPRUS UNIVERSITY OF TECHNOLOGY

PRESENTED BY

KOSTAS MARKOU

**Advisor** \_\_\_\_\_

Dr. Michael Sirivianos

**Committee member** \_\_\_\_\_

**Committee member** \_\_\_\_\_

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The approval of the thesis by the Department of Electrical Engineering, Computer Engineering and Information does not imply necessarily the approval by the Department of the views of the writer.

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## Abstract

Social networks have become an indispensable part of our daily lives, allowing us to connect with friends and family, share experiences and ideas, and stay informed about current events. However, the use of social networks also carries potential risks, particularly with the spread of harmful content such as hate speech, cyberbullying, and fake news. This has led to an increasing need for social network administrators to develop efficient methods for identifying and removing harmful content. Traditional methods for identifying and removing harmful content are often based on manual review and reporting by users, which can be time-consuming and unreliable. As social networks continue to grow in size and complexity, this approach is becoming increasingly challenging, and administrators are turning to machine learning techniques as a more effective solution. Machine learning algorithms can be trained to automatically analyze large amounts of data generated in social networks and identify patterns that distinguish harmful content from normal content. These algorithms can also adapt and evolve over time as new types of harmful content emerge, providing a more dynamic and responsive solution to the problem. This study aims to explore the application of machine learning techniques to classify harmful and normal client data in social networks. The focus will be on developing and evaluating models that can accurately distinguish harmful data from normal data. This will involve the use of various machine learning techniques, such as supervised and unsupervised learning, and feature engineering to extract relevant information from the data. Using unsupervised algorithms aimed at detecting Harmful and Normal clients on social networks, the outcomes of this study have the potential to contribute to the development of more effective solutions for identifying and removing harmful content in social networks. This could ultimately lead to a safer and more secure online environment for users and help to mitigate the negative effects of harmful content on individuals and society as a whole.