

**SEMANTIC WEB CONTENT MINING FOR CONTENT-BASED
RECOMMENDER SYSTEMS**

BY

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ACCEPTANCE

This is to attest that this dissertation was accepted in partial fulfilment of the requirements for the award of Master of Science (M.Sc.) degree in Management and Information Sciences in the department of Computer and Information Science, College of Science and Technology, Covenant University, Ota, Ogun State, Nigeria.

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DECLARATION

I hereby declare that this dissertation entitled **Semantic Web Content Mining for Content-Based Recommender Systems** was carried out by Makinde Opeyemi Samuel with matriculation number 16PCH01435. The project is centered on an original study in the department of Computer and Information Sciences, College of Science and Technology, Covenant University, Ota, under the supervision of Dr. Ibukun T. Afolabi. Concepts of this research project are results of the research carried out by Makinde Opeyemi, ideas of other researchers have also been fully recognized.

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CERTIFICATION

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DEDICATION

I dedicate this project to God Almighty for His sufficient grace, wisdom and knowledge given to me throughout my Master's Degree Programme.

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ABSTRACT

The fast-growing presence of data is crucial to all sectors and domain as it is being harnessed to solve various real-time problems, such as product recommendation. Web content mining, which is referred to a data mining for web textual content can be used to retrieve, refine and analyze data to solve these problems. It is therefore important that the web content mining process is optimized to improve preprocessing of web textual data for efficient recommendation. Currently, for content-based recommendations, semantic analysis of text from webpages seems to be a major problem. In this research, we present a semantic web content mining approach for recommender systems. The methodology is based on two major phases. The first phase is the semantic preprocessing of data. This phase uses both a developed ontology and an existing ontology together with the typical text preprocessing steps such as filtration stemming and so on. The second phase uses the Naïve Bayes algorithm to make the recommendations. The output of the system is evaluated using precision, recall and f-measure. The results from the system showed that the semantic preprocessing improved the recommendation accuracy of the recommender system by 5.2% over the existing approach. Also the developed system is able to provide a platform for content based recommendation which provides an edge over the existing recommender approach because it is able to analyze the textual contents of users feedback on a product.