

This project aims to classify documents into specific topic categories based on relevant/common terms. Term Frequency-Inverse Document Frequency(TF-IDF), is being widely used to determine how relevant terms are to a given document. However, in some cases TF-IDF is not effective, so we used the Dowker Complex to explore how relevant the terms are between the documents. The Dowker Complex is an abstract simplicial complex based on word usage among documents. In this research, its application is used in a matrix format to represent the relationship between terms and documents using statistical software in R. We are still in the research process, but the current results show that the Dowker Complex separates the documents by their topics, as measured by the topic's probability, more efficiently than TF-IDF. This research can be applied to help search engines rank documents by relevant terms.