

Abstract

Religious misunderstandings often stem from a lack of interfaith awareness. This lack of information leads to conflicts among different religious groups. When people are limited to only one perspective, it could lead to stereotypes and make it hard to find common ground on critical topics; such as abortion, gun control, same-sex marriage, etc., which causes further division. Sharing perspectives, on the other hand, allows people to see the beliefs that guide different communities and identify the overlap between religions. In this project, we bridge the knowledge gap and provide a common perspective between the different religious communities such as Christianity, Hinduism, and Islam. Our platform, Interfaith Informatics, is a user-friendly web interface that helps people explore the perspectives of different religions on different topics. While existing literature has some work done in sharing perspectives on different religions, it is often limited in considering comprehensive data points and cannot provide a better perspective. In this project, we provide three primary features: 1) Information, which displays an overview of our comprehensive dataset that includes multiple sacred texts across religions; 2) Sentiment Analysis, which analyzes the general sentiment of a selected religion on a given topic; and 3) Comparison, which identifies the similarities and differences of the perspectives from two selected religions on a given topic. We used generative AI as a supporting resource for the interpretation and analysis of sacred texts. Finally, we conducted preliminary experiments to demonstrate the efficiency of our tool, which is developed using Web 2.0 and MySQL technology.

Introduction

Religious unawareness and misunderstandings tend to lead to stereotyping, tensions, and in more extreme cases, hostility and conflict. In order to avoid this, knowledge of different religions should be easily accessible. When people are informed about the beliefs and traditions of other religions, it'll be easier to steer away from making harmful assumptions. Sharing perspectives helps to identify the common ground that religions might share on different topics. It also helps to understand and respect different viewpoints, which can lead to better conversations. Based on this understanding, several researchers have tried to address this problem of lack of information about religions but have taken a limited approach. In the paper titled A Comparative Study of Religious Scriptures Using Natural Language Processing by Pramit Goel, the Bible represents Christianity, the Bhagavad Gita represents Hinduism, and the Quran represents Islam. Similarly, Lexical And Semantic Analysis Of Sacred Texts Using Machine Learning And Natural Language Processing uses the Bible for Christianity, the Quran for Islam, and the Tanakh for Judaism (Nisha Varghese, M Punithavalli). While these studies are informative, their data points are too limited to capture the bigger picture of these religions. Each religion consists of various sacred texts and interpretations that cannot be ignored if the goal is to gain a better understanding of the religion's beliefs, practices, and cultural significance. Our platform, Interfaith Informatics tries to improve on this aspect through our data collection. We've picked three religions: Christianity, Hinduism, and Islam. We've gathered different sacred texts from each religion to form a comprehensive dataset. After the data collection, we did data preprocessing that involved cleaning the datasets of stop words and noise and organizing them to ensure they were suitable for analysis. At this stage of our project, we have used generative AI as a supporting tool to interpret and analyze our sacred texts and extract sentiments and comparisons. Interfaith Informatics can be used by a user to learn about a religion that they're curious about, to better understand their own beliefs, or to conduct research work for academic, professional, or personal reasons. It has three primary features to facilitate this:

- 1) Information: a feature that displays a comprehensive list of the sacred texts within a selected religion, along with the names of their authors.
- 2) Sentiment Analysis: a feature that analyzes and returns the overall sentiment of a selected religion on a given topic, indicating if it's positive, negative, or neutral.
- 3) Comparison: a tool that returns a detailed list of similarities and differences between two religions at a time, based on a selected topic and relevant sacred texts.

Methodology

Data Collection

We've gathered different sacred texts from each religion to form a comprehensive dataset, as shown in Table 1. This was one of the most challenging aspects of this project. Because most, if not all, sacred texts aren't originally written in English, we were unable to find some sacred texts from our dataset list, which have then been removed.

Data Preprocessor

After data collection, we needed to preprocess the sacred texts before storage and management. When converting some texts from scanned PDF format to TXT, we encountered a problem. Within the content of a few sacred texts, we found page numbers or footnotes, making them unsuitable for analysis. Those texts were removed from the list.

Data Analysis

We used AI as a tool to help us identify the score of religions on topics on a scale of 1 to 5 and categorize the sentiments as positive, negative, or neutral. Large Language Models (LLMs) like ChatGPT, Gemini, and Claude helped us identify the similarities and differences between the perspectives of two religions on a given topic.

Data Storage and Management

We used a MySQL database to efficiently store the sacred texts, along with relevant metadata and AI-generated analysis data. The database contains three tables: information, sentiment, and comparison, each designed with the appropriate columns.

Implementation

The backend uses PHP to query the database based on the user's choice. For example, if the user selects the sentiment of Islam on abortion, the code will retrieve relevant records from the sentiment table. We built the frontend with HTML, CSS, and JavaScript, providing a user-friendly interface with dropdown menus for selecting religions and topics. The algorithms used to implement this project are presented in Table 2.

Table 1: An Overview of the Dataset		
Christianity	Hinduism	Islam
1. The Bible 2. The Apocrypha 3. Early Christian Writings 4. Catechism of the Catholic Church 5. Church Fathers' Writings 6. Creeds and Confessions	1. Vedas 2. Upanishads 3. Bhagavad Gita 4. Ramayana 5. Mahabharata 6. Puranas 7. Dharma Shastras 8. Tantras	1. The Quran 2. Hadith 3. Sirah (Biography of Prophet Muhammad) 4. Tafsir (Quranic Exegesis) 5. Fiqh (Islamic Jurisprudence) 6. Sira and Maghazi Literature 7. Aqeedah (Islamic Theology) 8. Sufi Texts (Mystical Islam) 9. Rasa'il Ikhwan al-Safa 10. Books of Du'a

Table 2: An Overview of the Algorithms	
Sentiment Algorithm	Comparison Algorithm
Input: Dataset (D), Topic (T), Religion (R) Output: Sentiment (S) While (D.religion equals R) { score = ANALYZE (D.text, T) class = empty if score >= 1 and score <= 2.5 class = NEGATIVE else if score >= 3.5 and score <= 5 class = POSITIVE else class = NEUTRAL S[D.code] = score, class } End while	Input: Dataset (D), Topic (T), Religion1 (R1), Religion2 (R2) Output: Comparison (C) While (D.religion equals R1 as D1 and D.religion equals R2 as D2) { sim = ANALYZE (D1.text, D2.text, T) diff = ANALYZE (D1.text, D2.text, T) C [D1.code, D2.code] = sim, diff } End while

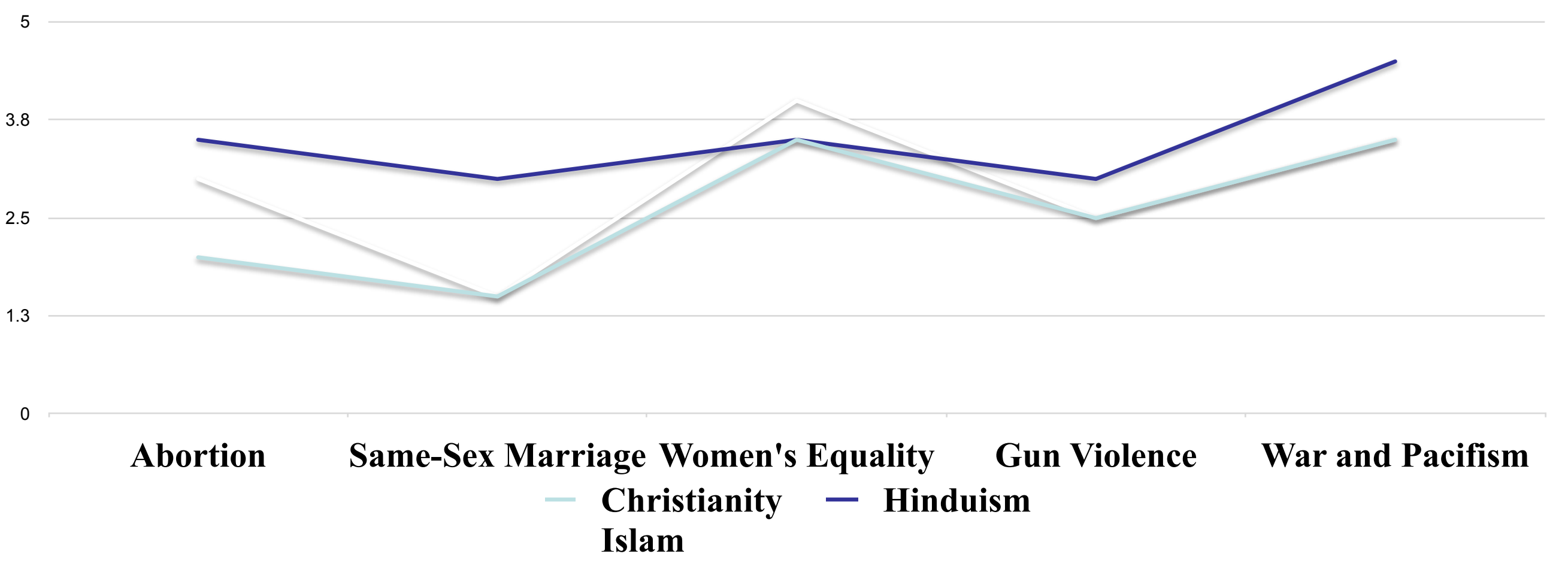
Experiments

We analyzed the perspectives of different religions on critical topics to identify areas of agreement and conflict across the religions. Table 3 highlights the key similarities and differences between Christianity and Islam regarding their beliefs on abortion. Table 4 presents sentiment analysis scores from different LLMs evaluating the perspectives of Christianity, Hinduism, and Islam on women's equality. Figure 1 visualizes the sentiment scores of all three religions across all five topics.

Table 3: Comparison between Christianity and Islam on Abortion	
Similarities	Differences
In both Christianity and Islam, abortion is generally discouraged, as human life is considered sacred and begins in the womb. Both religions allow for exceptions in cases where the mother's life is in danger. Christianity emphasizes that life is divinely ordained, as seen in Jeremiah 1:5 ("Before I formed you in the womb I knew you"), while Islam also upholds the sanctity of life, stating in Qur'an 17:33, "Do not kill the soul which Allah has forbidden, except by right."	Christianity and Islam differ in determining when life begins and the conditions under which abortion is permissible. Many Christian denominations believe that life begins at conception, making abortion morally unacceptable in most cases. In contrast, Islamic scholars debate whether the soul enters the fetus at 40, 90, or 120 days, allowing abortion within this period under certain conditions, such as rape or severe fetal abnormalities. Additionally, Islamic law often prioritizes maternal well-being, whereas Christian doctrine generally emphasizes the sanctity of the unborn child.

Table 4: Sentiment Analysis of Christianity, Hinduism, & Islam on Women's Equality				
Religion	Source	ChatGPT Score	Gemini Score	Claude Score
Christianity	Bible	3.5	3	3
Hinduism	Bhagavad Gita	3.5	3	3.5
Islam	Quran	4	2.5	3.5

Figure 1: Sentiment Scores of Christianity, Hinduism, and Islam



Conclusions and Future Work

The Interfaith Informatics platform promotes dialogue and religious tolerance among different groups. Our web interface provides users the opportunity to learn and explore the different perspectives of religions. In the current stage, we have relied on generative AI to interpret and analyze the sacred texts for sentiments and comparisons. For future work, we aim to shift our focus towards Machine Learning, Natural Language Processing, and Data Mining instead.

Contact Us

Yordanos Ayelework Email: ayelework.yordanos@mcm.edu
Dr. Aravind Mohan Email: mohan.aravind@mcm.edu
Phone: (325) 793-3845