AI-Powered Analysis of Religious and Humanities Texts

Key Points:

- Tool: RHTAS (Religious and Humanities Text Analysis System).
- Purpose: Simplifies the study of religious and historical texts using AI.
- Features: Uses T5 and BERT to detect topics, analyze tone, and create timelines.
- Goal: Makes complex text analysis accessible to everyone.

presented by Khairul Islam

project background

How Religious Text Mining Analysis Works

Step 1: Collection

9 Religious Texts:
Book of Mormon, Torah, Qur'an, etc.

Step 2: Processing

- Extract words
- Identify nouns verbs
- Categorize words

Step 3: Analysis

Create two maps:
- Noun categories
- Verb categories

Common Categories

All texts share words about:

- Family relationships
- Body parts
- Emotions
- Animals
- Actions

Key Findings

- Book of Mormon central
- Strong relationships between Biblical texts
- Each text has unique categories
- 50% overlap in verbs

The research uses computer analysis to find patterns across different religious texts

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A Text Mining Analysis of Religious Texts

By DANIEL MCDONALD*

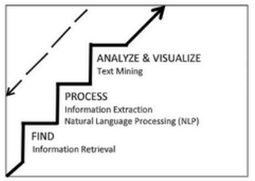
Religious text scholarship explores the meaning of passages and uses critical/rhetorical research methods. In contrast, automated tools that perform shallower but broader quantitative analysis have been created. These tools process entire books and help illuminate relationships between religious texts. We have automatically extracted and categorized noun and verb phrases from nine religious texts: the Book of Mormon, the Greater Holy Assembly, the New Testament, the Old Testament, the Popol Vuh, the Qur'an, the Rig Veda, the Tao Te Ching, and the Torah. The extracted topics were used as input to a Self-Organizing Map (SOM). The map uncovered some interesting relationships.

Keywords: Religious Text Analysis, Self-Organizing Map

JEL Classification: C38

I. Introduction

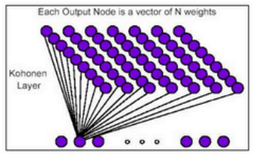
Figure 1: The Text Mining Research Areas

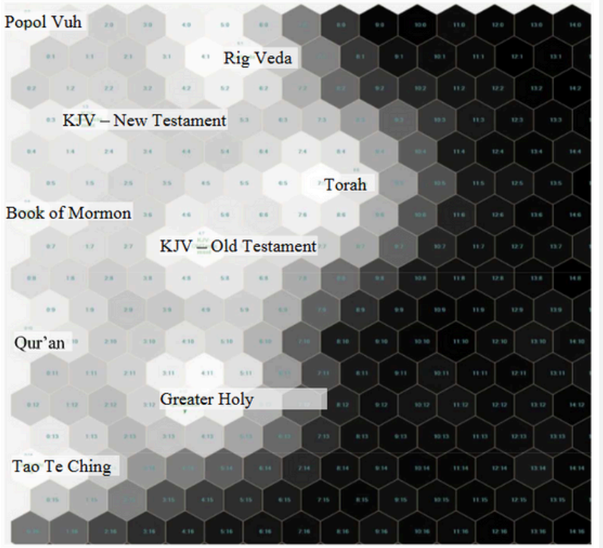


C. Self-Organizing Map

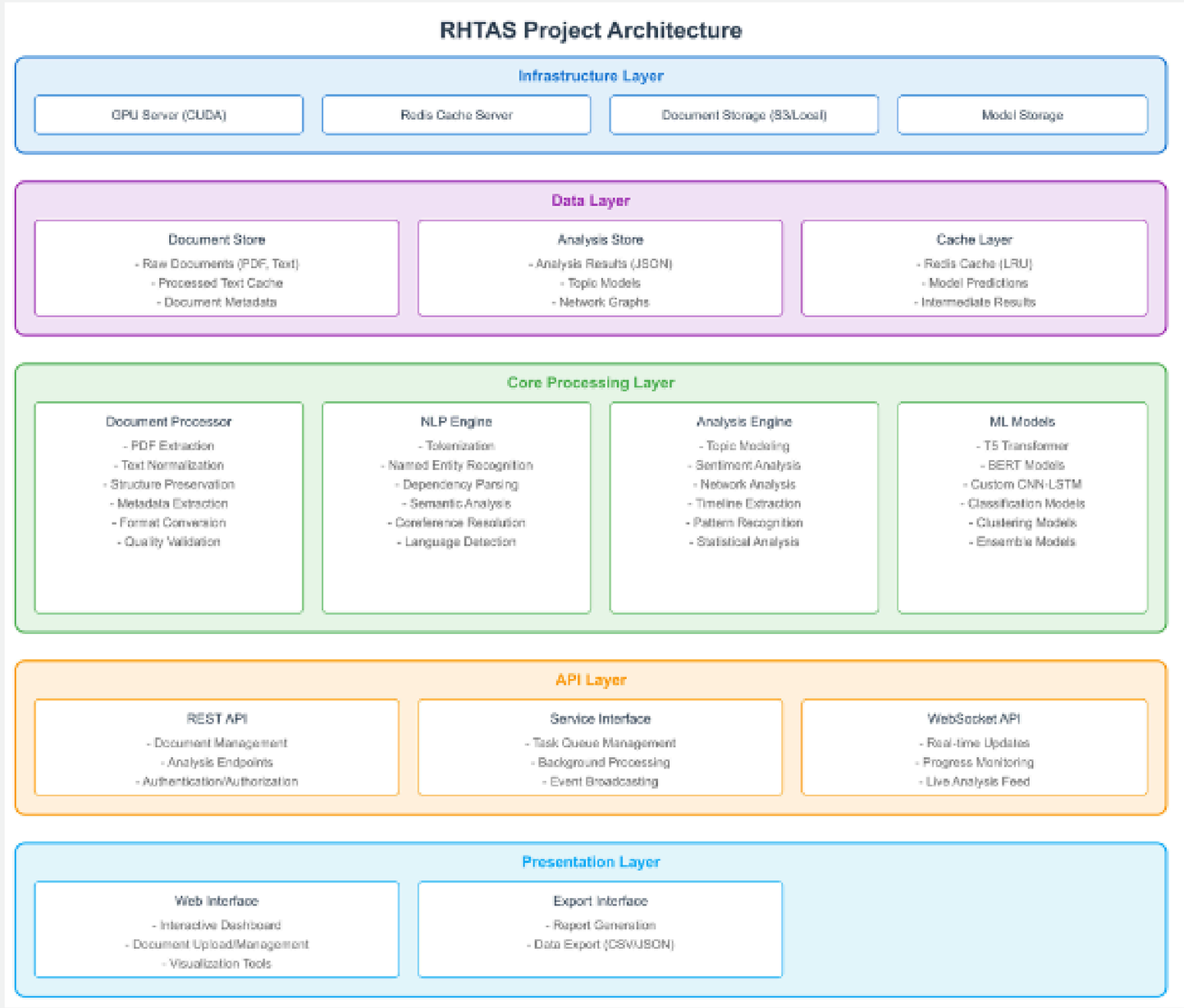
A self-organizing map (SOM) is a two-layered neural network algorithm used for clustering and dimension reduction. The SOM, developed by Teuvo Kohonen, is unsupervised in that it does not require human intervention (Kohonen, 1995). The SOM is similar to multi-dimensional scaling in that it takes a multi-dimensional input layer and maps the inputs to a two-dimensional output layer (Jain and Dubes, 1988). Figure 2 shows the SOM topology. In dealing with text,

Figure 2: The SOM Topology

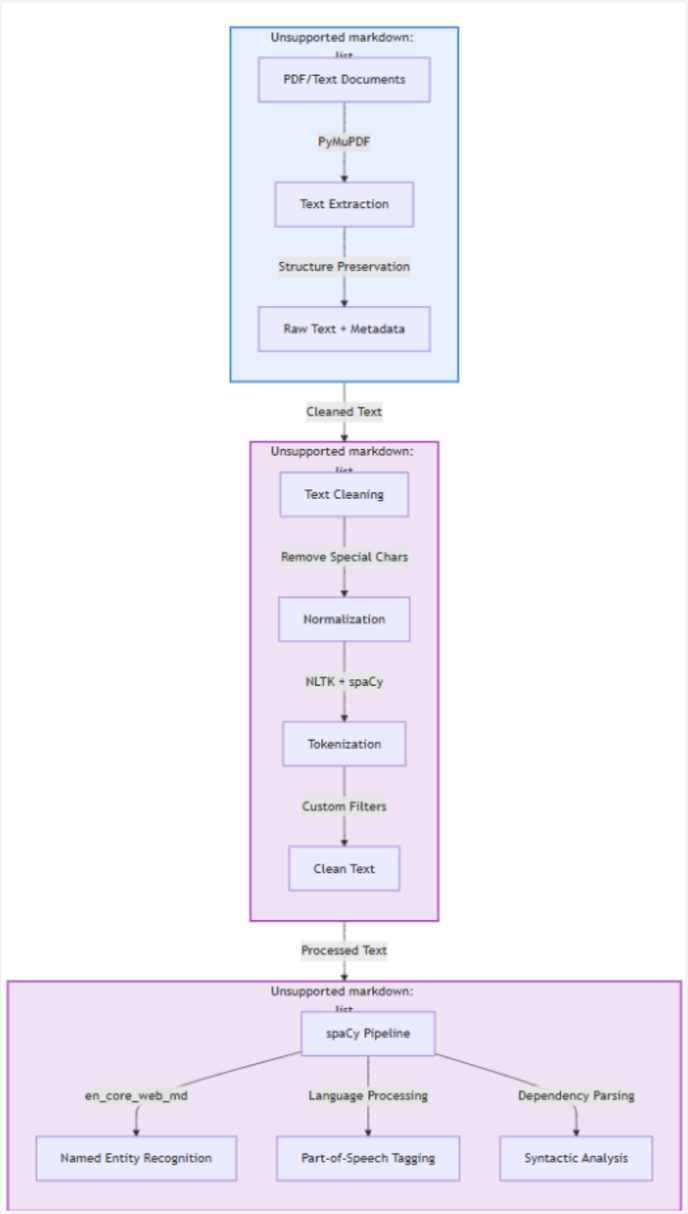


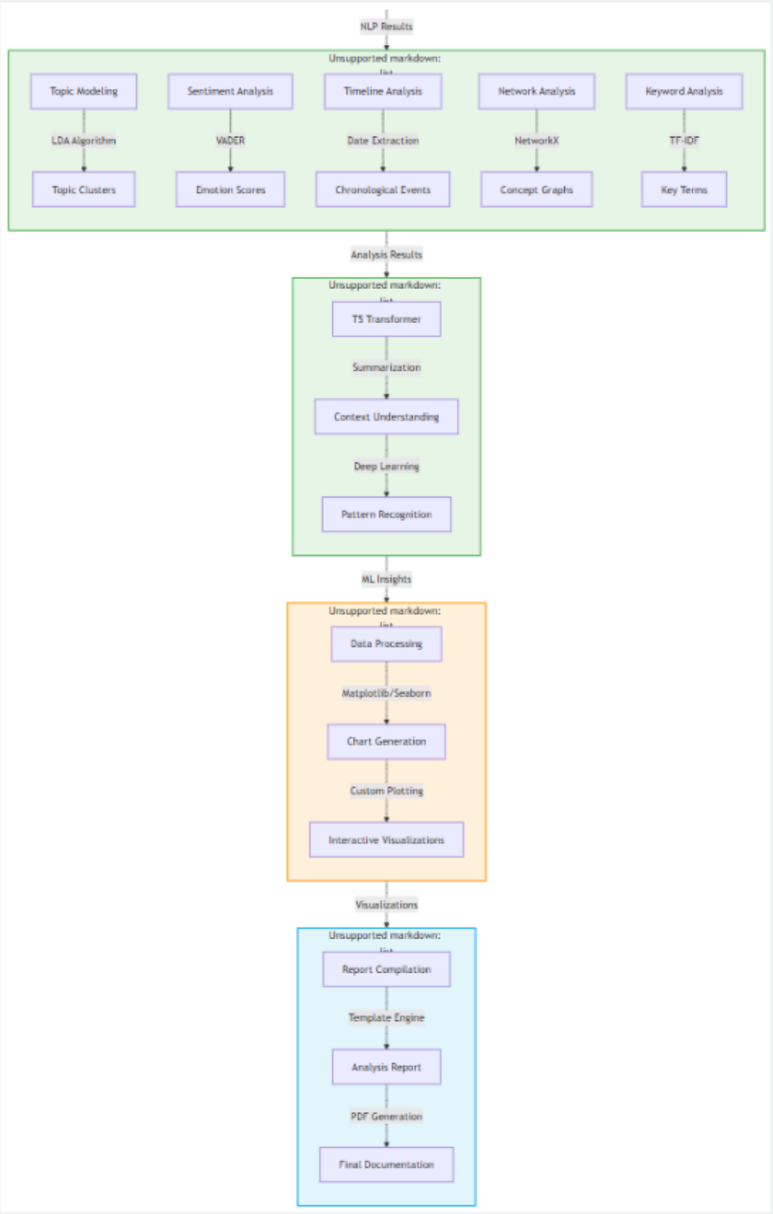


Architecture

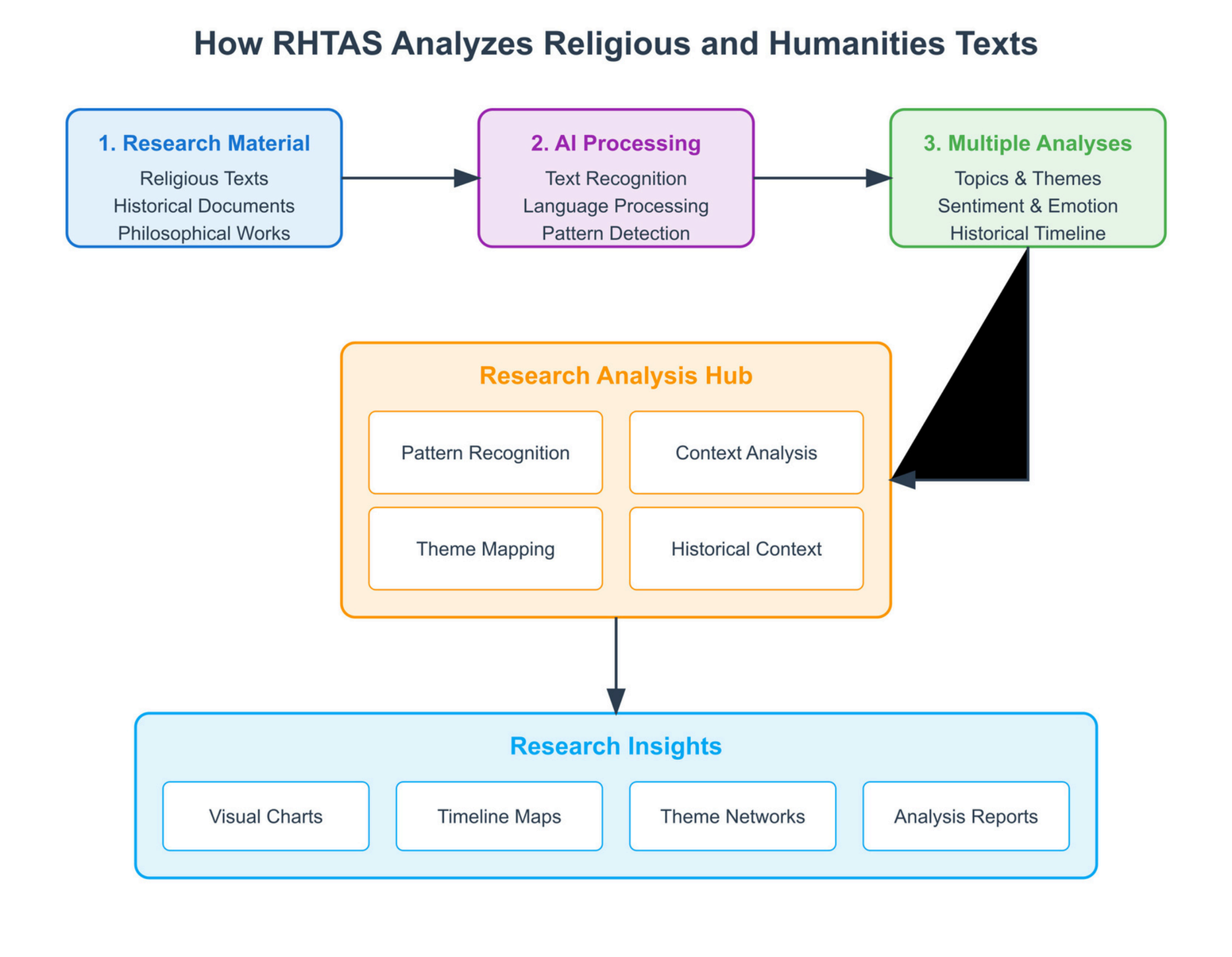


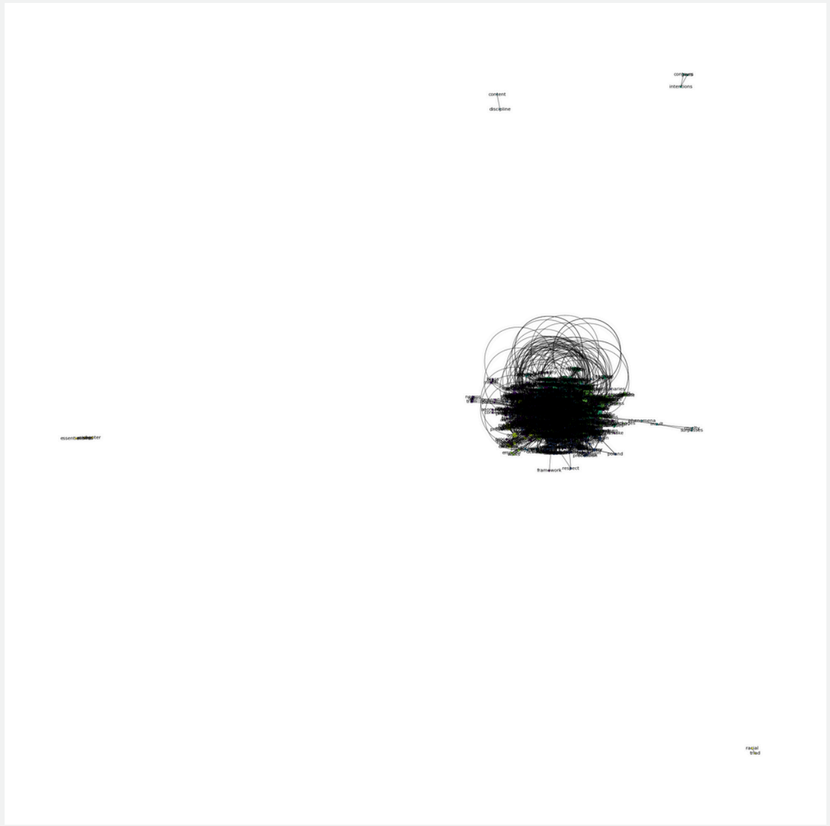
Architecture



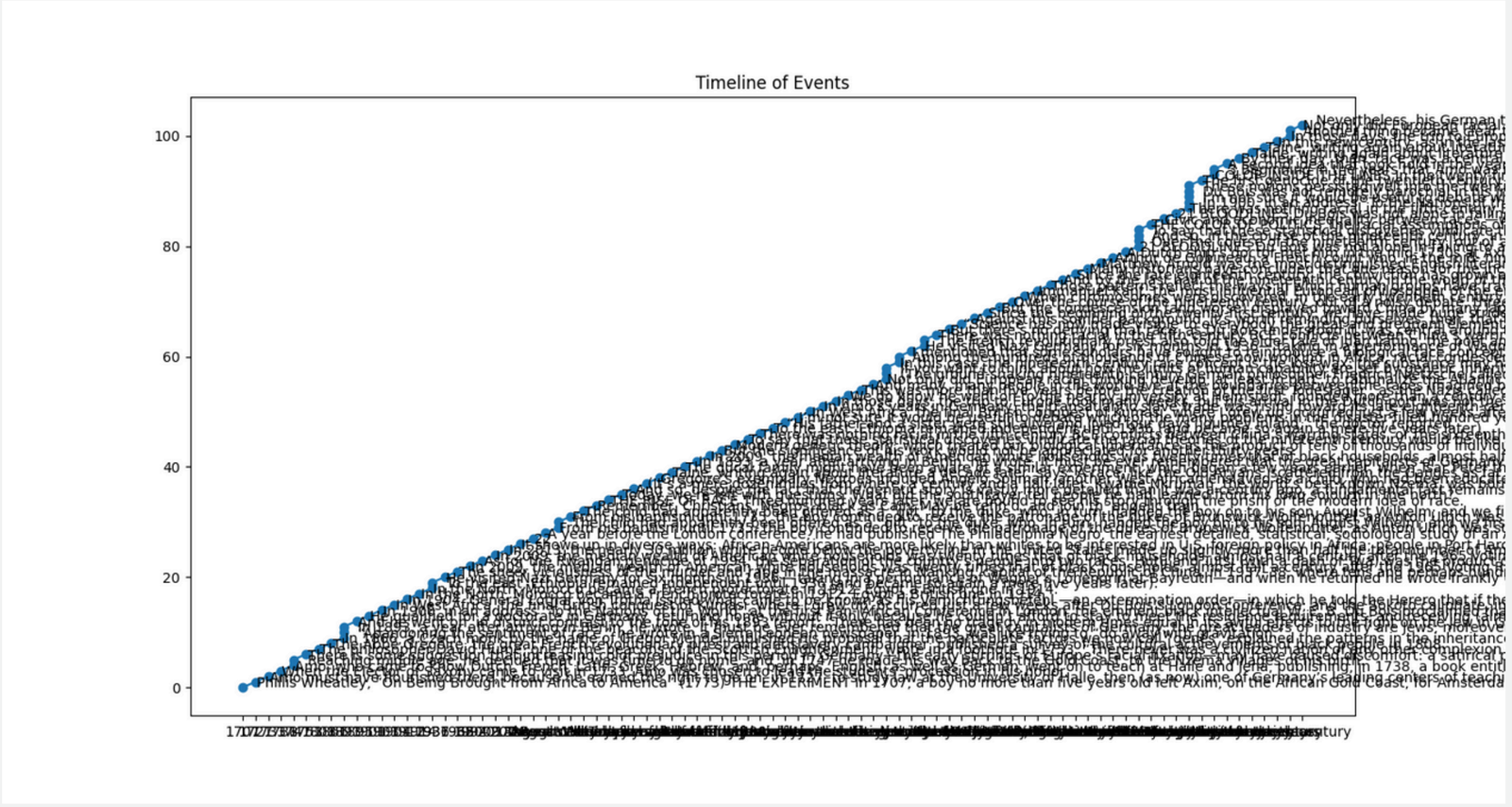


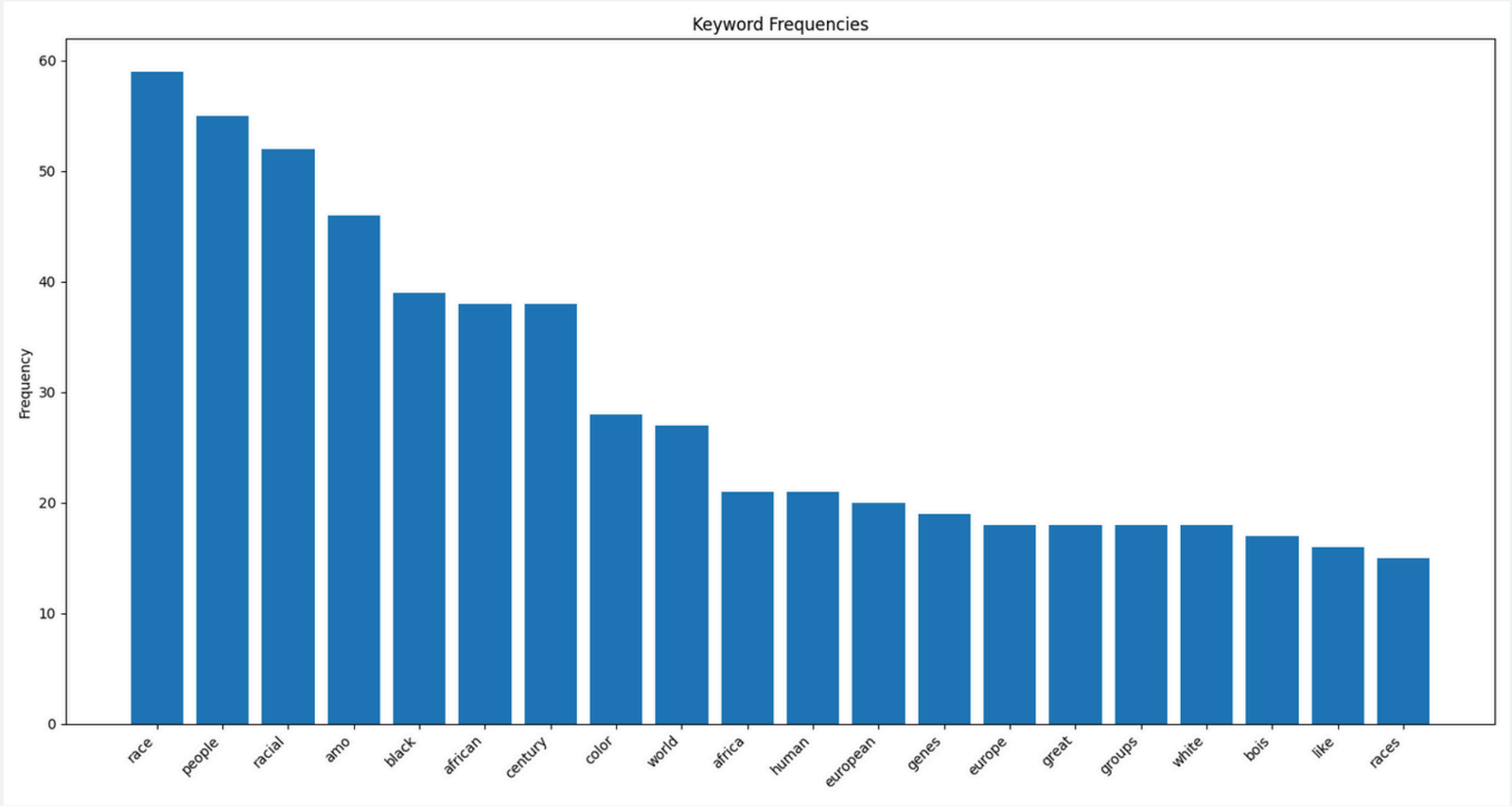
Architecture

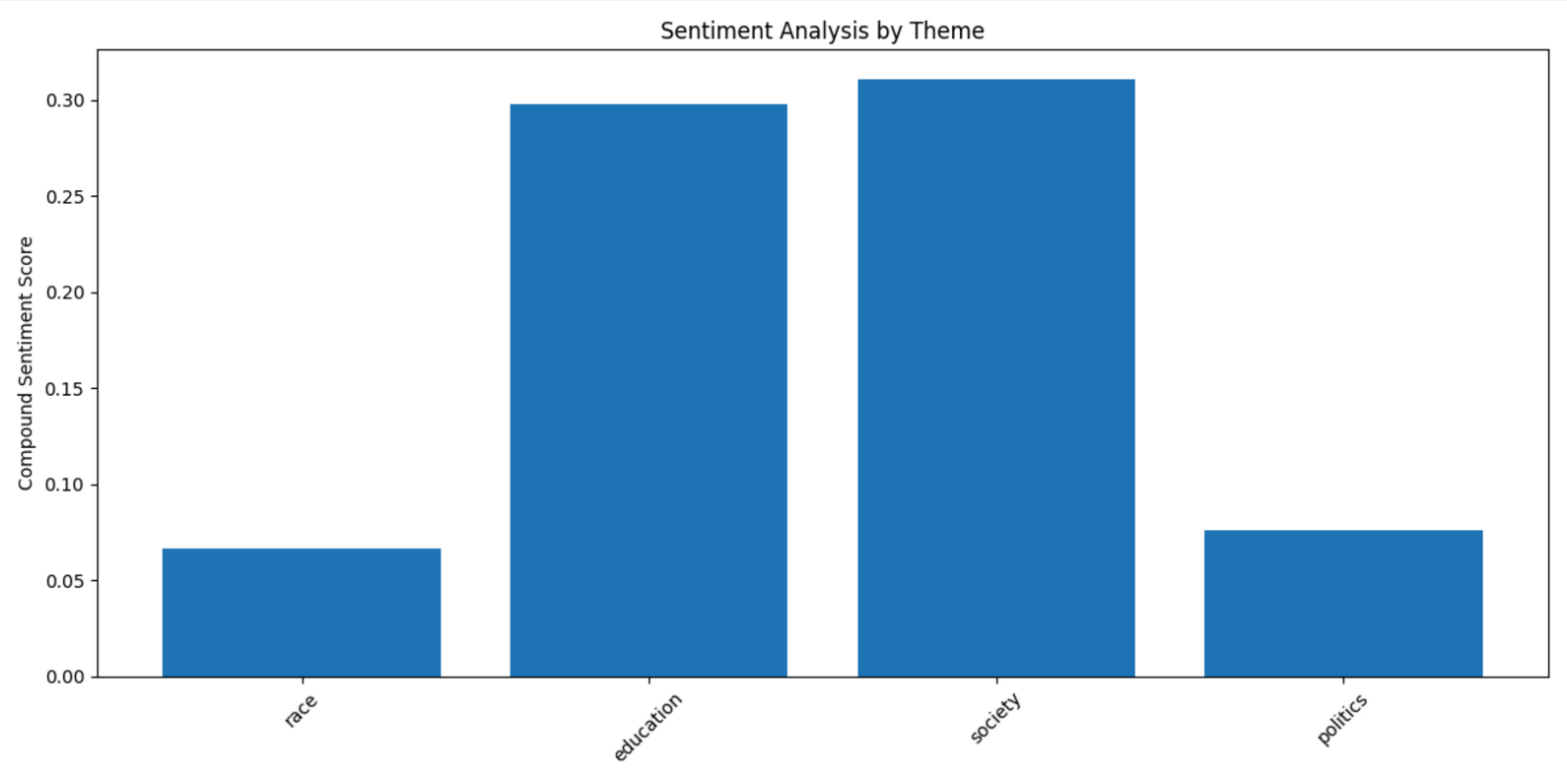




Topic 1
whether
differences
negroes
idea
negro
made
anton
social
Topic 2
idea
whether
differences
negroes
anton
negro
made
social
Topic 3
differences
negro
idea
social
anton
made
whether
negroes
Topic 4
negroes
social
negro
made
anton
idea
whether
differences
Topic 5
one
century
color
people
racial
black
african
race
amo


Timeline of Events
100
80
60
40
20
0


Keyword Frequencies
Frequency
0
10
20
30
40
50
60
race
people
racial
amo
black
african
century
color
world
africa
human
european
genes
europe
great
groups
white
bois
like
races


Sentiment Analysis by Theme
Compound Sentiment Score
0.00
0.05
0.10
0.15
0.20
0.25
0.30
race
education
society
politics

Comparison

ChatGPT	Claude	RHTAS
Kwame Anthony Appiah's chapter **"Color"** examines the life of Anton Wilhelm Amo, an African philosopher in Enlightenment Europe, as a lens to explore the evolution of racial thinking. Amo's achievements—becoming the first African to earn a European doctorate in philosophy—challenged stereotypes but also reflected the era's racial essentialism. Appiah critiques how race was used historically to justify slavery and inequality, tracing its persistence in modern society despite advances in genetic science that debunk the biological basis of race. Amo's return to Africa symbolizes a personal rejection of racial typologies and prompts reflection on whether a world beyond racial fixations is possible.	The chapter explores the evolution of racial thinking through the remarkable story of Anton Wilhelm Amo, an African who became a prominent German philosopher in the early 18th century. Originally from the Gold Coast (modern Ghana), Amo was taken to Europe at age 5 and achieved unprecedented academic success, becoming the first black African to earn a European doctorate in philosophy. His story serves as a lens to examine how racial concepts transformed from cultural and religious distinctions in his time to biological categories in the 19th century, marked by beliefs in racial essence, fixed characteristics, and typological thinking. Though modern genetics has since disproven these racial theories by showing that most genetic material is shared among all humans and there's more variation within racial groups than between them, racial thinking continues to shape politics, society, and identity worldwide. The chapter concludes with Amo's poignant return to Africa, possibly fleeing growing racial prejudice in Europe, raising questions about the possibility of a world where color is simply a fact rather than a determining feature of one's destiny.	a boy no more than five years old left Axim, on the African gold coast, for Amsterdam . he was on a ship belonging to the Dutch west india company . a boy no more than five years old left Axim, on the african gold coast, for Amsterdam . he arrived in the Dutch port of Wolfenbüttel . he then had to travel another few hundred miles to Wolfenbüttel . Anton Ulrich was a major patron of the european enlightenment . the child was offered as a "gift" to the duke, who in turn handed the boy on to his son, August Wilhelm . he was a member of August Wilhelm's household, and a member of his family

Aspect	ChatGPT	Claude	RHTAS
Subject	The life of Anton Wilhelm Amo as a lens to explore racial thinking and its evolution over time.	Anton Wilhelm Amo's life and his role in the evolution of racial concepts during the Enlightenment period.	The early life and journey of Anton Wilhelm Amo, focusing on his movement from the Gold Coast to Europe as a child.
Historical Context	Highlights the Enlightenment era's racial essentialism and how it justified slavery and inequality.	Examines the transition from cultural and religious racial distinctions to fixed biological categories during the 19th century.	Focuses on the Dutch West India Company's role in bringing a young boy (Amo) from Axim, Gold Coast, to Europe.
Amo's Achievements	Describes Amo as the first African to earn a European doctorate in philosophy, showcasing his academic success that challenged stereotypes of his time.	Highlights Amo's unprecedented success in European academia as the first black African to earn a doctorate in philosophy.	Discusses Amo's integration into European society, particularly his upbringing in the household of August Wilhelm.
Critique of Racial Thinking	Critiques how race was historically used to justify inequality and slavery; modern genetics debunk the biological basis of race.	Notes that racial theories have been disproven by genetics, which shows more variation within racial groups than between them, but racial thinking persists in modern society.	Implies Amo's journey as part of the European Enlightenment context but does not explicitly critique racial thinking.
Significance of Amo's Return	Amo's return to Africa is framed as a rejection of European racial typologies and prompts to consider a world beyond racial fixations.	Describes Amo's return to Africa as a possible escape from growing racial prejudice in Europe, symbolizing his disillusionment and raising broader questions about identity and race.	Does not mention Amo's return to Africa, focusing instead on his early years and status in Europe.
Narrative Style	Analytical, connecting Amo's life to broader societal critiques of racial concepts and persistence in modern society.	Narrative and reflective, focusing on the evolution of racial thinking and its persistence despite scientific advances.	Biographical and descriptive, focusing on events of Amo's early life and the sociopolitical context of his introduction to Europe.

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