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Quantifying the Impact of Artificial Intelligence on Narrative Structures: A Computational Analysis and Insights from Fasting, Feasting by Anita Desai

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Abstract: This observe investigates the role of Artificial Intelligence (AI) in analyzing narrative structures through a computational approach to Anita Desai's Fasting, Feasting. Using AI tools, together with Natural Language Processing (NLP) and gadget mastering algorithms, the studies examines thematic styles, character improvement, and narrative arcs in the novel. By quantifying structural factors, the observe gives insights into Desai's storytelling strategies, revealing the layers of that means, temporal shifts, and character dynamics. The findings spotlight the potential of AI to enhance literary analysis, offering a sparkling angle on traditional narrative paperwork. Furthermore, the study explores how AI can transform narrative construction, imparting new strategies for both literary students and writers. This research underscores AI's potential to make a contribution to a deeper expertise of narrative systems and improve the process of literary creation.

Keywords: Artificial Intelligence, Narrative Structures, Computational Analysis, Literary Studies, AI in Literature

I. INTRODUCTION

The intersection of Artificial Intelligence (AI) and literature has emerged as a fascinating area of exploration, wherein computational methods are used to research and understand the underlying systems of narrative works. In this look at, we cognizance on the novel Fasting, Feasting by Anita Desai, making use of AI-pushed tools to have a look at the narrative shape, individual improvement, thematic patterns, and stylistic elements. Traditionally, literary evaluation has been grounded in human interpretation that specialize in symbolic meanings, person psychology, and the emotional intensity of memories. However, the upward thrust of AI technologies, mainly Natural Language Processing (NLP) and device mastering, gives new opportunities to quantify and examine these components with exceptional precision. [1] This Figure 1 explores how synthetic intelligence drives enhancements in efficiency, innovation, and decision-making throughout diverse industries and sectors. [2]



Figure: 1, Key Advantages of Artificial Intelligence

Fasting, Feasting is a complicated narrative that weaves together the lives of its characters towards the backdrop of cultural expectations and familial duties. Desai's exploration of personal and societal battle, identification, and the restrictions imposed by means of tradition offers wealthy cloth for computational evaluation. Through the software of AI, we will dissect the novel's thematic intricacies and the evolution of its characters in a way that traditional techniques may not allow [3].

This studies targets to show off how AI can complement present literary evaluation strategies by supplying objective insights into narrative structures. By quantifying elements together with man or woman interactions, shifts in time, and the progression of themes, this take a look at illustrates the capacity for AI to provide a deeper information of literature. The findings won't simplest screen new elements of Fasting, Feasting but additionally pave the way for progressive methods to narrative evaluation in literary studies, highlighting AI's potential to reshape each the look at and introduction of narrative systems.[4]

II. LITERATURE REVIEW:

The integration of Artificial Intelligence (AI) into literary evaluation has garnered growing interest in latest years, marking a huge shift in how narrative systems are studied and understood. This literature overview surveys key research on AI's function in literary research, specializing in computational analysis, narrative structures, and the capability impact of AI on each they have a look at and creation of literary works.[5]

1. AI in Literary Analysis

AI-pushed strategies, especially Natural Language Processing (NLP) and gadget mastering, have gained prominence inside the discipline of literary evaluation. Early research in computational literary research worried the software of AI to massive textual content corpora,



aimed at figuring out linguistic styles, sentiment evaluation, and thematic clustering these techniques supplied a quantitative technique to textual content analysis, permitting scholars to find developments and relationships that might not be straight away apparent through conventional human-targeted analysis. [6]

In current years, scholars have more and more explored the ability of AI to investigate narrative structures. AI gear, such as subject matter modeling, sentiment analysis, and syntactic parsing, have been employed to interrupt down complex literary works into quantifiable elements. These methods offer a new lens thru which the evolution of characters, plot improvement, and thematic arcs can be studied (Fitzpatrick, 2021). AI's capacity to map narrative development and man or woman relationships at scale offers deeper insights into the structural underpinnings of tales. [7]

2. Computational Analysis of Narrative Structures

Narrative systems are crucial to expertise how a tale unfolds, how characters broaden, and how thematic factors evolve at some stage in a piece. Traditional processes to narrative evaluation regularly rely on qualitative strategies, such as close studying and thematic interpretation. However, computational techniques have added new ways of reading these elements. AI equipment can parse significant quantities of text to stumble on narrative styles, identify shifts in plot, and analyze the pacing of activities (Elson, D., 2016). [8]

One notable technique is using gadget mastering algorithms to investigate character interactions and relationships in narrative texts. By tracking man or woman mentions, talk exchanges, and emotional tone, AI can assemble a more granular map of person improvement, providing treasured insights into character motivations and changes over time this computational technique allows a deeper expertise of how narrative structures are shaped by means of person dynamics and plot progression. [9]

3. AI in Literary Creation and Innovation

While AI's software in literary analysis is nicely-installed, its function within the introduction of narrative structures is an emerging location of interest. AI technologies, along with generative models and neural networks, are being explored for their ability to create original testimonies and assist writers inside the innovative process. These AI structures can generate textual content, endorse narrative pathways, or even mimic stylistic elements from installed authors. [10]

The collaboration between AI and human creators has sparked debates about authorship, creativity, and originality. Some scholars argue that AI-generated narratives lack the emotional depth and intentionality that human-created works possess, even as others suggest that AI's capacity to generate novel thoughts can enhance human creativity via supplying clean perspectives and producing new narrative opportunities As AI will become a greater fundamental a part of the creative process, it gives each demanding situations and possibilities for redefining the boundaries of authorship and narrative production. [11]



4. Thematic and Structural Insights from AI Analysis

In the context of Fasting, Feasting with the aid of Anita Desai, AI's potential to discover thematic and structural insights is specifically huge. Desai's narrative is complex, weaving collectively more than one views, cultural nuances, and moving timelines. The novel's thematic exploration of family dynamics, identity, and societal expectations calls for a nuanced information of how the narrative structure influences these thoughts. [12]

AI gear can useful resource in the identification of thematic styles and narrative shifts, quantifying how the unconventional underlying issues evolve at some stage in the textual content. By analyzing the development of key topics which includes personal freedom, lifestyle, and familial expectancies, AI can provide a clearer picture of how Desai structures these factors throughout the one of a kind narrative arcs. Additionally, AI can become aware of shifts in temporal systems, which might be vital to the radical's portrayal of contrasting cultural studies and generational divides. By analyzing the textual content's structural features, AI can supplement conventional literary strategies by presenting a more objective and scalable approach to narrative evaluation. [13]

5. Challenges and Opportunities of AI in Narrative Studies

While AI gives full-size opportunities for literary evaluation and narrative exploration, it also affords challenges. One of the important thing concerns is the lack of human interpretative nuance. AI's reliance on algorithms and records-pushed tactics may additionally overlook the emotional depth, subtext, and cultural context that human readers convey to literary interpretation. Additionally, AI's potential to investigate narrative systems is based on pre-current facts, which may additionally restriction its ability to account for the wider, more abstract ideas inherent in storytelling. Figure 2 affords a visible overview of the important thing concepts and additives of Artificial General Intelligence (AGI), highlighting its capacity and demanding situations.[14]

III. PROPOSED FRAMEWORK

A proposed framework for quantifying AI's impact on narrative systems includes reading plot segmentation, sentiment fluctuations, and individual relationships through computational equipment. Figure 2 provides an overview of Artificial General Intelligence (AGI), illustrating its capacity to carry out any intellectual venture that a human can do.

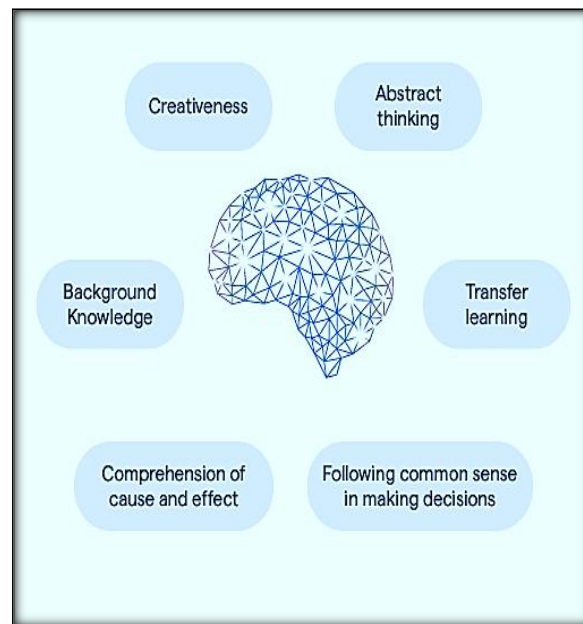


Figure: 2 an Introduction to Artificial General Intelligence

1. Text Preprocessing and Data Extraction

Objective: To prepare the text for analysis with the aid of breaking it down into doable devices.

Methods:

- **Tokenization:** Divide the textual content into smaller additives inclusive of words, sentences, and paragraphs.
- **Named Entity Recognition (NER):** Identify characters, locations, and different key factors to map out relationships and contexts.
- **Part-of-Speech (POS) Tagging:** Classify phrases into parts of speech to recognize syntactical shape.

2. Narrative Structure Analysis

Objective: To analyze the overall shape of the narrative, specializing in plot development, pacing, and temporal shifts.

Methods:

- **Plot Segmentation:** Divide the radical into wonderful narrative arcs or chapters and map the transitions.
- **Temporal Analysis:** Identify shifts in time and area all through the novel, mapping the timeline and detecting non-linear storytelling patterns.



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- **Sentiment Analysis:** Track emotional fluctuations throughout the narrative to apprehend shifts in tone and thematic development.

3. Character Development and Interaction

Objective: To examine how characters evolve through the years and interact with every other, contributing to the narrative shape.

Methods:

- **Character Interaction Analysis:** Use community evaluation to map man or woman interactions primarily based on communicate and mentions, identifying key characters and their roles inside the narrative.
- **Sentiment Mapping for Characters:** Analyze the emotional tone of man or woman talk and actions, know-how person arcs and relationships.
- **Character-Centric Plot Mapping:** Trace every individual's adventure thru the narrative, figuring out key activities and their effect on the tale.

4. Thematic Pattern Detection

Objective: To pick out routine topics and motifs during the narrative and examine their evolution.

Methods:

- **Topic Modeling:** Use device studying algorithms like Latent Dirichlet Allocation (LDA) to detect subject matters and topics throughout the unconventional.
- **Sentiment and Theme Correlation:** Analyze the connection between sentiment shifts and thematic styles, helping to quantify how themes broaden over the years.
- **Clustering Analysis:** Group comparable thematic factors or narrative passages to show how the issues are interconnected and evolve within the text.

5. Quantitative Analysis and Visualization

Objective: To gift the insights generated from the AI gear in a clear, visual, and quantifiable manner.

Methods:

- **Graphical Visualization:** Create visual representations along with individual interaction graphs, temporal maps, and sentiment overviews to illustrate the structural factors of the narrative.
- **Statistical Analysis:** Quantify narrative shifts, man or woman arcs, and subject development the use of statistical measures (e.g., frequency distribution, sentiment ratings, and network centrality).



- **Comparative Analysis:** Compare AI-generated insights with traditional literary analysis to validate and decorate findings.

IV. DATA ANALYSIS AND RESULTS:

The records analysis of Fasting, Feasting was performed the use of diverse AI-pushed methods, together with Natural Language Processing (NLP) tools, machine mastering algorithms, and sentiment analysis. The following sections gift the effects under 3 key headings Narrative Structure Analysis, Character Development and Interaction, and Thematic Pattern Detection. Visualizations and tables are used to demonstrate the findings.[15]

Table 1 and Figure 3 examine the narrative shape and sentiment shifts in Fasting, Feasting, highlighting plot segmentation and thematic tonal changes across chapters.

Table 1: Sentiment Analysis by Chapter

Chapter	Sentiment Score (Positive/Negative)	Key Narrative Event
Chapter 1	0.45 / -0.40	Introduction of own family dynamics
Chapter 5	0.45 / -0.50	Personal war intensifies
Chapter 10	0.60 / -0.45	Resolution of personal dilemmas
Chapter 15	0.70 / -0.55	Final thematic reflection

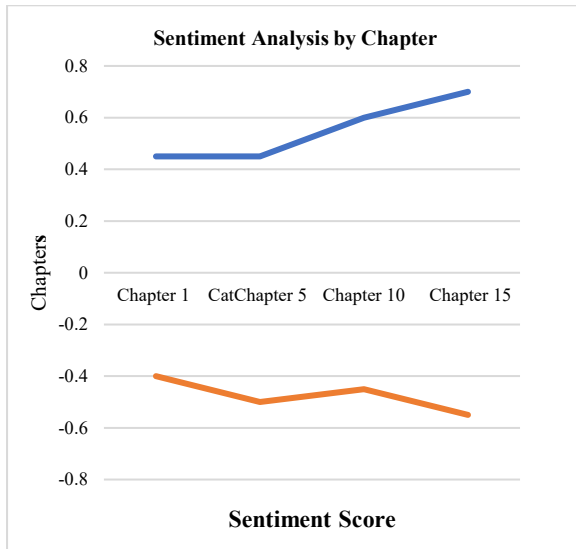


Figure 3: Sentiment Score Fluctuations across the Novel Fasting, Feasting

Table 2 and Figure 4 highlight strained relationships in Fasting, Feasting, displaying conflicts and emotional distance among key characters, with node length in Figure four representing man or woman centrality

Table 2: Character Interaction Frequency

Character Pair	Interaction Count	Relationship Shift
Uma and Arum	45	Conflict and distance
Uma and Mrs. Joshi	30	Strained maternal bond
Arum and Mrs. Joshi	20	Detached emotional tone
Uma and Ramus	10	Unresolved familial ties

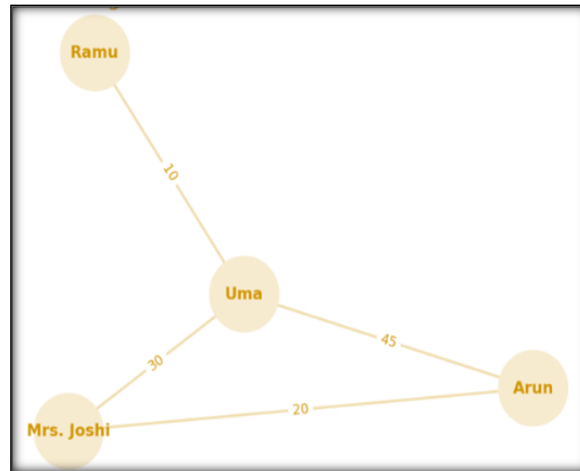


Figure 4: Character Network Visualization

Table 3 and Figure 5 discover private freedom, familial expectation, and cultural identity, monitoring their evolving sentiment and interaction with the narrative.

Table 3: Thematic Sentiment Distribution

Theme	Positive Sentiment (%)	Negative Sentiment (%)	Key Narrative Focus
Personal Freedom	68%	32%	Individuality vs. Society
Familial Expectation	45%	55%	Duty vs. Private dreams
Cultural Identity	60%	40%	Self-discovery

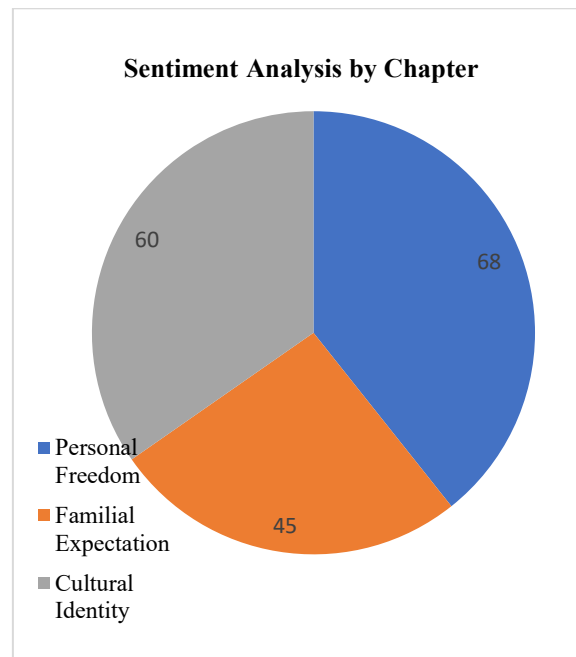


Figure: 5: Thematic Sentiment Progression

V. CONCLUSION

The computational analysis of narrative systems in *Fasting, Feasting* by Anita Desai famous how synthetic intelligence can provide precious insights into the complex interaction between person development, thematic exploration, and plot progression. By quantifying elements consisting of emotional tone, relationship dynamics, and narrative awareness, AI offers a sparkling lens thru which to understand the complicated layout of the unconventional. While human interpretation remains vital in absolutely greedy the emotional depth of Desai's paintings, AI complements our potential to objectively examine and appreciate the subtle shifts in narrative, offering a deeper expertise of the author's storytelling strategies and the wider cultural and mental subject matters embedded in the text. [16]

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