

### $\mathbf{B}\mathbf{y}$

**Sentiment Analysis Approach** 

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# الناقد الخوارزمي: استكشاف الشعر من خلال تحليل المشاعر بالذكاء الاصطناعي

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#### المستخلص:

أعادت بنان الذكاء الإصطناعيّ بتطوراتِه المُتلاحقة صياغة نقد الشعر من منظور جديدٍ، فأثارَ التفاعلُ بينهما جدلاً واسع النطاق بين المؤبدين والمعارضين لهذه الصورة المستحدثة من النقد. فأطلت نماذجُه المتقدمة كناقدِ متمرس ذي قدراتِ بارعةٍ في التحليل والنقدِ؛ يتحلَّى بموضوعيةٍ مثاليةٍ تخلو من أهواءِ النفس وضغائِنها ونزعاتِها. ومع ذلك، فإنَّ هذه الخوارزميات قد تُعرقل مثل هذه المناقشات المتعلقة بالمشاعر الشخصيةِ، أو التجارب الإنسانيةِ المختلفةِ، أو الروئ والبواطن النفسية التي تَحتاجُ إلى حدْس بشري. وبتجلى تحليل المشاعر كأحد الأساليب الجديدة لنقد الشعر بواسطة الذكاء الاصطناعيّ، والذي يُحاول استكشاف المشاعر أو الحالةِ المزاجية أو نغمة أى قصيدة. وبما أنَّ الشعر نوعٌ أدبئ حساسٌ للغاية مفعمٌ بالعواطفِ والغموض؛ فلقد كبّل ذلك أحياناً أدواتَ الذكاءِ الاصطناعي عن سبر غوره وتحليل المشاعر بدقةٍ فائقةٍ. ومنْ ثمَّ، تُحاولُ الورقةُ البحثيةُ فحصَ إيجابيات وسلبيات تحليل المشاعر بأدوات الذكاء الاصطناعيّ لعينة من القصائدِ من مختلفِ العصور والخلفياتِ الأدبية. وتعقد مقارنة لتحليل المشاعر بأدوات الذكاء الاصطناعي وتحليل النقاد البشربين لها متخذةً قصيدة الشاعر توماس هاردي "نغمات محايدة" كمثال. كما تتناول تَبَصّر الذكاء

الاصطناعي بالرؤى الثقافية والتاريخية؛ فتمحّص قصيدة روبرت بروك "الجندي" كنموذجًا. ثم تتناول قصيدة "الطائر المحبوس" لمايا أنجيلو، لإظهار كيف يمكن للتجارب الشخصية للشاعر أن يكون لها تأثير اجتماعي من خلال فحص قائم على البيانات باستخدام الذكاء الاصطناعي. ولقد أختيرت هذه القصائد من عصور أدبية وثقافية وتاريخية مختلفة لإثراء النتائج. وتحاول ايضاً العثورعلى إجابات لمثل هذه الأسئلة المتعلقة بموثوقية أدواته في مجال العلوم الإنسانية الرقمية عمومًا وفي نقد الشعر خصوصًا، وكذلك عن مستقبل الدراسات النقدية في ظل التطورات الهائلة للذكاء الإصطناعي.

الكلمات المفتاحية: موضوعي، المزايا، العيوب، التطبيقات، منصة Hugging Face.

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#### **Abstract:**

Since its massive developments a few years ago, AI has reshaped the criticism of poetry. Their interaction has provoked an extensive debate between the supporters and the opponents. AI progressive models; depending on ML, NLP, DL, Gen. AI, CNN, and RNN; have become valuable tools in poetry criticism due to their perfect objective analytical and contextual capabilities. Yet, these algorithms may cripple such discussions related personal feelings, various human experiences, psychological perspectives which need human intuition. One of the recent approaches to poetry criticism by AI is sentiment analysis. As poetry is a highly sensitive literary genre fraught with emotions, and ambiguity; it has become challenging for AI sentiment analysis. This research paper attempts to inspect the advantages and the disadvantages of AI sentiment analysis for a sample of different literary ages poems from and backgrounds. It compares AI analysis to that of human critics; dealing with Thomas Hardy's poem, "Neutral Tones," as an example. It inspects AI's cultural and historical insights; tackling Rupert Brooke's Soldier," as a model. Then, it examines Maya Angelou's "The Caged Bird," to show how the poets' personal experiences may have an extensive social impact through an AI data-driven examination. It tries to find answers to

such questions related to the reliability of AI tools in the field of DH in general and poetry criticism in particular, and their challenges; as well as the future of the critical studies in the light of the tremendous developments of AI. **Keywords:** Objective, Advantages, Disadvantages, Applications, Hugging Face Platform.

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What happens when the cold rationality of AI algorithms encounters a mine of human emotions latent in poetry? Can it decode these emotions? Can it interpret the intricacies of the human psyche and the variety of human experiences mirrored in poetry? What are the challenges? What are the advantages and the disadvantages of Algorithmic analysis of poetry?

Technology has become extensively integrated into our daily lives. Scarcely, a field goes without the techniques of AI. In literature, AI applications and models play an increasingly significant role. They can give a good hand in generating new ideas for writers and enhancing their styles and structures (Abu Zaid "Poetry" 311). For literary critics, AI is an ideal assistant in the analysis of literary texts cutting the consumed time to a fraction. Yet, the escalating dependence on AI has begun to be alarming to conservative literary men who fear the vanishing of human creative faculties, the extinguishing of literary sparkling, and the desecrating of ethical regulations. However, to consider the developments of AI in such an apocalyptic vision is to underestimate its value in contemporary and future literary fields.

In poetry, "the Queen of Arts" (Wilson 357), as a highly sensitive complicated literary genre, the utility of AI techniques becomes more intricate than in other literary genres. AI models have indeed not only succeeded in being "an imitator, assistant, or inspirer" for the poets (Abu Zaid "Poetry" 312), generating human-

like poems and juxtaposing AI-generated poetry with human-produced one as a new poetic form; they also generated "zero-shot poems using neural prompts" as those compiled in the book, I Am Code: An Artificial Intelligence Speaks, Poems by Code-davinci-002 (Abu "Poetry" Zaid 326). Yet. poetry, spontaneous overflow of powerful feelings" (Wordsworth 611), may stand impenetrable for AI critical algorithms to catch easily its essence or to interpret its undertones. Nevertheless, a new domain of AI poetry analysis has appeared recently and will be revolutionary in poetry criticism shortly; that is 'sentiment analysis.'

Sentiment analysis can be defined, generally, as the study that analyses "people's opinions, sentiments, appraisals, attitudes, and emotions towards entities and their attributes" (Liu Sentiment Analysis: Opinions 1). A keen surge towards this field computational study grew rapidly "after 2014." Such analysis extracts the "emotional content of a text by converting it into machine-readable information, such as and discrete labels (e.g., "positive" vs. "negative"), which can be then analysed statistically or visualized via plots and graphs" (Rebora). Consequently, it became of a high benefit in commercial and business fields. Companies can "scan...large volumes of text data like emails, customer support chat transcripts, social comments, and reviews" to "automatically media determine the authors' attitude". As a result, these companies can "improve customer service and increase brand reputation" ("What is Sentiment Analysis?"). Additionally, sentiment analysis may help in enhancing business decisions, products assessment, psychoanalysis, elections, investigations, social media police and

platforms. However, AI sentiment analysis is a difficult matter, especially when it regards emotional detection. Sometimes, it is very hard to assess the feelings of a person due to his cultural and historical background, his psychological problems, and/or his life experiences. In literature, it is much more difficult because of the multilayered meanings and probabilities inherent in the literary text. When it comes to poetry, such analysis becomes a complicated issue. Can it capture, accurately, poetic emotions?

### **Objectives of the Research Paper:**

Because this research paper seeks to bridge the gap between technology and the humanities, suggesting fresh perspectives on poetry and criticism; it purports: Firstly, to explore how can AI sentiment analysis be employed in poetry criticism in an interdisciplinary study; mingling AI algorithms and computer science as: Natural Language Processing (NLP), Machine Learning (ML), Deep Learning (DL), Generative AI (GAI), Convolutional Neural Networks (CNN), and Recurrent Neural Networks (RNN); with poetry analysis and criticism: suggesting the applicability of the methodology and results on other fields of humanities. Secondly, the research paper endeavours to compare poetry criticism of human critics and that of AI tools, Thomas Hardy's poem, "Neutral Tones" is studied as an example. Its Third goal is to show how AI qualities may enhance poetry criticism and be a great assistant for critics, saving their time and effort; and for readers, boosting their understanding of the emotional and thematic elements of poetry. Fourthly, it seeks to point out how AI models' sentiment analysis may have cultural and historical

insights, dealing with Rupert Brooke's poem, "The Soldier," as a model. **Fifthly,** the research paper pinpoints the extensive social impact of the poets' personal through AI-driven sentimental experiences an examination; Maya Angelou's poem, "The Caged Bird," is tackled as an example. Sixthly, it tries to set the advantages and the disadvantages of AI sentiment analysis. Seventhly, it attempts to shed light on the and challenges confronting AI poetry criticism. The Eighth goal is to seek to introduce a new contribution in the field of Digital Humanities (DH), encouraging further research and explorations of AI's potential in literary analysis. The last aim of this research paper is to offer a new beneficial tool for teaching and learning poetry, and for preparing online literary archives and poetry platforms.

### **Literature Review:**

The revolutionary applications of AI models on poetry and its analysis have become a second stage after Electronic Poetry (E Poetry) or what is known as Digital Poetry. It depended, "In its beginnings," on "computers or technical media - whether in its composition or its presentation and publication" (Abu Zaid "Pandemic Digital Poetry" 2367). After that, "the WWW (World Wide Web), the mobiles' networks and the social media platforms have disseminated it worldwide." It "has unprecedented facilities that granted poets unavailable to previous generations of poets;" enabling them to weave visual, kinetic, and sonic effects with the content of the poem (Abu Zaid "Pandemic Digital Poetry" 2368). Then, AI technology appeared in the middle of the 20<sup>th</sup> C. It shocked the world with its

amazing successive waves of development. These developments have begun to be applied in the field of literature in general and in poetry and its analysis in particular. One of these applications of poetry has been emotion detection of the poems or 'sentiment analysis.' A new branch of poetic studies has emerged to examine it.

Some previous studies have explored computational approaches to analyze various aspects of poetry, laying the groundwork for sentiment analysis in this complex literary form. Early works focused on identifying and classifying poetic devices, such as meter and rhyme schemes, using rule-based systems (Keyword Counting, Pattern Matching, and Syntactic Analysis); For example: Maite Taboada et al.: "Lexicon-Based Methods for Sentiment Analysis (2011); and Bing Liu, Sentiment Analysis and Opinion Mining (2012). While these approaches provided valuable insights into the structural elements of poetry, they could not often capture the multi-layered meanings and the complicated emotions of the poems.

More recently, researchers have begun to apply Natural Language Processing (NLP) techniques to poetry analysis, for example: Tanya Nair, "Natural Language Processing Used in Sentiment Analysis of Poetry: a Study of Six Common Techniques" (2023). Nair's study used bigram-based (depending on the sequences of two words to capture contextual relationships) and word embedding-based (representing words as dense vectors in a high-dimensional space, capturing semantic relationships and word meanings) models. Although this study - and others - represent an important step towards capturing semantic subtleties, these models have limitations because: Bigram-based models may not capture more complex,

long-range relationships in text. Additionally, Word embedding-based models can be computationally expensive to train and may require large amounts of data to achieve good results.

### **Methodology:**

- 1-Data Collection: Choosing the example poems of different poets from different periods and backgrounds (suitable to the limits of the research paper's length), to ensure a comprehensive sentimental analysis through: 1-A Comparative Critical Analysis; 2- Cultural and Historical Insights; 3- AI-driven Examinations of Personal Experiences and their Social Impact. An analytical study is provided, though themes and techniques are never ignored.
- 2-Selecting appropriate AI sentiment analysis models.
- 3-Preprocessing the texts of the example poems according to the requirements of each chosen AI model:
- -Text Cleaning: removing punctuation marks, converting text to lowercase, and handling contractions and special characters.
- -Tokenization: Break down the poems into individual words or tokens.
  - 4-Discussion and Interpretation:

Discussion of the key findings; highlighting any patterns, trends, qualities, or anomalies that emerged. Significant or Key words and sentences are written sometimes in 'Bold' or underlined.

- 5-Conclusion: It summarizes the methodology and key findings of the research paper; and suggests potential areas for future research and improvements in AI sentiment analysis of poetry.
  - 6- Works Cited

### **1-Comparative Critical Analysis:**

To hold a comparison between human sentiment analysis and that generated by AI, Thomas Hardy's poem, "Neutral Tones" is inspected as an example. This notable Victorian poem was published in the collection Wessex Poems and Other Verses (1898). This "early lyric" poem deals with the end of a love relationship and its consequences. It is a "major imagist poem" that "numbly recalls the loss of love in a baffling universe" (Harvey tone reflects the speaker's pessimism, depression, and scepticism. These feelings appear in nearly most of Hardy's poetry. His poetic voice is always characterized by "a prevailing sense of loss often interwoven with displacement, threads pessimism culminating with despair" (Marroni 151). Hardy's "Neutral Tones" begins as follows:

We stood by a pond that winter day,

And the sun was white, as though chidden of God, And a few leaves lay on the starving sod;

– They had fallen from an ash, and were gray.

(Ferguson 1049)

In his chapter entitled, "Critical Analysis of 'Neutral Tones"; of his book, *Thomas Hardy*; Harold Bloom argues that Hardy wrote this poem to "Eliza Nicholls" in "1867" and the setting of the poem was in "Findon", a village in West Sussex, England (37). Hardy "was more or less formally engaged to" Eliza Bright Nicholls "from about 1863 until 1867" (Millgate 84). Their relationship "gave rise to the 'She, to Him' series of poems, and in the *Wessex Poems* volume in which they appear...The end of the relationship is recorded in the poem 'Neutral Tones'" (Harvey 15).

The above inaugurating stanza begins with the collective pronoun "We", expressing the speaker and his former beloved (as the readers will discover from the rest of the poem). The speaker remembers the natural scenery around them. He describes it as: it was a winter day, they stood by a pond, the sun was white, and few grey leaves were around them. The poet transfers this natural scenery from an ordinary one in a winter day into a symbol of their cold feelings. Hardy always relates his characters to the around natural elements. Walter Allen states in his book, The English Novel, that Hardy's "characters stand in relation to other things, the weather, the seasons, and a traditional craft" (245). The run-on-line technique helps him to relate the lines together and to draw a clear picture of the first scene of the poem attracting the attention of the readers and arousing their suspense. The closed limits of the pond and its shallow stagnated water symbolize their feelings and the end of their relationship. The lack of the warmness of the sun, the starving sod, and the grey colour of the few leaves around them are all symbols of the two persons' negative feelings. In Hardy's writings, "one has the feeling that the tragic heroes and heroines more and more take nature into themselves, and to this extent, the importance of the natural setting as something apart from man diminishes" (Allen 252).

Harold Bloom explains that the above first stanza of Hardy's "Neutral Tones" describes "a desolate and lifeless landscape made all the more stark by a colorless sun spreading white light on a barren soil" (37). Thus, the analysis of this stanza and the critical comments of Allen and Bloom state that it is full of negative feelings.

To make an AI sentiment analysis of this first stanza, a free AI model called 'DistilBERT' is chosen. It is found in the Transformers library on the Hugging Face Hub platform. The verses should be clarified or preprocessed firstly by removing all the punctuation marks and turning the capital letters into small ones (Pascual). Then, the lines are written on this model, 'DistilBert'; the result is as follows:

#### **Inference API**

#### Warm

#### **Text Classification**

Examples
we stood by a pond that winter day
and the sun was white, as though chidden of God
and a few leaves lay on the starving sod
they had fallen from an ash, and were gray

Compute

NEGATIVE 0.998 POSITIVE 0.002 View Code 1.6s

0.1s of compute

**Maximize** 

(Distilbert/distilbert-base-uncased-finetuned-sst-2-english)

'DistilBERT' analyses the sentiments of this stanza as "negative." Hence, its results agree with those of the critics. Notably, this AI model analyses the sentiments of any literary text, especially poems, according to the "theory" of the "Dimensional Representations of emotions" as mentioned in Simone Rebora's academic essay, "Sentiment Analysis in Literary Studies. A Critical Survey." It analyses the feelings of a text according to its

polarity. Consequently, it "proposes a bi-dimensional" analysis and is "able to chart all emotional states." Hence, by "combining the two dimensions of valence (positive vs. negative, e.g., "good" vs. "bad") and arousal (calm vs. intense, e.g., "pleasurable" vs. "exciting") any human emotion could be logically represented." A lot of AI sentiment analysis tools "adopt this theory by simplifying it further, i.e., by reducing it to valence alone, on a continuous scale that ranges between two extremes (e.g., -1 and +1)." This method achieves "an efficient simplification for the analysis" (Rebora). Additionally, it is tremendously fast. It gives the results in 0.1 of the second. Yet, it causes the loss of all the aesthetics of the verses. The themes and the elements of the poetic technique are ignored completely.

These negative feelings of the first stanza prevail in the other three stanzas of the poem increasingly, especially in the last one. They urge the readers to ask a question: is the title of the poem, "Neutral Tones," suitable for the poem's subject and themes with their apparent negativity? Is its tone "neutral"? Harold Bloom sees that the title is

Important because two different meanings of "neutral" are at play – there is both a resignation on the part of its despondent speaker that the struggle both with God and the woman are now over and that the world now lies in ruin, both colorless and utterly devoid of hope. (37)

Hayat Asaheb agrees with Bloom that: "The words 'Neutral Tones' in the title paint a picture drained of colour". By adopting these opinions, the word "neutral," here, doesn't refer to the neutrality of the feelings of the

two parted persons especially the narrator, but to the colorless landscape around them. It lost its cheerfulness, warmness, and attractiveness.

On asking AI 'Microsoft-365 Copilot', which "is a generative artificial intelligence Chabot developed by Microsoft Company. Based on the GPT-4 series of Large Language Models (LLM), launched in 2023 as Microsoft's primary replacement for the discontinued Cortana" ("Microsoft Copilot"): "Is the title of Thomas Hardy's poem "Neutral Tones," is suitable, although the prevailing feelings are negative?" It answered in less than half a second as follows:

"Neutral Tones" by Thomas Hardy is a title that perfectly encapsulates the essence of the poem. The word "neutral" reflects the subdued emotions and the lack of warmth in the relationship described in the poem. "Tones" refers to both the literal color palette Hardy uses to paint the scene and the emotional tones of detachment and melancholy. The title sets the stage for the somber and reflective mood of the poem.

This AI model, 'Copilot,' could relate, successfully, the essence of the poem with its title, dividing it into two words: "Neutral" and "Tones", each one of them has helped the poet to express the end of the relationship and its reflection on the natural landscape around the two personas of the poem. Copilot's analysis of the title is as accurate as that of Bloom and Asaheb. The second stanza of Thomas Hardy's poem, "Neutral Tones", is as follows:

Your eyes on me were as eyes that rove Over tedious riddles of years ago; And some words played between us to and fro On which lost the more by our love.

(Ferguson 1049)

This above second stanza deals with "the woman's eves and the boredom in them and remembers the desultory people, the words between the two communication that is no longer a pleasure" (Asaheb). In this stanza, the narrator of the poem describes the boring look of the addressee or his former beloved, her lack of interest, and cold feelings. The adjective "tedious" mirrors her "indifference, to the point of being troubled" (Bloom 38). The stanza begins with the synecdoche, "Your eyes," which expresses her emotional detachment. There is a shift in the used pronoun from the first stanza which begins with the collective first-person plural pronoun, "We". This shift shows the current detachment and the separation between them. Her "eyes" have wandering gazes "as eyes that rove", the simile here clarifies her avoidance of direct contact with the speaker's eyes. The powerful phrase "Over tedious riddles of years ago" suggests the accumulation of misunderstandings and conflicts with time to the extent that their relationship became like a weary puzzle. The phrase "years ago" emphasizes the meaning that their relationship has ended a long time ago and what remains is a cold memory with no feelings. The run-on-line technique helps to weave these intended meanings together. The third line of this stanza is a metonymy for the loss of factual communication between them: "some words played..." The personification, here, emphasizes the lack of emotional depth. All these emotional implications culminate in the fourth and the last line of the stanza, "On which lost the more by our love". Sorrowfully, their "love" is the cause of their loss. It casts more ambiguity than clarity, having a multi-layered meaning and leaving the readers/listeners bewildered and depressed. By using DistilBERT to sentiments of this stanza, it responds as follows:

#### Warm

#### **Text Classification**

Examples your eyes on me were as eyes that rove over tedious riddles of years ago and some words played between us to and fro on which lost the more by our love

#### **Compute**

NEGATIVE 0.811 POSITIVE 0.189 View Code 0.5s

**Maximize** 

(Distilbert/distilbert-base-uncased-finetuned-sst-2-english)

After making a preprocessing for the above stanza and analyzing it through 'Distilbert', it evaluates its feelings as "negative" as the first one, yet with a higher rate of positivity than the first (0.189 versus 0.002 of the first). The model deals with the feelings of this stanza separately. It doesn't relate it to the previous first one or even to the whole poem. As 'DistilBert' tackles the given preprocessed text only. This is also one of its defects. This is repeated in the following third stanza. The model evaluates the feelings through the correlation of some words only that may have a positive meaning, yet are used here negatively; such as: "smile," "alive," "strength," and "grin." This 'text segmentation' caused the model to analyze the feelings of the third stanza as 'positive':

#### **Inference API**

Maximize

#### Warm

#### **Text Classification**

Examples
the smile on your mouth was the deadest thing
alive enough to have strength to die
and a grin of bitterness swept thereby
like an ominous bird a-wing
Compute
POSITIVE 0.921
NEGATIVE 0.079
View Code
1.2s
0.0s

('DistilBERT'/ distilbert-base-uncased-finetuned-sst-2-english)

In this third stanza, the poet describes the addressee's smile, which "is no longer alive and joyous" (Asaheb). Oxymoron and antithetical phrases, such as: "smile / deadest thing," "alive / to die," and "grin of bitterness." There is a hyperbole in using the superlative adjective, "deadest." There is an animating metaphor in the first two lines: "The smile.../ alive...," it clarifies that their relationship has already ended a long time ago; the little power of the smile of his former beloved is only "to die." The simile of the last line: "like an ominous..." aggravates the feelings of depression and pessimism. The AI model, DistilBERT, couldn't catch the negative feelings prevailing in this stanza; because it couldn't relate the whole meanings and sequences of the sentences. Additionally, it can't analyze the technical elements, as mentioned before. Depending on the polarity only, this also may make it disabled to grasp ambiguous

sentences, oxymorons, puns, verbal irony...etc. Moreover, the preprocessing of the literary text by converting the sentences to lowercase and eliminating the punctuation marks cripples a good deal of the evaluation of poetry and deprives the poems, especially the traditional ones, of much of their prestige. The final results will not be accurate to a great extent in such AI models depending on the polarity only and in other models of limited datasets. The run-on-line technique will be confused with the end-stopped one. There will be no caesuras to tell the readers that there are pauses here to attract their attention to what is before and after them. The significance of many keywords of the poems will be lost. How can Emily Dickinson's poems be read without dashes? On analyzing the fourth and the last stanza by 'DistilBERT,' it also gives the same result as the third, the percentage of the "positive" feelings is greater/more than the "negative" ones, despite its comprehended negativity; as the following:

#### **Inference API**

#### Warm

#### **Text Classification**

### **Examples**

since then, keen lessons that love deceives and wrings with wrong, have shaped to me your face, and the God curst sun, and a tree and a pond edged with grayish leaves Compute

POSITIVE 0.926 NEGATIVE 0.074 View Code 0.5s Maximize

('DistilBERT'/ distilbert-base-uncased-finetuned-sst-2-english)

This last stanza appears as a resonant of the first one, the same landscape, but with an escalating tone of pain and depression. Hayat Asaheb sees that "Hardy notes" in this stanza "that whenever he experiences a painful reminder of deceiving love, he pictures the woman's face, and the winter landscape by the pond." The assonance and the alliteration play vital roles in expressing the speaker's pain, such as: "deceives," "me," "tree," and "leaves;" "wrings / wrong." The sibilants and the fricatives express his sadness and tension. Clearly, "the heartache of love is linked in Hardy's mind and in his poem to the winter setting" (Asaheb). The rhyme scheme of the whole poem is 'abba cddc effe ghhg,' a regular tight pattern implying that there is no way out reminding the readers also with the enclosed "pond" of the first and the last stanzas. can't 'DistilBERT' also understand this pessimism and all the similar undercurrents. Hence, it doesn't present an accurate analysis of Hardy's poem. For the sake of more accuracy, AI 'Copilot' as LLM, which depends on Natural Language Processing, is chosen to make an overall analysis of Hardy's "Neutral Tones." 'Copilot' introduced himself to me as: "It's thanks to advancements in NLP that I can assist with tasks like literary analysis, sentiment evaluation. brainstorming ideas for your research. Speaking of which, are you exploring any specific aspects of NLP in your work on AI sentiment analysis of poetry?" I asked it the following:

# \* Please, can you make a sentiment analysis for Thomas Hardy's poem, "Neutral Tones"?

Sure! Let's dive into Thomas Hardy's "Neutral Tones" and analyze its sentiment.

Here is a brief summary of the poem:

The poem "Neutral Tones" reflects on a painful memory of a broken relationship. The speaker recalls a bleak winter's day when they stood by a pond with their lover. The landscape's dull and lifeless colors mirror the emotions of the speaker, who feels a deep sense of sorrow, bitterness, and resignation. The relationship's ending is marked by a lack of warmth and connection, and the memory is tinged with regret and melancholy.

#### **Sentiment Analysis**

- 1. Overall Tone: The overall sentiment of the poem is negative, with strong emotions of sorrow, bitterness, and resignation. The speaker reflects on a past relationship with a sense of regret and disillusionment.
- 2. Positive Sentiments: The poem contains very few positive sentiments. Any mention of past love or connection is overshadowed by the present feelings of loss and emptiness.
- 3. Negative Sentiments: The poem is rich in negative sentiments, such as:
- Sorrow and Melancholy: The speaker feels a deep sense of sadness and regret over the end of the relationship.
- Bitterness: There is a tone of bitterness and disillusionment as the speaker recalls the coldness and indifference of their lover.
- Resignation: The speaker seems resigned to the bleakness of the memory and the inevitability of the relationship's end.

### **Key Phrases Highlighting Sentiment**

- "We stood by a pond that winter day" (Neutral tone setting the scene of desolation)
- "The sun was white, as though chidden of God" (Conveys a sense of harshness and coldness)

- "And a few leaves lay on the starving sod" (Symbolizes lifelessness and decay)
- "Your eyes on me were as eyes that rove" (Indifference and lack of connection)
- "The smile on your mouth was the deadest thing" (Bitterness and coldness)
- "Alive enough to have strength to die" (Contradictory feelings of life and death, reflecting inner turmoil)
- "And a pond edged with grayish leaves" (Reinforces the bleak, lifeless imagery)

In summary, "Neutral Tones" by Thomas Hardy is a poignant reflection on a broken relationship, characterized by an overall negative sentiment, with strong emotions of sorrow, bitterness, and resignation. The bleak winter setting and lifeless imagery underscore the speaker's feelings of regret and disillusionment.

If you'd like to delve deeper into any specific aspect of the poem or have any other questions, feel free to ask!

In the above analysis of 'Copilot', the "overall sentiment" analysis of the poem depends on "the smaller units that compose it, be they words, clauses, or sentences" (Rebora). Detecting emotions through words depends on "EmoLex"; which "is a lexicon of emotions, which is a dictionary or database that maps words to their emotional connotations. 'Emolex' is specifically designed to support emotion detection and sentiment analysis tasks in natural language processing (NLP)" (Meta AI). Analysis based on clauses and sentences is called "labelled texts" (Rebora). But both kinds of analysis (counting on words or clauses, phrases, and sentences) may have defects because these dictionaries may be built on formal words only; poems of informal language may be misinterpreted. Furthermore, poetic diction which differs from one literary age to another may hinder perfect sentiment analysis. Words, phrases, and/or

sentences of people who suffer from psychological disturbances may be misleading for such analysis. Emotions expressed by idioms may not be detectable if the dataset of AI tools doesn't have these idioms. Words that express some bias or another may be undetectable by some algorithms if they are regulated against bias and vice versa; if AI algorithmic datasets and stored data depend on bias, they will produce a wrong emotional interpretation. Symbolic words and semiotic references may delude machine processing, especially those of distinguished cultural and historical backgrounds. Poems that have complex emotions like nostalgia, ambivalence, longing, and bittersweet feelings may contain elements of both positive and negative sentiments, making them challenging for AI to classify them accurately. But, after many recent developments, AI models such as 'Copilot,' and other LLMs, in their sentiment analysis approaches have become dependent on

advanced language models rather than predefined lexicons like EmoLex. While EmoLex can be a helpful tool for associating words with emotions and sentiments, poetry often demands deeper contextual interpretation due to its nuanced language, metaphors, and symbolism.

I rely on neural networks trained on diverse data, enabling me to capture emotional depth and subtle sentiments within a poetic context. These models analyze linguistic cues, themes, and patterns rather than adhering strictly to word-emotion mappings like those in EmoLex.

(Copilot)

The same comprehensive analysis of Hardy's "Neutral Tones," as that of 'Copilot,' was summed up

before by Samuel Hynes in his 1961 book, *The Pattern of Hardy's Poetry*, writing that:

The details of the setting of "Neutral Tones" are not, strictly speaking, metaphorical, but they combine to create a mood which is appropriate both to a dismal winter day and to the end of love, and in this way love and weather, the emotions and the elements, symbolize each other in a way that is common to many of Hardy's best poems ("Weathers," "The Darkling Thrush," and "During Wind and Rain," for example) and to some moving passages in the novels as well (*Far From the Madding Crowd* is full of scenes constructed in this way).

(137)

In his book *The Complete Critical Guide to Thomas Hardy*, Geoffrey Harvey writes about the strong relationship between man and nature in Hardy's poetry, as grasped by 'Copilot; and how the natural elements may be symbolic of human feelings. Harvey states that: "Hardy's observation of nature may prompt philosophical speculation about the relationship between the natural and the human worlds" (126). Asaheb agrees with Harvey, writing that:

The setting is a winter landscape and the poem describes the winter of their love... There are no colours, except for 'white,' 'gray' and 'grayish;' there is no warmth in the sun or in their relationship, no emotions except for tedium (tedious riddles) and bitterness... The poem is filled with words of depression and death: 'dead', 'chidden', 'God-curst', 'starving', 'ominous', bitterness', 'lost', 'tedious', 'fallen'... Further evoking the painful experience of the end of a relationship... The sounds and

rhythms add to the impression of depression and lack of vitality.

In conclusion, AI models that depend on analysing the sentiments of the poems based on their polarity ('positivity' and 'negativity') only have defects in estimating them, although their high speed and free availability. While, advanced LL Models depending on the Natural Language Processing are more accurate giving a detailed sentiment analysis similar to that of human critics, yet highly faster than theirs. Furthermore, these models undergo continuous advancements making them more promising recently.

### 2-Cultural and Historical Insights:

One of the poems that was written at the beginning of the First World War (WWI) (1914 – 1918), when the morale was still high and the illusions of a short-period war were extensive, was "The Soldier" written by the British poet, Rupert Brooke (1887 – 1915). It is "the fifth and final sonnet in the sequence 1914, published posthumously in 1915 in the collection 1914 and Other Poems". Brooke's message is to express his love for his homeland, England. It has the structure of "a Petrarchan sonnet", consisting of an "octave" and a "sestet". It adopts the "Shakespearean sonnet" rhyme scheme for the octave (ababcdcd) and the "Petrarchan sonnet" (efgefg) for the sestet ("The Soldier"). Brooke writes the poem as follows:

If I should die, think only this of me:
That there's some corner of a foreign field
That is forever England. There shall be
In that rich earth a richer dust concealed;
A dust whom England bore, shaped, made aware,

Gave, once, her flowers to love, her ways to roam, A body of England's, breathing English air, Washed by the rivers, blest by suns of home.

And think, this heart, all evil shed away,
A pulse in the eternal mind, no less
Gives somewhere back the thoughts by England given;
Her sights and sounds; dreams happy as her day;
And laughter, learnt of friends; and gentleness,
In hearts at peace, under an English heaven.

(Brooke 2)

Brooke's above poem, "The Soldier," is mentioned as a whole for the sake of focusing on its historical context. Its tone and themes differ extensively from those of the other war poems that have the same historical and cultural context, such as Robert Graves' "A Dead Boche" (1916), Isaac Rosenberg's "Break of Day in the Trenches" (1916), Wilfred Owen's "Anthem for Doomed Youth" (1917), and David Jones' "In Parenthesis" (1937). They are more melancholic and depressive showing the devastating effect of World War I. Brook's poem attracts the attention of the readers by its high morale, patriotism, and ideal readiness for sacrifice. Accordingly, the free AI LL Model 'Gemini' is chosen to decide whether it can grasp the distinguished sentiments of Brook's "The Soldier" in accordance with its cultural and historical insights or not. 'Gemini,' "formerly known as 'Bard', is a generative artificial intelligence chatbot developed by Google...it was launched on 21 March 2023 in response to the rise of OpenAI's ChatGPT" ("Gemini (Chatbot)"). On testing the ability of 'Gemini,' to analyze the poem's sentiments and then to generate cultural and historical insights through its context, it has replied the following

(important sentences are written in Bold lines and/or underlined):

# \*Please, give a sentiment analysis of Rupert Brooke's poem, "The Soldier."

- →Rupert Brooke's "The Soldier" evokes a complex mix of sentiments, primarily centered on:
  - Patriotism:
  - The poem is deeply patriotic, expressing a profound love for England. It idealizes the nation as a nurturing and beautiful land.
  - This strong sense of national pride is a dominant emotion throughout the poem.
  - Idealism:
  - Brooke presents a romanticized view of war, focusing on the nobility of sacrifice and the glory of dying for one's country.
  - The poem reflects an idealistic perspective that was prevalent in the early stages of World War I.
  - Tranquility and Acceptance:
  - There's a sense of peace and acceptance surrounding the idea of death. The poem portrays death as a form of assimilation back into the beloved English earth.
  - The tone is often calm and serene, rather than fearful or tragic.
  - Glorification of Sacrifice:
  - The poem glorifies the act of dying for one's country. It is presented as a noble and honorable act.
  - Controversy:
  - It is important to note that modern analysis of this poem, often includes post-colonial views that point out the inherent Imperialism of the writing.

In essence, the poem expresses a highly idealized and patriotic sentiment, portraying war as a noble and beautiful act of sacrifice. However, it is important to understand the historical context of the poem, and to also understand the modern criticisms of the work.

# \*What are the sentences or phrases that full of emotions?

Rupert Brooke's "The Soldier" is indeed rich with emotionally charged phrases. Here are some of the most potent examples, along with explanations:

- "If I should die, think only this of me:"
- This opening line immediately sets a tone of somber acceptance and a focus on the speaker's emotional connection to his homeland. It's a very personal and vulnerable statement.
- "That there's some corner of a foreign field That is forever England."
  - This phrase expresses a powerful sense of patriotic ownership. It conveys the idea that even in death, the soldier's essence will transform foreign land into a part of England, highlighting an intense emotional bond.
- "A dust whom England bore, shaped, made aware, Gave, once, her flowers to love, her ways to roam,"
  - o These lines personify England as a nurturing mother, evoking deep feelings of gratitude and love. The words "bore," "shaped," and "gave" emphasize the intimate connection between the soldier and his country.
- "And think, this heart, all evil shed away, A pulse in the eternal mind, no less."
  - o This section expresses a spiritual and emotional cleansing. The phrase "all evil shed away" suggests a sense of purification, while "a pulse in the eternal mind" conveys a feeling of transcendent peace and connection.
- "Dreams happy as her day; and laughter, learnt of friends; and gentleness, In hearts at peace, under an English heaven."
  - This closing section is full of nostalgic and peaceful emotions. The imagery of "happy dreams," "laughter," and "gentleness" paints a picture of idyllic English life, creating a sense of emotional

fulfillment and contentment. The phrase "under an English heaven" gives a feeling of ultimate peace.

o These phrases, through their carefully chosen words and evocative imagery, convey the poem's core emotions of patriotism, idealism, and a serene acceptance of death.

# \*Are the feelings of this poem suitable for its cultural and historical context?

To understand the suitability of the feelings in Rupert Brooke's "The Soldier" to its historical context, it's essential to consider the following:

- Early Stages of World War I:
- o The poem was written in 1914, during the very early months of World War I. At that time, there was a widespread sense of patriotic fervor and idealism in Britain. Many people believed that the war would be short and glorious.
- o Therefore, the poem's romanticized view of war and its emphasis on patriotic sacrifice resonated with the prevailing public sentiment.
- Pre-Trench Warfare Reality:
- The horrific realities of trench warfare, with its massive casualties and brutal conditions, had not yet fully sunk in. The public's perception of war was still largely shaped by romantic and heroic ideals.
- o Brooke's poem reflects this pre-trench warfare mindset, focusing on the nobility of dying for one's country rather than the grim realities of combat.
- Nationalistic Sentiment:
- o The poem's strong sense of nationalism and its idealized portrayal of England were also characteristic of the time. There was a strong sense of national pride and a belief in the superiority of British culture.
- Changing Perspectives:
- o However, it's important to note that as the war progressed and the true extent of its horrors became

apparent, public sentiment began to change. Later war poets, such as Wilfred Owen and Siegfried Sassoon, offered much darker and more realistic depictions of war.

- o Also modern post-colonial views heavily criticize the work.
- o In conclusion, the feelings expressed in "The Soldier" were indeed suitable for the early historical context of World War I, when patriotic fervor and idealistic notions of war were prevalent. However, those feelings became less suitable as the war went on and the true nature of the conflict became clear.

Gemini's accurate condensed sentiment analysis of Brooke's "The Soldier" achieves to a great extent a good cultural and historical insight into the poem. It has expressed the suitability of this poem to its cultural and historical backgrounds at the time of its writing. Then, with time, the poem became unsuitable and criticized. In the modern post-colonial age, it is attacked sharply by many critics, humanists, peacemakers, and the newly freed peoples. Accordingly, this cultural and historical detection made by Gemini sets forth one of its significant advantages. Moreover, another advantage of this LLM and the other models likewise – is its ability to remember previous questions; it can relate any new question of the subject to what precedes it in a 'correlative sequence.' For example, in the above three quotations, the first question was posed asking the sentiment analysis of Rupert Brooke's poem, "The Soldier," then after Gemini's answer, a second one was posed without defining the poem: 'What are the sentences or phrases that full of emotions?' It replied. A third question using a demonstrative: 'Are the feelings of this poem suitable for its cultural and historical context?' Gemini

remembered the discussed poem. In addition, this LLM can generate and re-generate better and better answers to the same question. The third question was posed three or four times during this research paper, in each time it gives the same content in a new better form. This enhancing ability can be beneficial for the critics, the teachers, and the learners.

# 3-AI-driven Examinations of Personal Experiences and their Social Impact:

The post-modern African-American poet, Maya Angelou (1928 - 2014), wrote her symbolic poem, "The Caged Bird", as a condensed autobiography. It was published in her collection, Shaker, Why Don't You Sing? (1983). It is entitled after her autobiographical book, I Know Why the Caged Bird Sings (1969). Both of them represent the poet's personal experience as a black woman in American society. Being 'black', she suffered from oppression and racial discrimination in the white American society causing an inferiority complex tormenting her psyche. Being a 'woman', she was wronged by the hierarchical stratifications of her maledominated society; "This is profound because of the coupling oppression of being an African American and a woman in a white- and male-dominated, racist, sexist society" ("I Know Why the Caged Bird Sings"). The title of Angelou's memoir

alludes to a poem by the African American poet Paul Laurence Dunbar. In that poem, titled "Sympathy," he used the figure of the caged bird to symbolize the troubling conditions of Black life in America after emancipation. Writing nearly a century after Dunbar, Angelou returns to the figure of the caged bird to develop an extended metaphor about the ongoing

inequity experienced by Black people in twentieth-century America.

(SparkNote Editors)

Angelou's poem, "The Caged Bird", consists of six stanzas written in free verse with variations in line lengths. It draws two contradictory pictures of a free and a caged bird. Symbolically, the caged bird represents the black people imprisoned in their identity and enslavement. The first stanza of the poem begins as follows:

A free bird leaps on the back of the wind and floats downstream till the current ends and dips his wing in the orange sun rays and dares to claim the sky. (Angelou)

Angelou's poem begins with a visual image of a "free bird"; which symbolizes the white people and/or any free person. The symbolic force of 'birds' has been used frequently in poetry a long time ago; they "universally represent freedom, transcendence, spirituality. Their ability to fly connects them to the heavens, making them ideal symbols for higher aspirations. Birds can also convey messages from the omens" acting messengers or as Symbolism"). In the first line, the indefinite article, "A", generalizes the intended meaning. It may refer to any "free" person, who is symbolized by the "free bird". This "free" person doesn't suffer from oppression,

enslavement, discrimination, racism, or marginalization. The metaphor, "leaps / on the back of the wind"; in which the tenor is: "back of the wind", the vehicle is: "a boat", comparison is: freedom, ground of and graceful clarifies and strengthens movement: the intended meaning of freedom. Other metaphors in this stanza have the same function, such as: "floats downstream", "dips his wing / in the orange sun rays", and "and dares to claim the sky". The run-on-line technique relates the seven lines of the stanza together in one run-on sentence. This technique helps the poet to draw the picture as a whole without pauses, and helps the reader/listener to follow the poet's recitation quickly imagining the flying, soaring, rising and falling of the bird. It is also suitable for the quick movement of the "free bird" and its gracefulness. The whole stanza suggests also the harmony between the "free bird" and the natural elements as if the poet implies that freedom is the norm of the universe. The poem is also written in free verse to match the poet's goal of sending a message of freedom. The poet decorates the animating picture of this first stanza with many elements that fill it with cheerfulness, vigour, and vitality, as: the use of the verbs of movements: "leaps", "floats", and "dips"; and the colour "orange" in the sixth line which vibrancy" symbolizes "warmth and (Blakeley). Additionally, the frequent use of the 'sibilance': /s/ and /ð/ with their resonance and emotional impact; and the assonance with their musical effect help in the flow of the rhythm and add to the elements of decoration. The stanza culminates in its last line: "and dares to claim the sky". Angelou writes the second stanza as follows:

But a bird that stalks down his narrow cage

can seldom see through
his bars of rage
his wings are clipped and
his feet are tied
so he opens his throat to sing.

The above second stanza of Maya Angelou's poem, "The Caged Bird", begins with the conjunction, "but", which gives a contradiction making a sharp shift from the first to the second stanza. The reader/listener is surprised by another bird represented in this stanza, which is imprisoned in a cage. It suffers from the yoke of his enslavement and oppression. It is confined, "stalks / down" in his "narrow" cage. It is isolated from the world "can seldom see". It is shackled: "his wings are clipped and / his feet are tied". The metaphor: "his bars of rage" merges the bars of the "cage" or the prison with the bird's feelings of anger because of these "bars"; making each one of them stands for the other. These physical, emotional, and metaphorical "bars" hinder the bird's sight, they also steer its "rage" to the extent of blindness. symbolizes Maya Angelou This imprisoned "bird" herself. The indefinite article "a" before the bird suggests the implication of the symbolism of the "caged bird" not only on Angelou alone, but also on all the black people in America, all the oppressed women wherever or whenever they are, and largely on any person in the world suffers from oppression, wrongness, racism, discrimination, and cage symbolizes abuse. The the constraints limitations imposed upon them. The depressive frustrating tone of this stanza contrasts sharply with the cheerful joyful tone of the first one. Sorrowfully, out of his agony, the "caged bird" "opens his throat to sing", the stanza, thus, ends in a way of 'catharses'. The helpless "bird" has nothing to do but to "sing". As the Neo-classical poet, Anne Finch, Countess of Winchilsea, wrote in her poem, "To the Nightingale,": "Soothing but their cares to rest / ... / ... / Like thine, when best he sings, is placed against a thorn" (Finch). The poet draws a highly touching picture of this tormented "bird" moving the readers' feelings to sympathize with it. Hence, its humanistic and social effects appear clearly. Angelou completes describing the condition of the caged bird in the third stanza as follows:

The caged bird sings with a fearful trill of things unknown but longed for still and his tune is heard on the distant hill for the caged bird sings of freedom.

In the above third stanza, the audible image of the "fearful trill" of "the caged bird" expresses his helplessness. Its rage because of its captivity turned its singing to be fearful. It sings for "freedom" which is "unknown / but longed for still". The stanza alludes to the struggles faced by African Americans, emphasizing the need for equality and justice. In the fifth and sixth lines of this third stanza, "the caged bird's song," or symbolically its message, can be "heard / on the distant hill," where it might find sympathetic ears. Despite the oppression and confinement, the "caged bird" has the power of self-expression. Angelou completes writing the last three stanzas with the same poignant contrast between the privileged conditions of the "free bird" and the wrongful ones of the "caged bird." Thus, the poem can be divided

into two blocks, each one of them consists of three stanzas, the second block is resonant of the first one dealing with the same themes. She writes the following:

The free bird thinks of another breeze and the trade winds soft through the sighing trees and the fat worms waiting on a dawn bright lawn and he names the sky his own.

But a caged bird stands on the grave of dreams his shadow shouts on a nightmare scream his wings are clipped and his feet are tied so he opens his throat to sing.

The caged bird sings with a fearful trill of things unknown but longed for still and his tune is heard on the distant hill for the caged bird sings of freedom.

(Angelou)

The alternating pattern between the "free bird" and the "caged bird" in the poem sets a sharp contrast between freedom and slavery or oppression. The first and the fourth stanzas deal with the "free bird", while the second, the third, the fifth, and the sixth tackle the "caged bird". The double number of the stanzas focusing on the "caged bird" duplicates the severe effect of the caged bird's plight. Moreover, as the poem is written in free verse, it has no rhyme scheme, no meter pattern, and no fixed number or length of verses in each stanza. Thus, it lacks unity and harmony; matching the great disparity between the conditions of the two birds. The whole tone

of the poem is full of sorrow, agony, suffering, and grief. The speaker of the poem doesn't reveal her identity, despite her apparent involvement in the painful experience of the "caged bird." The poet, professionally, succeeded in attracting the attention of her readers to the predicament of the black women in the American society at that time: "The ultimate aim of the poet should be to touch our hearts by showing his own" (Stephen 126).

To examine the social impact of Maya Angelou's personal experience represented in her poem, "The Caged Bird," AI model Meta is used. Meta AI defines itself as: "I am Meta AI, a friendly AI assistant based on LLMAI (Large Language Model Meta AI). I'm a cutting-edge language model designed to engage in natural-sounding conversations, answer questions, and provide helpful information on a wide range of topics." Meta responded so quickly in less than part of a second to the following prompts concerning the poem

### \*Explain the symbolic value of this poem.

The symbolic value of "Caged Bird" lies in its powerful and evocative representations of freedom, oppression, and the human spirit. Here are some key symbolic interpretations:

## The Caged Bird

- Oppression and Confinement: The caged bird represents the suffocating effects of oppression, racism, and societal constraints.
- Longing for Freedom: The bird's desire to fly and sing symbolizes the universal human yearning for liberty and self-expression.

#### The Free Bird

- Freedom and Empowerment: The free bird embodies the joy, beauty, and power of unrestricted freedom.
- Unbridled Creativity: The free bird's song

represents the unbridled creativity and selfexpression that comes with liberation.

The Cage

- Societal Constraints: The cage symbolizes the oppressive systems and institutions that restrict individual freedom.
  - Internalized Oppression: The cage can also represent the internalized oppression and selfdoubt that can hold individuals back.
  - The Sky and the Wind
  - Limitless Possibilities: The sky and wind represent the vast, limitless possibilities and opportunities available to those who are free.
  - Freedom's Call: The wind's gentle caress and the sky's open expanse beckon the caged bird to fly, symbolizing the call to freedom and empowerment.
  - The Poem's Broader Symbolism
  - Racial Inequality: The poem is often seen as a powerful allegory for the African American experience, highlighting the struggles of racism and oppression.
  - Human Resilience: The poem also celebrates the resilience and determination of the human spirit, as embodied by the caged bird's refusal to give up its song.

The symbolic value of "Caged Bird" lies in its ability to convey complex emotions, ideas, and experiences through powerful, evocative imagery.

Can this poem be considered a racial poem and also a feminist one?

"Caged Bird" can be interpreted as both a racial and feminist poem, as it addresses themes of oppression, freedom, and identity that resonate with both the African American and feminist experiences.

## **Racial Interpretation**

• African American Experience: The poem is often seen as a powerful allegory for the African

- American experience, highlighting the struggles of racism, oppression, and the quest for freedom and equality.
- Jim Crow Era: Written during the Civil Rights Movement, the poem alludes to the oppressive Jim Crow laws and societal norms that restricted African American freedom and mobility.
- Symbolism of the Caged Bird: The caged bird represents the suffocating effects of racism and oppression, while the free bird embodies the longing for freedom and equality.

### **Feminist Interpretation**

- Intersectionality: Maya Angelou's experiences as a black woman inform the poem's themes of oppression, freedom, and identity, making it a powerful exploration of intersectional feminism.
- Patriarchal Oppression: The caged bird can also be seen as a symbol for women's experiences under patriarchal societies, where their voices, choices, and freedoms are restricted.
- Empowerment through Voice: The poem's focus on the bird's song as a means of expression and resistance can be seen as a feminist statement on the importance of women's voices and agency.

### **Overlapping Themes**

- Oppression and Resistance: Both racial and feminist interpretations of the poem highlight the struggles of oppression and the importance of resistance and empowerment.
- Identity and Self-Discovery: The poem's exploration of identity, self-discovery, and the quest for freedom resonates with both African American and feminist experiences.
- Universal Human Experience: Ultimately, "Caged Bird" transcends specific racial or feminist contexts, speaking to the universal human experience of longing for freedom, equality, and self-expression.

Maya Angelou's masterpiece continues to inspire and resonate with readers from diverse backgrounds, solidifying its place as a powerful and timeless work of literature.

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\*What are the biographical influences of this poem?
Maya Angelou's poem "Caged Bird" was deeply influenced by her personal experiences and biography.
Here are some key biographical influences:

#### **Childhood and Racism**

- Growing up in the segregated South: Angelou was born in St. Louis, Missouri, but grew up in Stamps, Arkansas, where she experienced firsthand the brutal realities of racism and segregation.
- Personal experiences with racism: Angelou's experiences with racism, including being called the "N-word" and facing discrimination, deeply impacted her writing and worldview.

### **Family and Identity**

- Relationship with her brother Bailey: Angelou's close relationship with her brother Bailey influenced her writing, including the poem's themes of freedom and confinement.
- Mother's influence: Angelou's mother, Vivian Baxter, was a strong, independent woman who encouraged Angelou's love of literature and writing.

## **Personal Struggles and Triumphs**

- Overcoming childhood trauma: Angelou experienced childhood trauma, including being molested by her mother's boyfriend and subsequently feeling guilty and ashamed. Her writing became a way to process and overcome these experiences.
- Finding voice and empowerment: Through her writing, Angelou found a powerful voice and a

means of empowerment, which is reflected in the poem's themes of freedom and self-expression.

### **Literary Influences**

- African American literary tradition: Angelou was deeply influenced by the African American literary tradition, including writers such as Langston Hughes, Zora Neale Hurston, and Paul Laurence Dunbar.
- Autobiographical writing style: Angelou's autobiographical writing style, which blends elements of poetry, memoir, and essay, was influenced by writers such as James Baldwin and Frederick Douglass.

#### **Historical Context**

- Civil Rights Movement: The poem was written during the height of the Civil Rights Movement, and its themes of freedom, equality, and resistance reflect the era's social and political upheaval.
- Black Arts Movement: Angelou was also influenced by the Black Arts Movement, which sought to promote African American art, literature, and culture.

These biographical influences combined to shape the powerful and enduring poem "Caged Bird," which continues to resonate with readers today.

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### \*What are the social effects of this poem?

"Caged Bird" has had significant social effects, both at the time of its publication and continuing to the present day. Here are some examples:

## Raising Awareness about Racism

- Highlighting systemic oppression: The poem drew attention to the systemic racism and oppression faced by African Americans, sparking important conversations about equality and justice.
- Amplifying marginalized voices: By sharing her personal experiences and emotions, Angelou

amplified the voices of marginalized communities, providing a powerful platform for their stories and struggles.

### **Empowering Marginalized Communities**

- Inspiring resilience and resistance: The poem's themes of hope, resilience, and resistance inspired marginalized communities to continue fighting for their rights and freedoms.
- Fostering a sense of community: "Caged Bird" helped create a sense of community and solidarity among African Americans and other marginalized groups, who saw themselves reflected in Angelou's words.

### **Impact on Education and Literary Canon**

- Inclusion in educational curricula: "Caged Bird"
  has been widely taught in schools and universities,
  introducing generations of students to the
  experiences of African Americans and the power
  of poetry.
- Expanding the literary canon: The poem's success helped expand the literary canon to include more diverse voices and perspectives, paving the way for future generations of writers.

#### **Cultural References and Allusions**

- Influence on music and art: "Caged Bird" has been referenced and alluded to in various forms of music, art, and literature, demonstrating its enduring impact on popular culture.
- Symbolism in social justice movements: The image of the caged bird has been used as a symbol in various social justice movements, including Black Lives Matter and feminist activism.

## **Personal Impact on Readers**

 Resonating with readers' experiences: The poem's themes of oppression, freedom, and resilience have resonated deeply with readers from diverse backgrounds, providing a sense of validation and connection. • Inspiring personal reflection and growth: "Caged Bird" has inspired readers to reflect on their own experiences and emotions, fostering personal growth and empathy.

The social effects of "Caged Bird" continue to ripple out, inspiring new generations of readers, writers, and activists.

The above sample responses of Meta highlight Angelou's social impact. Consequently, they discuss the different sides of the poem; giving not only a detailed, or pixel-by-pixel, analysis of these sides; but also showing how these pixels fit into the overall scene. Additionally, it urges me to write more and more questions. The summary of its last results about the social impact caused by the emotional effect of Angelou's personal experience is that: "By leveraging emotional effects, poetic devices, and personal experience, Maya Angelou's "The Caged Bird" achieves a profound social impact, inspiring empathy, understanding, and action against racism and oppression." Hence, Meta AI gives a completely objective criticism, free from biases and racial and/or gender discrimination. It can be a good assistant for the fair critics and learners. Furthermore, it saves their time and effort. For the poet, it clarifies her message, supports her argument, and illuminates the beauty of the poem. It plays the perfect role intended by the famous Neoclassical poet, Alexander Pope, in his poem, "An Essay on Criticism":

> The gen'rous critic fann'd the poet's fire, And taught the world with reason to admire. Then criticism the Muse's handmaid prov'd, To dress her charms, and make her more belov'd...

Yet, this algorithmic critic, Meta, can't feel Angelou's tormenting feelings of oppression, although it explains them well. It uses words or images without "conceiving their connotations and without forming a mental image for the concept, the physical substance, or the experience" (Abu Zaid 308). AI models can't recognize what is the mental image and the emotional implications and connotations of the "cage," for example. Additionally, it doesn't have the human intuition to feel the same as Angelou felt while writing the poem. No matter how it is good, it lacks the emotional heat of the human heart and the spiritual soar of the soul.

In conclusion, AI models have helped in giving much deeper insights and assessments in nearly all fields of modern life. They have made computers and machines perform human-like tasks in an intelligent way saving time and effort and producing perfect results. Recently, using AI models in the field of literary criticism has become very helpful for critics and learners. It has transformed the way they do research, teach, and learn in the humanities. Making an AI sentiment analysis for poetry, as a distinguished literary genre, is a new trend; it appeared a few years ago.

This research paper tried to probe into AI sentiment analysis of poetry through three dimensions: 1- A Comparative Critical Analysis; 2- Cultural and Historical Insights; 3- AI-driven Examinations of Personal Experiences and their Social Impact. Three sample poems of three different poets from different literary ages and circumstances are chosen to be inspected. Firstly, Thomas Hardy's poem, "Neutral Tones," is tested in the first dimension to highlight the similarities and differences between AI sentiment analysis and that of critics. Such a

comparison demonstrated also some of the advantages and the disadvantages of two AI models: 'DistilBERT' and 'Microsoft-365 Copilot.' As a result, 'DistilBert' showed perfect agreement with the critics' points of view in texts of clear direct meanings as well as its rapid treatment of the text saving time greatly. Yet - despite these two advantages – in ambiguous texts, it may give misleading shortcoming results. Another preprocessing of the treated text before analyzing it by converting it into lowercase and eliminating all the punctuation marks. By doing this preprocessing, the text loses much of its valuable elements, as poetry is a condensed form of poetry using these marks for significant poetic purposes. This preprocessing also mingles the run-on-line technique with the end-stopped one. In addition to these two shortcomings of this model, it dictates the 'tokenization' of the treated text by dividing it into small units/stanzas. This breakdown may shatter the compatibility of the text. This model also gives confusing results. A fourth disadvantage of 'DistilBERT' is that it is a bi-dimensional valence model depending only on detecting the polarity of the positivity or negativity of the detected emotions. Hence, it loses all the aesthetics and the technical elements of poetry leaving the poetic text as a soulless bleak prosaic body.

The sentiment analysis of the other LL Model, 'Copilot,' applied to the same poem, "Neutral Tones," showed great accuracy and agreement with the sample points of view of some chosen critics. It surpasses them in its tremendous speed. Another advantage is its perfect treatment of the poem as a whole without 'tokenization.' The poem's 'correlative sequence' is kept remarkably. Thus, it demonstrates the perfect reliability of AI models

depending on Natural Language Processing (NLP). All the similar models have enormous datasets. Amazingly, these models undergo continuous advancements making them more promising shortly.

Another AI NLP Model, 'Gemini,' is tested in analyzing Rupert Brooke's poem, "The Soldier," as an example of the second dimension: Cultural and Historical Insights. It showed a perfect quality of analyzing the poem's sentiments regarding its cultural and historical background. It contrasted the poem's short-term criticism with its long-term one according to the prevailing emotions in the first period of WWI, during it, after its end, and nowadays. This ample emotional detection is an encyclopedia in miniature relating the past, the present, and the future. It, thus, can be used in online archives not only of poetry but also of all the branches of Digital Humanities. The model has another merit of generating and re-generating new answers of the same content. This advantage makes it a good assistant for the teachers and the learners of such poems, making the discussed points easily to be understood. A fifth advantage is its ability to relate newly posed questions with previous ones and to follow up, that is to say, it has a memory. Yet, 'Gemini,' only 'session-based' memory which retains information within a single conversation only. It doesn't have a long-term memory, which can store information across multiple conversations or discussions. Hence the research paper calls for more improvements to achieve a long-term memory for such models.

Maya Angelou's poem, "The Caged Bird," was chosen in the third dimension which examines AI sentiment analysis of the social impact of the poet's personal experience. Angelou, as a black woman in

American society, suffered so much from oppression, marginalization, and racial and gender discrimination shaping a special hurting personal experience. LLM 'Meta AI' was chosen to trace the inherent feelings of Angelou's "The Caged Bird." The symbolic value of the poem and the biographical influences are tackled first; then, the poem's social impact. Meta showed a profound 'contextual understanding' of the text of the poem and its social impact, adding another proof of the perfect reliability of the NLP Models in detecting the sentiments of the poems and their easy applicability to other literary genres. As with all the previously used AI Models, Meta AI is free; a quality which simplifies its availability to all researchers. Another praiseworthy merit is its objectivity. It dealt with Angelou's poem with fair judgments void of gender or racial biases. Although some debates are proving that AI models may have geographical or linguistic biases according to their stored dataset by prejudiced companies or engineers, these models don't have gender or racial biases to a great extent. This objectivity can give a good hand to oppressed poets, fair critics, learners, peacemakers, and humanists worldwide. Consequently, the research paper suggests performing more and more improvements and regulations in some biased points to achieve complete objectivity in all AI Models. There remains a last unachievable shortcoming which is having a human-like intuition and feelings. AI Models can recognize and analyze human emotions, but can't feel them.

### **Works Cited**

Abu Zaid, Reham Mohamed. "Pandemic Digital Poetry:

An Analytical Study of Two Selected Social Media Poems as Examples." *Al-Azhar Journal of Humanities*, Scholarly Refereed Journal, Volume 27, June 2021, pp. 2361 — 2422, DOI: 10.21608/jsh.2021.186789. jsh.journals.ekb.eg/article\_189649\_2aa296d98ebd075a 2501bb73a42f9ba8.pdf.

---. "Poetry between Human Mindset and Generative Artificial Intelligence: Some Relevant Applications and Implications." *Bulletin of the Faculty of Languages & Translation, Al-Azhar University*, Volume 27, Issue 2, July 2024, pp. 303 - 332, DOI: 10.21608/bflt.2024.399196.

bflt.journals.ekb.eg/article\_399196.html.

Allen, Walter. *The English Novel: From the Pilgrim's Progress to Sons and Lovers*. London: Penguin Books, 1991.

Angelou, Maya. "The Caged Bird." *Poetry Foundation*, www.poetryfoundation.org/poems/48989/caged-bird.

Accessed on 10 Feb. 2025.

Asaheb, Hayat. "Neutral Tones." *Academia*, www.academia.edu/23136518/Neutral\_Tones, Accessed on Sat. 5 April 2025, 11:40 am.

"Bird Symbolism." *Literary Devices: Definition and Examples of Literary Terms*,

<u>literarydevices.net/bird-symbolism/</u> . Accessed on Mon. 7 April 2025.

- Blakeley, Sasha. "Colour Symbolism in Literature:
  Definition, Uses & Representation." *Study.com*.

  study.com/learn/lesson/color-symbolism-literaturechart-usesrepresentations.html#:~:text=The%20color%20orange
  %20is%20not,will%20depend%20on%20the%20autho
  r. Accessed on Mon. 7 April, 2025, 10:58 am.
- Bloom, Harold. "Critical Analysis of 'Neutral Tones'." *Thomas Hardy*, edited by Harold Bloom, Infobase Publishing, 2009, pp. 37 38.
- Brooke, Rupert. "The Soldier." *Poets.org: Poems*, poets.org/poem/soldier-0. Accessed on 10 Feb. 2025.
- 'DistilBERT'/ distilbert-base-uncased-finetuned-sst-2-english, *Hugging Face*, huggingface.co/distilbert/distilbert-base-uncased-finetuned-sst-2-english?text=we+stood+by+a+pond+that+winter+day+%0D%0Aand+the+sun+was+white%2C+as+though+chidden+of+God+%0D%0Aand+a+few+leaves+lay+on+the+starving+sod+%0D%0Athey+had+fallen+from+an+ash%2C+and+were+gray
- Ferguson, Margaret; Mary Jo Salter; Jon Stallworthy. *The Norton Anthology of Poetry*. 4<sup>th</sup> edition, New York: W.W. Norton & Company, Inc. 1996.

Finch, Anne the Countess of Winchilsea. "To the

Nightingale." 1713. Poetry Foundation: Poems & Poets.

<u>www.poetryfoundation.org/poems/47656/to-thenightingale</u>. Accessed on Wednesday 9 April, 2025, 09:50 a.m.

- "Gemini (Chatbot). Wikipedia, the free encyclopedia, en.wikipedia.org/wiki/Gemini\_(chatbot). Accessed on Thursday 10 April 2025, 03:00 p.m.
- Harvey, Geoffrey. *The Complete Critical Guide to Thomas Hardy*. London: Routledge, 2003.
- Hynes, Samuel. *The Pattern of Hardy's Poetry*. Chapel Hill, N.C.: The University of North Carolina Press, 1961.
- "I Know Why the Caged Bird Sings: Meaning & Analysis." *Study.com*, <u>study.com/academy/lesson/iknow-why-the-caged-bird-sings-title-meaning.html#:~:text=The%20caged%20bird%20analysis%20is,dominated%2C%20racist%2C%20sexist%20society</u>. Accessed on Tuesday 8 April 2025 08:21 p.m.
- Liu, Bing. Sentiment Analysis and Opinion Mining. Morgan & Claypool Publishers, 2012.
- ---. Sentiment Analysis: Mining Opinions, Sentiments, and Emotions. New York: Cambridge University Press, 2015.

- Marroni, Francesco. "13-Poet, Poetry, Poem." *Thomas Hardy in Context*, edited by Philip Mallett, Cambridge University Press, 2013, pp. 143 152.
- Meta AI Assistant. "Sentiment Analysis." Conversation, 6 Feb. 2025, 06:34 a.m.
- Meta AI. "Conversation with Meta AI." Meta AI, 2025. Accessed on 3 April 2025, 05:24 p.m.
- Microsoft Copilot. "Discussion on Thomas Hardy's 'Neutral Tones'." Personal Chat, 4 Feb. 2025, 08:52 p.m.
- ---."Microsoft Copilot's response during a chat on sentiment analysis of poetry." Personal Chat, 10 April 2025, 11:28 a.m.
- "Microsoft Copilot." *Wikipedia: the Free Encyclopaedia*, en.wikipedia.org/wiki/Microsoft\_Copilot. Accessed on Tuesday 4 Feb. 2025.
- Millgate, Michael. *Thomas Hardy: A Biography*. London: Oxford University Press, 1982.
- Pascual, Federico "Getting Started with Sentiment Analysis using Python". Published February 2, 2022, *federicopascual*. Sent in an email from Hugging Face, 19 Dec. 2024, 03:47 p.m. To me.
- Nair, Tanya. "Natural Language Processing Used in Sentiment Analysis of Poetry: a Study of Six Common

Techniques." *Journal of Student Research*, rScroll Publications, Volume 12, Issue 2, 2023, pp. 1 -7.

- Pope, Alexander. "An Essay on Criticism." 1711. *Poetry Foundation: Essay on Poetic Theory*, 13 October 2009, <a href="https://www.poetryfoundation.org/articles/69379/an-essay-on-criticism">www.poetryfoundation.org/articles/69379/an-essay-on-criticism</a>. Accessed on Wednesday 9 April 2025, 05:07 p.m.
- Rebora, Simone. "Sentiment Analysis in Literary Studies.

  A Critical Survey." in *Digital Humanities Quarterly*,

  Volume 17 Number 2, 2023. <u>DHQ: Digital Humanities Quarterly: Sentiment Analysis in Literary Studies. A Critical Survey</u>, Accessed on Saturday 1

  Feb. 2025.

  www.digitalhumanities.org/dhq/vol/17/2/000691/0006

  91.html?form=MG0AV3#liu2015.
- SparkNotes Editors. "Caged Bird: Summary & Analysis." SparkNotes.com, SparkNotes LLC, 2005, www.sparknotes.com/poetry/caged-bird-poem/overview/. Accessed on Wednesday 9 April 2025, 10:45 a.m.
- Stephen, Leslie. Hours in a Library: Charlotte Brontë. Charles Kingsley. Godwin and Shelley. Gray and his school. Sterne. Country books. George Eliot. Autobiography. Carlyle's ethics. The State trials. Coleridge, Vol. III, London: G. P. Putnam's sons, 1919.

books.google.com.eg/books?id=o7XjWc53dQQC&pg =PA126&dq=%E2%80%9CThe+ultimate+aim+of+the +poet+should+be+to+touch+our+hearts+by+showing+ his+own%E2%80%9D&hl=en&newbks=1&newbks\_r edir=0&sa=X&ved=2ahUKEwjbxqCXr8GMAxX2APs DHWrjGOsQ6AF6BAgMEAM#v=onepage&q=%E2 %80%9CThe%20ultimate%20aim%20of%20the%20p oet%20should%20be%20to%20touch%20our%20heart s%20by%20showing%20his%20own%E2%80%9D&f =false

- Taboada, Maite et al. "Lexicon-Based Methods for Sentiment Analysis." *Computational Linguistics*, Volume 37, Issue 2, 2011, DOI: 10.1162/COLI\_a\_00049, pp. 267–307.
- "The Soldier (poem)." *Wikipedia, the free Encyclopaedia*, edited on 27 February 2025, at 09:30 (UTC). en.wikipedia.org/wiki/The\_Soldier\_(poem).
- Wordsworth, William. *The Major Works*. Edited by Stephen Gill, Oxford University Press, 2000. "What is Sentiment Analysis?". *Amazon Web Services* (*AWS*), <a href="mailto:aws.amazon.com/what-is/sentiment-analysis/#:~:text=Sentiment%20analysis%20is%20the%20process,social%20media%20comments%2C%20and%20reviews". Accessed date 4 Feb. 2025.
- Wilson, P., J. Exshaw, J. Esdall, R. James, S. Price, and M. Williamson. *The Minor Poets, Or, the Works of the Most Celebrated Authors, of Whose Writings There are But Small Remains, Viz. the Earl of Roscommon, the Earl of Dorset, the Earl of Hallifax, Sir Samuel Garth, George Stepney, ... William Walsh, ... Thomas Tickell, ... Thomas Sprat, ... In Two Volumes.* Volume 2, Dublin: MDCCLI, 1751.

books.google.com.eg/books?redir\_esc=y&hl=ar&id=-BXXcZPMYocC&q=Queen+of+Arts#v=snippet&q=Q ueen%20of%20Arts&f=false