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Visualisation of Some Poems of Yahya Kemal with Artificial Intelligence

Technology

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Abstract	Research Article
We think that addressing the view of artificial intelligence, which is used in	
almost every field today, from literary genres to poetry will fill a gap in the	
literature. In this context, in this study, we examined how to visualise poems	
from literary products with artificial intelligence and whether the visuals	
created will be related to poetry. For this purpose, we selected Yahya	
Kemal's poems titled Gurbet, Bir Yıldız Aktı, Uçuş, Ziyaret, Siliz Gemi,	
Maltepe, Akşam Musikisi, Gece, Mevsimler, which have an important place	
in Turkish literature. We obtained visuals for the poems using Dall. E and	
Artbreeder applications. In the study, we examined how compatible the	
visuals were with the poems by using the content analysis method. As a	
result; artificial intelligence produced visuals suitable for the words, themes	
and emotions in the poems. We determined that the visuals produced by	D : 1 10 10 2022
artificial intelligence were reminiscent of poems in terms of colour and	Received: 10.10.2023 Revision received:
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Yahya Kemal'in Bazı Şiirlerinin Yapay Zekâ Teknolojisiyle Görselleştirilmesi

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Öz	Araştırma Makalesi
Günümüzde neredeyse her alanda kullanılan yapay zekânın edebi türlerden şiire bakışının ele alınmasının literatürde bir boşluğu dolduracağını düşünmekteyiz. Bu bağlamda çalışmada, edebiyat ürünlerinden şiirlerin yapay zekâ ile nasıl görselleştirileceği ve oluşturulan görsellerin şiir ile bağlantılı olup olmayacağı konusunu inceledik. Bu amaçla Türk edebiyatında önemli bir yere sahip olan Yahya Kemal'in Gurbet, Bir Yıldız Aktı, Uçuş, Ziyaret, Sessiz Gemi, Maltepe, Akşam Musikisi, Gece, Mevsimler isimli şiirlerini seçtik. Dall. E ve Artbreeder uygulamalarını kullanarak şiirler için görseller elde ettik. Çalışmada içerik analizi yöntemini kullanarak görsellerin	
şiir ile ne kadar uyumlu olduğunu incelendik. Sonuç olarak; yapay zekâ şiirlerdeki kelime, tema ve duyguya uygun görseller üretti. Yapay zekanın ürettiği görsellerin renk ve şekil bakımından şiirleri anımsattığını belirledik.	Alınma tarihi: 10.10.2023 Düzeltilmiş hali alınma tarihi: 20.10.2023 Kabul edilme tarihi: 28.10.2023
Anahtar Kelimeler: Yahya Kemal, yapay zekâ, sayısal sanat, şiir görselleştirme	

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Introduction

In recent years, artificial intelligence has emerged as a very essential concept that has led to changes and transformations, new ideas, new business lines and the death of some business lines by showing its influence in almost every aspect of our lives. Artificial intelligence increases its popularity day by day and helps many business lines and professionals with different application areas and applications (Çelik, 2022, p. 95). These developments can directly benefit the positive progress of our lives in social, cultural, economic and social contexts and contribute to the rapid growth of our civilisation (Yengin, 2022, p. 95). Artificial intelligence refers to machine simulations that are an example of human intelligence and are designed to think and act like humans. These machines are programmed to perform tasks that normally require human intelligence, such as visual perception, speech, recognition, decision-making and language translation (Aydoğdu Çelik, Çelik, 2023, p. 22).

While artificial intelligence as a concept has been defined in various ways since the day it emerged, it can be said that various differences have emerged in definitions as it has manifested itself in many areas of human life. While Ergen (2019, p. 6) defines artificial intelligence as "a highly complex and effective technology that enables the realisation of basic methods such as learning and comparison", Kaya and Engin (2005, p. 106) define it as "a technology that can imitate human intelligence and human learning style, can perform what is commanded to it in the light of the data entered or the findings obtained, and can produce successful results in solving different problems it encounters". According to Bostrom (2018, p. 184), artificial intelligence is used in various sectors from defence industry to finance, from production to health. Artificial intelligence tools are used in many different fields from the health sector to production systems, from sales to military applications and transform industries. Say (1998) sees it as the biggest engineering project in human history. He also defines it as "the branch of science that examines how we can make artificial systems (with bodies if necessary) perform every cognitive activity that natural systems can do (whether intelligent or not) at higher levels of success" (Say, 2018, p. 83). Artut (2019, p. 767) defines it as "the ability to fulfil all logic, self-awareness, comprehension, reasoning, problem solving and creativity abilities by a computational system in a non-biological structure." In addition to all these definitions, Köse (2018, p. 185) states that there are "significant problems and challenges in terms of personal data protection, ethical principles, violations, cyber-attacks, etc.".

Visualisation with artificial intelligence helps to make sense of complex datasets and provides insights into patterns and relationships that are not easily recognised by traditional data analysis methods (Aydoğdu Çelik, Çelik, 2023, p. 22). As with any technology, visualisation with artificial intelligence has potential disadvantages. One of the main concerns is the potential for AI to perpetuate biases in data that may lead to inaccurate or unfair conclusions. To mitigate this risk, it is important to ensure that AI visualisation tools are trained on a variety of datasets and that any bias in the data is identified and addressed (Aydoğdu Çelik, Çelik, 2023, p. 24).

In this study, a few poems of Yahya Kemal Beyatlı, one of the important poets of Turkish literature, are discussed. Yahya Kemal Beyatlı, who is one of the most important poets of the Republican period and shaped the poetry of his period, is one of the most important representatives of Turkish poetry. The echoes of his poems were very effective and left an impact on the poets who came after him (Öztürk, 2020, p. 149). The poet, who skilfully applied Aruzu to Turkish, combined divan poetry and western poetry with great mastery (Öztürk, 2020, p. 150). The poet endeavours to bring the language he uses in his poems to the most perfect form (Öztürk, 2020, p. 151). For all these reasons, Yahya Kemal Beyatlı was preferred as a poet. In addition to these, another reason for the selection of the rare people who can combine academics and artists. As he is a poet, an academic and an expert in the field of linguistics, he handled the poems with great sensitivity and even paid attention to their rhymes and translated the poems Gurbet, A star flowed, Flight, Visit, Silent ship, Maltepe, Evening music, Night, Seasons without taking them out of context.

Although there are many studies on artificial intelligence in the literature, this research was conducted with the poems of one of the Turkish poets who is not encountered in the literature. For this reason, it is thought that the research will contribute to the current literature. In this respect, the study is original and one of the first studies in the field. With this study, how artificial intelligence will visualise the way of thinking in Turkish poetry in terms of theme, subject and emotion can be seen as one of the reasons for the study. In addition, the ability of artificial intelligence applications to visualise artistic texts without taking them out of context will also be examined. It is thought that this study will draw attention to the gap in the field and fill this gap by giving ideas to new studies.

Purpose of the Study

The main purpose of this study is to investigate how an artificial intelligence application visualises poems. In this context, the study also sought answers to the following sub-problems;

1. Are the visuals produced by artificial intelligence for Yahya Kemal's poems suitable for the theme and subject?

2. Do the visuals produced by artificial intelligence for Yahya Kemal's poems evoke the poem?

Method

Research Design

The method of the research is content analysis, which is one of the quantitative research methods. Content analysis is a research method that makes objective, methodological and quantitative explanations of the content of written/open communication (Tavşancıl & Aslan, 2001, p. 17). Within the scope of the research, we used Dall.E and Artbreeder applications from artificial intelligence applications. In this way, we examined how Yahya Kemal's poems were visualised with artificial intelligence technology.

Research Scope

In this study, 9 poems of Yahya Kemal Beyatlı, one of the most important poets of Turkish literature, are discussed. The reason for choosing Yahya Kemal as the poet is that Roger Finch translated his poems into English. Roger Finch, as an expert in his field, has handled the poems with great sensitivity and translated them without taking them out of context.

Limitation of Research

Yahya Kemal's poems Gurbet, Bir yıldız aktı, Uçuş, Ziyaret, Silent ship, Maltepe, Akşam müziği, Gece, Mevsimler were selected for this study. The main factor as a limitation in the selection of poems is that we have access to only these poetry translations of Roger Finch.

Data Colection and Data Analysis

Dall. E and Artbreeder applications were used as data collection tools in the study. Within the scope of the study, we analysed 9 poems in line with content analysis. After content analysis, the poems were uploaded one by one to artificial intelligence applications. Artificial intelligence applications provided us with data by drawing appropriate visuals for the poems.

Translating the poems without taking them out of context is important for artificial intelligence applications to make sense of and translate English words and sentences. In this way, what was intended to be conveyed was fully conveyed and visuals were obtained in this context.

Findings

Exile

Exile, what is it, can he know who has not been driven Out to some aloof land? O exile, days of unbroken Sunset, unbroken distances, days sunk in misery! And the years go by, years of sorrow, years of powerty. In a desert dryness, it is the mind's waterlessness, It is both the yearning to fall asleep and sleeplessness. It is that stealthiest of torments, time that will not move on, It is the exixtence of a thousand wrongs, pardon withdrawn. The pain of loneliness is farr worse than any torture; Yet this man, overcome by it, to be broken must endure Visuals created with the poem Gurbet;

Image Created with Dall. E



Figure 2

Image Created with Artbreeder



When Figure 1 and 2 are analysed, it is seen that both of them emphasise the theme of expatriation. The man in the first image is an old man who has suffered from distress with his

eyes looking far away and wrinkles on his face. In the 2nd image, we see a lonely person in the desert. The desert represents loneliness. The fact that the person in the desert goes towards the direction of the setting sun emphasises going away.

A Star Flowed

A star flowed, as though sky and sea embraced. It suddenly Reminded us of that first kiss at the crest of pession. Together our eyes were dazzled, we glanced toward the open sea. In the daydreamy blue this glitter appeared to vanish Before we could trace its passing, an unsolved mystery. We thought to ourselves: it flew there, it died there, a gold-winged thrush. We witnessed the cascade of a star, in just such a way; My God, we cried, what is this enigma we call 'creation'? Guileless mankind floating along in his transitory world Hopes for an ongoing find in any form, all in a rush.

Visuals created with a star flowed poem;

Visuals created with the poem A Star Flowed;

Figure 3

Image Created with Artbreeder



Image Created with Dall.E



When Figure 3 and 4 are analysed, it is seen that visuals suitable for the words sparkle, light, star are created in both visuals. It can be said that visuals suitable for the title of the poem were produced.

Flight

Before alighting, the soul sails through Heaven's shoreless hue;
Doesn't Noah in the Flood thus resemble a bird too?
The sky above is laden with prolonged clouds that capture
Momently below the sea's primeval foamy texture.
The sea in its shaking does not know what its waves number,
As millions of waves millions of waves more from slumber;
Its constant uproar is a folk song, spacious, full of cries,
Full of millions of shutings, millions of shouted replies.
Each time the stars in their highlands open to the atmosphere,
A world they have imagined begins to appear.
Only a soul-supporting air is above in the sky;
It s in the sensations that teach daydreams how to fly.
Only in this tier of the can constant flight be real

With every turn, the soul, that bird with scissor wings of steel, Sights land on the horizon for less than a few moments, Free in the sky, flying free in the sea, free in the distance

Visuals created with the poem Flight;

Figure 5

Image Created with Artbreeder



Figure 6

Image Created with Dall. E



When Figure 5 and 6 are analysed, visuals suitable for the poem were created. In both of them, visuals compatible with the words sea, wave were created. In addition, visuals were created in harmony with the words wind, air, fly in the poem.

Pilgrimage

Together again at the same season, beneath the ancient trees, Together again at the same season, we walk around as though breeze And the shadows af these sycamores, these cypresses, numb us; In this tank, the water's voice glows with a celestial nimbus. Why can the old architect not have us pray for his soul here? Water combed from heaven sparkles in this vision's atmosphere; On these walls, worth endless hours of wonder, beyond compare, Gardens that will fade rom china are in blossom here and there. A frame was built for spiritual repose so that, given To the eye another world, we with joy, having seen Heaven. The time of pilgrimage is past, the sun sets, we must part! We lived one day here at Atik-Valde, ravished to the heart.

Visuals created with the poem Pilgrimage;

Figure 7

Image Created with Artbreeder



Image Created with Dall. E



When Figure 7 and 8 are analysed, it is seen that they do not fully reflect the poem. Based on the word sycamore in the poem, a wooded area is seen in both images. But the poem is not only about trees.

Silent Ship

If there comes a time to raise anchor from time, one day more, A ship will set out from this harbor toward an unknown shore. It makes way silently, as though it held no living soul; At that unrocking parting no hand waves as the lines unroll. Those watching from the wharf are all aching from this journey; Their eyes sting from holding the black horizon so firmly. Wretched hearts! What last ship leaving from the homeland is this? And what deep mourning for a life spent in exile is this? The loved and the lowing will wait in vain in the world here; They do not know the belowed will never reappear. Each of the many who are going are happy they could spend A number of years here; the passengers never descend. Visuals created with the poem Silent Ship;

Figure 9

Image Created with Artbreeder



Figure 10

Image Created with Dall. E



When Figure 9 and 10 are analysed, both of them have sea, waiting, ship and a pessimistic atmosphere in harmony with the content of the poem.

Maltepe

The sun bends thorugh the golden sea its gold color; It rekindles the fleets of how many czars As they plunge toward the edge of the world's wide mirror! In the sky there are millions of strings hidden On which millions of hidden fingers play bars Of the last melancholy march of valor. The blue is muted untill all of it is strewn, While in the heavens there's an increase of stars... As night fades, new phases correct its error. The wind spouts and bristles up the sea with mars Of froth as all along the coast the waves lick Maltepe's feet with snarling catlike furor.

We were not drunk with this blue, this acstasy, Anough! It will pass as night will pass away; O heart, wait within me yet for dawn's pallor!

Visuals created with the poem Maltepe;

Figure 11

Image Created with Artbreeder



Image Created with Dall. E



When Figure 11 and 12 are analysed, it is seen that visuals suitable for the words sun, sea and navy are created. However, when the poem is analysed in general, the relevance of the visuals to the poem remains at a low level.

Evening Music

At Kandilli, in the ancient garden, As in evening's traps, curtain after curtain, The flavor of memory is cought n grief's burden. What further omens may wait than now there are? In a deserted road, the wind from far Frisks with leaves at the and of the calendar. As the sinking hours flow toward elsewhere, Gradually, gradually, in wisps, here and there, Stilmess hangs always frontward in the air. The hair often stands on end through fancy's trick: Darkness entering each door as dusk grows thick, More than the sound of a known foot an the brick. Until the world spreads far away from view, From one thousand an done nights it falls to few,

Dreams within dreams open up anew.

Visuals created with the poem Evening Music;

Figure 13

Image Created with Artbreeder



Figure 14

Image Created with Dall. E



When Figure 13 and 14 are analysed, it is seen that images related to dream, shivering, evening and silence are created.

Night

As Kandilli flowed through sleep's first quarter, We dragged moonlight along in the water. We walked on silver the moon made glisten; We did not speak and we din not listen. The hills were spectral, dreamlike were the trees... Slopes stood stil in pools that listed no breeze... Time seemed to be locked with a year-round key Closed in music invisibility Our disappearance fades where we have gone; Before it concludes, our dream is at dawn.

Visuals created with the poem Night;

Figure 15

Image Created with Artbreeder



Image Created with Dall.E



When Figure 15 and 16 are analysed, it is seen that visuals are created with the words evening, sleep and dream.

The Seasons

Autmn's strings begin to resound, then Far, far away, from afar again They break summer's chords on sorrw's profound music. The shore's calls, cross the waves that wash from the sound, when Far, far away, from afar again, Melancholy moves with its vagabond music. Sadness from seas and mountains takes us with its trick. Let the clouds scatter, let the spring again grow thick, Let just-before-sunrise once more expound music. Before the growing-blue Bosphorus brings forth dawn, Let the Melody Maker, voice unsheathed, bow drawn, Stride the sky victorious with His earth-bound music.

Visuals created with the poem The Seasons;

Image Created with Artbreeder



Figure 18

Image Created with Dall. E



When Figure 17 and 18 are analysed, it is seen that visual 17 is compatible with the poem, but 18 is not compatible with the poem.

Discussion and Results

In Cem Say's book titled "Artificial intelligence in 50 questions?", he answered the question "Can a computer make art?" as follows: "If by making art, you mean producing art products such as painting, composition, poetry, etc., yes, it can..." (Say, 2018: 83). From this point of view, according to the findings of the study, artificial intelligence helps visual communication design professionals, experts and related fields. The creation of creative ideas in a short time saves users a great deal of time. Considering the possibility that the poems discussed will be visualised by a painter, this will take months, perhaps years, but with artificial intelligence, the result can be reached in minutes.

Abdul-Rahman et. al. (2013) can be seen as the most comprehensive study in this field. In this work, the experience of collaboration between computer scientists and literary scholars and design work on poetry visualisation is presented. Through this intensive collaboration, a rule-based solution is formulated to meet the need for high-dimensional, multivariate visualisation of poems. In addition, a user interface is developed to support visual mapping tasks together with various layout algorithms. As can be seen, it is quite difficult to visualise a poem. However, with artificial intelligence, this process is completed in a very short time.

Another study in this field was conducted by McCurdy et. al. (2015). This is a twoyear design study that investigates the role and impact of technology in the close reading of a poem by analysing the sound and language devices in poetry. The research results include problem characterisation and data abstraction regarding the use of sound in poetry, as well as a visualisation tool, the poem, for interactively exploring the sound topology of a poem. The study confirms the disruptive impact that technology can have on poetry research. However, the computational visualisation of poems shows that this interactivity can be exploited in rich ways. The results of the study by McCurdy et. al. (2015) also indicate that visual and auditory enrichment of poetry will increase the impact on the reader. If this finding is considered in the context of the results of the study conducted by us, giving the poem with visuals will increase the effect on the reader.

Delmonte (2015) confirms the existence of an implicit relationship between the sound and meaning carried by the words that make up the poem. He also discusses how colours can be used appropriately to explain the basic attitude expressed in poetry towards sadness or happiness. He assumes that the underlying emotion of a poem is closely related to the sounds conveyed by the words as well as the meanings. According to this information, the colours used in our study vary according to the general subject of the poem. While dark, black and its shades are used in poems with pessimistic words, bright and luminous colours are used in poems with optimistic words.

As a result, artificial intelligence produced visuals suitable for this poem by obtaining visuals that emphasise the words time, torment, expatriation, loneliness and horizon used in the poem in Images 1 and 2. In Images 3 and 4, it can be said that it created images suitable for the theme of the poem. However, although visual 4 is related to the theme of the poem, it does not fully fulfil the theme when the poem is considered as a whole. Because the elements that will meet the words sea and sky in the poem are not present in this visual. It cannot be said that the whole poem is visualised only with a blue sparkling background. Images 5 and 6 are also compatible with the poem. Looking at Visual 7 and 8, it can be said that artificial intelligence cannot make sense of the theme. It can be said that visuals suitable for the theme of the poem were created in Images 9 and 10. There is a different situation in Visual 11 and 12. In the poem written to Maltepe neighbourhood, which is a special place, it was determined that artificial intelligence could not create visuals related to special places at a sufficient level. It can be said that in visuals 13 and 14, as well as in visuals 15 and 16, artificial intelligence created visuals suitable for the theme of the poem. Visual 15 and 16; As a result, while visual 17 is compatible with the poem, 18 is not. From this point of view, to the question "How can an artificial intelligence application visualise poems?", it can be said that if the poems do not express special places and emotions but talk about more general topics, it can be said that it visualises at a good level. Sub-problems;

- 1. Are the visuals produced by artificial intelligence for Yahya Kemal's poems suitable for the theme and subject? To the question; it can be said that the visuals are generally sufficient to express the theme and subject, but it can be answered that they need to be improved.
- 2. Do the visuals produced by artificial intelligence for Yahya Kemal's poems evoke poetry? The sub-problem can be answered yes in general.

Another result of study is that artificial intelligence can produce visuals suitable for the texts -although not completely-. In addition to the presence of images containing fantastic elements, it is also seen that with small details added to the images, colours and themes close to the places emphasised in the content and the emotions discussed are selected. Artificial intelligence is now being conceptualised just like an artist's brain, and this leads us to evaluate the concept of subjectivity, which is very important for today's art, on a controversial area (Ballı, 2020, p. 278).

Another finding that stands out when we look at the visualisations is the production of original visuals. Even if they do not fully reflect the poem, it is clearly seen that the visuals are inspired by poems. When we look at the deepening debates on Art and Artificial Intelligence (AI), Coeckelbergh argues that the products produced by artificial intelligence can be related to both art and objective and subjective criteria (Coeckelbergh, 2017: 290 cited in Balli, 2020, p. 286). In the field of discussion, the general idea is that if there are objective criteria that determine art, AI can be easily created to create products that meet the criteria. If whether or not a product can be considered "art" is based on a subjective judgement, it means that everything, including products produced by AI, has a chance to be considered art. Therefore, the question "Can AI create art?" should be distinguished from "Can AI create good and valuable art?". Instead of asking whether AI-created products should be included in the traditional definition of art, it should be considered that AI-created products should be considered as works of art created by human artists. Because, in essence, the art teacher, programmer and software developer of AI is a human being and gives products and outputs of artistic quality as much as they are taught and programmed. Of course, in addition to these discussions, the concept of creativity also has an important place (Balli, 2020, p. 286).

It can be said that the biggest difference of artistic products produced with artificial intelligence from human art products is that they lack personal touch and emotional connection. However, with Duchamp's words "I don't believe in art, I believe in the artist", it would be appropriate to find a new dimension to the concept of "artist", which is discussed in the history of art, and to foresee that this concept will be replaced by an algorithm that we can call "post-artist" in the future. If we remember the connection of the word 'art' with the word 'artificial' in many languages, including Turkish, it is quite possible that the 'new-artists' to be produced by algorithm will conceptually fulfil this meaning. Thus, the concepts of "artist" and "work of art", which have been discussed almost since the beginning of modern art, evolve in a different direction and reveal new areas of questioning (Ballı, 2020, p. 286). It can be said that this is due to the fact that artificial intelligence repeats and combines existing styles with algorithm patterns. However, another dimension that needs to be addressed here is that artificial intelligence reaches the result by combining some big data, work and operations that humans cannot do in seconds. Considering all these factors, it is concluded that it would be more meaningful to produce works by utilising the functionality of artificial intelligence.

Recommendations

Images created by artificial intelligence can be used with poems. However, it cannot be said that the visuals fully reflect what the poem wants to express. For this reason, it can be suggested that the use of artificial intelligence in the visualisation of poems should be carried out by experts.

It can be suggested that the visuals created with artificial intelligence should be given next to the text of the poem to increase interest in the poem.

It can be suggested to use the visuals created with artificial intelligence especially in poetry teaching. However, the issue to be considered here is that the visuals should be prepared by artificial intelligence experts and literature field experts and the appropriate ones should be used.

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