Research Article

Redesigning Mevlevi garments using AI

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Article Info	Abstract
  	Traditional Mevlevi costumes are an important part of our cultural heritage. While preserving these values, exploring the potential of AI in the design process is an important step to both respect the past and inspire the future. With the rapid development of AI in image recognition and image processing algorithms in recent years, it has become possible to redesign traditional Mevlevi costumes. This innovative approach enables new designs that emerge by combining AI with the aesthetic and functional features of traditional clothing. This approach also offers significant potential to reveal future contemporary interpretations of traditional handicrafts. In addition, modernizing traditional motifs and designing them to attract the attention of new generations also contributes to the transfer of cultural heritage to future generations. In the AI -supported design approach, the new designs of Mevlevi clothes not only appeal to the eye in terms of aesthetics, but also take into account functional features such as freedom of movement and comfort of the wearer. This shows that AI -supported design represents a user-oriented approach. In addition, the meeting of technology and traditional handicrafts allows the emergence of new and creative design ideas. Designing Mevlevi costumes with AI may attract great interest not only in the fashion world but also in the arts and culture industries. This shows that design is not just focused on clothing, but can also provide inspiration and aesthetic experiences to a wide range of people. In this study, information about Mevlevi order and Mevlevi costumes is given. The characteristics of Mevlevi clothes are stated. The symbolic meanings of clothes are mentioned. Information about clothing features is given. Mevlevi clothing samples were examined. Research has been conducted on AI recognizing a clothing image and designing the image it recognizes in line with the information given. Mevlevi clothes were shown to AI. These pictures have been identified. Errors in the definitions have been corrected and deficiencies have been completed. He was asked to create a design in line with the information given. New designs were created by eliminating the deficiencies in the designs and making updates. The positive and negative aspects of the designs were examined.

To cite this article

Gök, M.O. (2024). Redesigning Mevlevi garments using AI. *Journal for the Interdisciplinary Art and Education, Special Issue: Mevlana's Philosophy and Art*, 25-38. DOI: https://doi.org/10.5281/zenodo.14593741

Introduction

Mevlânâ was a great Islamic scholar and mystic who was born in 1207 in the city of Belh, located within the borders of today's Afghanistan, and died in Konya in 1273 (Bölükbaşı, 2011; Orakçıoğlu, 2022; Tok, 2015). Rumi, nicknamed "Mevlana", is a poet and thinker who wrote works in Persian. His father is Bahaeddin Veled, a famous scholar (Atlıhan, 2018; Kara, 2006; Mermer, 2014). He wrote works on important philosophical and religious issues of his period. After coming to Konya with his family, he consolidated his leadership as a Sufi here and inspired the establishment of a sect called Mevlevi, which is attributed to him and based on Sufi traditions (Güvenç, 2021). Mevlevi order; It has developed

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as a lifestyle that includes the cultural, literary and artistic aspects of Sufism. His best-known work is Mesnevi. He also has works such as Divan-ı Kebîr, Fihi Ma Fihi and Letters. These texts reflect Mevlana's teachings, thoughts and understanding of Sufism. His works, full of hymns, poems and instructive stories, have influenced many different languages and cultures, and have been read, interpreted and loved by people for centuries (Akmaz, 2021). Rumi's observations and spiritual teachings about the depths of being human have made him a respected figure not only in the Islamic world but all over the world (Karaismailoğlu, 2008; Öngören, 2004; Şahinoğlu, 1991).

Mevlevi order is an Islamic Sufi order founded in Anatolia in the 13th century by the great Islamic scholar and poet Mevlana Celâleddin Rumi. Mevlevi order emphasizes the importance of mystical love and tolerance towards people along with religious worship (Akay, 2015; Şimşir, 2021). Sema ritual is one of the remarkable rituals of the Mevlevi movement. This ritual performed by dervishes by turning symbolizes spiritual ascension and the expression of love for God. Mevlevi order is based on Mevlana's poems and writings such as Mesnevi, and these texts form the basis of Sufi teaching (Akgündüz, 2007). It evaluates scholarship, artistic expression, and personal spiritual development. By calling people to divine love and universal brotherhood, it offers an open path to people from all religious, ethnic and social backgrounds. Beyond being just a religious sect, it refers to a lifestyle that focuses on the spiritual and spiritual development of humans (Duru, 2012). This sect aims to reach spiritual depth through disciplined rituals such as dhikr, prayer and sema. He also stands out with his music. Sema ceremonies, accompanied by musical instruments such as ney and kudüm, provide the audience with a spiritual journey and invite participants to a meditative experience.

Mevlana's understanding of tolerance and loving approach, summarized in his saying "Come, come again, no matter what you are", constitute the basis of the Mevlevi tradition (Güvenç, 2021; Akmaz, 2021; Tok, 2015). The teachings of this tradition still guide many people in their spiritual quests today and have the potential to bring people from different cultures together. Beyond being a religious belief system, it is seen as a universal human heritage. It has turned into a philosophy of life and a spiritual tradition that attracts the attention of not only Anatolia but also the whole world. This tradition is also known for its contributions to the world of thought and art.

Mevlevi order emerged as a consolation to the people in despair during the Mongol invasion of Anatolia. Its foundations were laid in the last years of the Anatolian Seljuk State and it was effective in the establishment and development of the Ottoman Empire (Akay, 2015). It gained importance during the Ottoman Empire and functioned as an official institution of the state. Even some Ottoman Sultans of the period visited Mevlevi dervish lodges, and these visits increased public interest in Mevlevi. Their intertwined relations with the state, especially in the late 18th century and Sultan II. It became more evident during the reign of Mahmud (Akay, 2015). With the collapse of the Ottoman Empire, Mevlevi order lost its importance, but it continued to live among the public and Sufism enthusiasts around the world with its basic philosophy, teachings and practices such as sema ceremonies (Akay, 2015). Today, it is accepted both as a cultural and spiritual heritage and as a worldview that reflects Mevlana's philosophical thoughts.

The Mevlevi tradition is also known for its rituals and sema ceremonies. One of the most well-known rituals is sema ceremonies. In these ceremonies, whirling dervish whirling dervishes try to establish a spiritual bond. The whirling dervishes symbolize the rotation of the universe and unity with God. Sema ceremonies are accompanied by traditional Turkish music and offer a spiritual experience to the audience. Dhikr is also an important ritual in Mevlevi. Dhikr is repetitive prayers and rituals performed for the purpose of remembering Allah and turning to Him. It has an important place in the spiritual journey of whirling dervishes and helps them establish a spiritual bond. To become a Mevlevi, it is necessary to go through a guidance process that includes certain stages and ceremonies. General steps followed on the way to becoming a Mevlevi: *Intention:* To intend to step into the Mevlevi path and to enter the dervish path under the guidance of a sheikh of the sect. *Asylum:* Applying to a Mevlevi sheikh and entering under his protection. *Ikrar:* Promising to adhere to Mevlevi principles. *Ascetic:* Living in accordance with the disciplines of the sect for a certain period of time and receiving spiritual education. During this period, he performed various services and duties and completed his spiritual education. *Sema Ceremony:* Learning and performing Sema, a ritual dance with different stages and symbolic meanings. *Entering the Sikke Gullab:* Giving coins to a person who has reached a degree and level within the Mevlevi order in a special ceremony and that person being officially recognized as a Mevlevi.

These steps are the building blocks of the Mevlevi order, and each candidate must receive the approval of the Mevlevi sheikh in order to enter this path. Nowadays, the official structures of ceremonies and sects may differ in many places (Sultanova & Ayaz, 2013). Mevlevi order; It has developed as a culture and way of life that encompasses literature, music, philosophy and visual arts. Mevlana's works, Mesnevî and Dîvân-ı Kebîr, are the cornerstones of Mevlevi literature (Bölükbaşı, 2011; Orakçıoğlu, 2022; Tok, 2015). Poets and writers were inspired by these works and produced many works reflecting the Mevlevi culture. Mevlevi culinary culture has created a rich culinary tradition where themes such as sharing and gratitude are emphasized at Mevlana's table. The cuisine of Mevlevi lodges has a place intertwined with both spiritual disciplines and culinary art (Akmaz, 2021).

The reflection of the Mevlevi movement on art is multifaceted and deep. This approach to art is an integral part of Mevlevi's aesthetic understanding. Elegance, aesthetics and fine craftsmanship were reflected in other areas of Mevlevi art, especially art forms such as architecture and calligraphy. Mevlevi dervish lodges and zawiyas have meticulous architectural details and are designed to create peaceful environments suitable for deep contemplation and worship. The reflections of Mevlevi culture on art still show themselves as a source of inspiration in many artists and works.

During the proclamation of the Republic and the subsequent modernization process in Turkey, the Mevlevi order and other sects underwent significant changes. With a law enacted in 1925, sects, zawiyas and dervish lodges were banned. It limited the expression of Mevlevi culture and practices in the public sphere. However, even during this period, Mevlevi order was continued to a certain extent in secret or private areas. During the modernization process, Mevlevi order continued its continuity as a cultural and musical heritage. Mevlana's works and philosophy still attract wide attention, and his Sema rituals are watched by many people in Turkey and around the world. As an important element of Turkish culture, Mevlevi order is included in UNESCO's list of "Intangible Cultural Heritage of Humanity". Mevleviism's strong ties with music and literature continued in this period. Sema music is kept alive through concerts, works and festivals related to Mevlana and Mevlevi. In addition, Rumi's thoughts continue to be interpreted by new generations of writers, thinkers and researchers. In the modern period, Mevlevi order ceased to be primarily a Sufi practice and continued its existence as a cultural and aesthetic thought (Kayaoğlu, 2007).

Miniatures provide important information about topics that have been researched since ancient times. When the miniatures from the Mevlana period are examined, it is seen that the clothes of the Mevlevis and Mevlana are similar to the clothes of the Seljuk period. Mevlevi clothes are the traditional clothes worn by dervishes and reflect the spiritual symbolism of the Mevlevi sect (Atasoy, 2000). Mevlana did not force his disciples to assume any disguise. In Mevleviism, which emerged after Mevlana, a clothing description emerged over time (Ayhan, 2008). Mevlevis have used arakıye, sikke and destar from the Ottoman period until today. They took a seat on the coin. They wore an open shirt and cardigan called tennure on the body, deste-gül on the tennure, and Elifî nemed as a belt on the waist (Orakçıoğlu, 2022) (Figure 1). Mevlevi dervishes wear the following garments:

Aba: It is a coarse fabric made of wool and worn on top. It has no collar or sleeves. It covers the entire body. It is an open front garment. If this garment consists of knitted wool and has a thin structure, it is called aba; if it is made of beaten wool and thick wool, it is called kepenek (Gölpınarlı, 2004). It is a plain dress and unpretentious. It is generally preferred by dervishes and those who live in dervishes. Since the dress is flat in structure, it means that the wearer does not care about the world (Öztoprak, 2010).

Nemed: This word, which is of Persian origin, means felt and is the cardigan of the dervishes (Mütercim Asım, 2009, 545). It is the symbol of poverty and love. He has withdrawn from everything and states that he has no business with this world. It is an indication that you are turning to Allah.
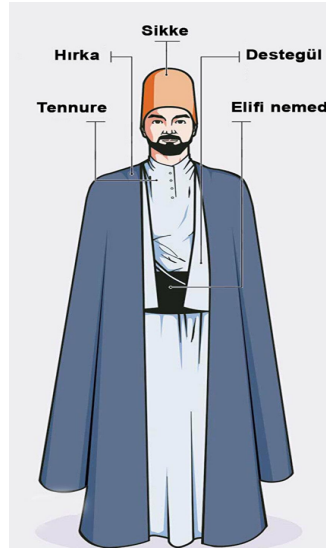
Figure 1. Mevlevi costume (Orakçıoğlu, 2022)

Elifî Nemed: It is the belt wrapped around the tennure (Figure 2). It is made of wool. Armor binding in a darker color than the color of the belt is applied to the edge. It is worn by the guides of those who join the sect (Atasoy, 2000).

Figure 2. Elifî nemed (Orakçıoğlu, 2022)

Cone, Küleh and Sikke: Cone, a Persian word meaning headscarf, is a high, conical-shaped headdress made of felt, worn by Mevlevi dervishes. What Mevlevis wear is called Külah-ı Mevlevi, which literally means Mevlevi cone (Gölpınarlı, 2004:196). Coin; It is a two-layered cone made of forged felt, growing from bottom to top (Figure 3). It is usually dark brown in color. In a spiritual sense, it represents the purification of the dervish from ego and worldly desires. This title, which expresses the principle of "dying before death", carries a special symbolism for the Mevlevi sect and reflects the spiritual symbolism of the sect together with other clothing elements worn by dervishes (Ateşok & Başaran, 2017; Önder, 1956:78).

Figure 3. Sikke (Orakçıoğlu, 2022)

Tennure: It is a wide, white skirt worn by Mevlevi dervishes, tied with a belt at the waist and extending to the ankles (Gölpınarlı, 2004; Koçu, 1967) (Figure 4). This garment symbolizes the renunciation of worldly blessings and the

constant return of heavenly love. This skirt, worn by dervishes whirling around in whirling ceremonies, transforms spiritual elevation and submission into a visual language as it blows with its wide ring that spreads around as they turn.

Figure 4. Tennure (Orakçıoğlu, 2022)

Pâlheng: This word, which has Persian origins, means the rope to which guilty people are tied (Translator Asım Efendi, 2009, 576). It expresses that the person purifies his soul from the external environment. Although it is not used in all Mevlevis, it is seen in some sections (Gölpınarlı, 2004:252).

Belt: It is a long fabric belt tied around the waist of the tennure worn by Mevlevi dervishes. It symbolizes spiritual devotion and submission and is worn with tennure. It is an important piece that represents the dervish's determination and spiritual discipline in his spiritual journey.

Robe: It is a long-sleeved and usually dark-coloured outer garment worn over the tennure worn by Mevlevi dervishes. The robe symbolizes the dervishes' humility and expression of their spiritual shell. This clothing is a part of the clothes worn by Mevlevis in their spiritual practices and Sema ceremonies and has a quality that reflects their modest and spiritual lifestyle.

Üçetik or Paçalık: These are trousers, usually white in color, worn at the bottom of Mevlevi clothes. This piece of clothing is located under the tennure worn by dervishes during the sema and contributes to the completion and functionality of their clothing. Mudflaps enable the dervishes to move freely and comply with the rules of etiquette during the sema.

Sandal: It is a type of shoe used as a part of Mevlevi attire, is simple and usually made of leather. It is preferred as footwear and has a feature that reflects the modesty and simplicity of Mevlevi dervishes. It is a traditional dervish shoe worn in Sema ceremonies and religious practices.

Destar: In Mevlevi tradition, the word "destar" is the name given to the headscarf, turban or tulbent wrapped over a special type of headgear called sikke (Top, 2007:63) (Figure 5). Destar is a symbol and sign of rank that has an important place in the clothing of Mevlevi dervishes. In Mevlevi order, wrapping a destar is basically the right of the caliphs and sheikhs and shows the spiritual level of these people and their position in the sect (Orakçıoğlu, 2022). Its color and the way it is wrapped may vary depending on the status of the dervish. For example, while caliphs and celebis usually wear a dark purple destar, Hz. The destars of sheikhs who are "sayyid" descendants of Muhammad are distinguished by being green, while the destars of those who are sheikhs in other ways are white. A dervish who is entitled to wear a destar carries this right until his death, and it is even engraved on his tombstone after his death (Orakçıoğlu, 2022; Top, 2007). Destar, which usually appears as a part of the special clothes and headgear worn by dervishes during Mevlevi Sema ceremonies, is one of the most distinctive elements that provide the expression of Mevlevi culture. It not only has a religious function, but is also considered an expression of Mevlevi aesthetics and spiritual identity.
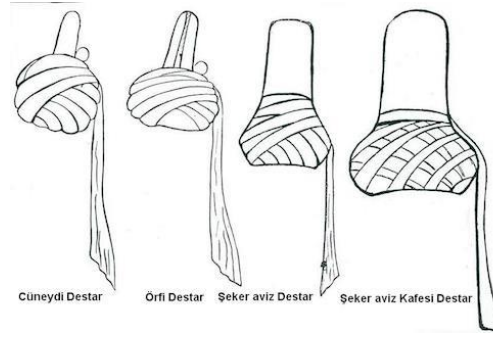
Figure 5. Destar and its varieties (Orakçıoğlu, 2022)

Taylasan: It is the name given to the end of the turban that falls on the shoulders (Muallim Nâcî, 2009, 668; Gölpınarlı, 2006b, 5).

Arakiye: It is a skullcap worn under an off-white or brown colored turban or fez made of beaten wool felt or cotton (Figure 6). In the past, everyone wore this skullcap, but later only dervishes started to wear it. The name comes from arak, which means sweat. This fabric has a structure that collects or absorbs sweat due to its structure. Arakıye is worn by different segments of society. Children, loving ladies and dervish lodge service personnel are some of these groups. It refers to a certain position in the dervish lodge. It is worn by the sheikh. When the dress is examined, it stands out that the stitches are carefully made and finely stitched.

Figure 6. Arakiye (Orakçıoğlu, 2022)

Cardigan: In Mevlevi culture, the "cardigan" is a traditional garment worn by Sufi dervishes, symbolizing simpleness and modesty. It is a long coat with an open front, no collar and no waist. The cardigan is usually made of wool or linen and is a symbolic element of dervishes, expressing the rejection of worldly wealth and material values (Önder, 1992, 127). In the Mevlevi tradition, the cardigan is given to a dervish by the sheikh of the sect at the first stage of his spiritual journey and is considered an indication of the dervish's dedication to his spiritual journey. At the same time, when the cardigan is given in a rite of passage within the sect, it symbolizes acceptance into the sect, protection and spiritual blessing of the sheikh. It is also seen in Sufi philosophy as a reflection of the process of denying one's own self and surrendering to God's will. In this respect, the cardigan is considered as a sign that the dervish has left worldly life and stepped into a spiritual life. The cardigan worn in the Mevlevi sect is also one of the characteristic pieces of the Mevlevi outfit and is often seen together with the white skirt and sikke (headgear) worn by dervishes during whirling ceremonies. The color and texture of the cardigan may vary to express the dervish's place and rank in the sect (Top, 2007; Önder, 1992; Çelebi, 2006). Apart from Mevlevi ceremonies and customs, the tradition of wearing cardigans is also generally common in different Sufi orders. It can be black, gray and green in color.

Deste-Gül: In Mevlevi, the concept of "deste-gül" is the name given to the bunch of roses held by whirling dervishes (mevlevi dervishes performing the whirling dervishes) during the Mevlevi Sema ceremony. The Sema ceremony is a form of worship and meditation in which dervishes express their love for God and their spiritual state through the cosmic movement of spinning. Deste-gül is placed in the right hand of the whirling dervish and is raised towards the sky. This symbolizes mercy, love and knowledge from God. The left hand can generally be opened downwards with the palm facing upwards. This stance symbolizes the distribution of this mercy received from God to all humanity. Deste-gül, in addition to this movement used by whirling dervishes while whirling, has a wide symbolism that may include roses and rose motifs in Mevlevi culture. The rose is widely used as a symbol of love, spiritual beauty and mystery. Rose images

and the theme of love are frequently encountered in Mevlana's poems. This emphasizes the centrality of rose and love in Mevlevi culture and poetry.

Waistband: It is the name given to the belt woven from wool, worn around the waist, and its edges are covered with leather. It is expressed as a symbol in Mevleviism (Gölpınarlı, 2004, 181). It has stones on it and consists of silk (Önder, 1956, 82; Top, 2007, 164). It expresses devotion to the path of Mevlana.

İstiva: In the Mevlevi sect, "istiva" means verification, domination, and is a stripe, usually green, drawn on the dervish's clothes. This refers to a rise or position of the dervish in the Mevlevi hierarchy, and it means that the person who reaches this position must treat everyone equally and fairly (Gölpınarlı, 2006a, 394 and Gölpınarlı, 2006b, 33-34). The İstiva ribbon is sewn on the coin and extended between the two coincident eyebrows, in the middle, from the top and behind it, that is, parallel to the nape of the neck (Orakçıoğlu, 2022). Istiva also symbolizes that the dervish has reached a spiritual maturity and that he must behave accordingly. Dervishes carrying these symbols are known for their devotion and submission to God in accordance with Mevlevi traditions. The İstiva ribbon can only be worn by dervishes who have reached a certain rank and is considered a symbol that symbolically indicates the spiritual level of the dervish. The concept of İstiva is important in the Mevlevi sect as a symbol of universal justice and balance, as well as showing a spiritual identity and rank.

Theoretical Framework

In the redesign of Mevlevi costumes with AI, symbolic meanings and traditions were taken into consideration. It is an approach that focuses on the symbolic meanings of Mevlevi costumes. Every detail in the design can be reinterpreted by considering its spiritual and cultural meanings. Digital techniques were preferred to create patterns and textures. This theory is effective in the redesign of fabrics.

Importance of Research

Mevlevi is an important part of Turkish culture. Redesigning these clothes is important to preserve traditional values and pass them on to future generations. AI can balance aesthetics and functionality in the design process. It offers a new approach by bringing together both traditional and modern elements. It helps in areas such as fabric selection, pattern creation and innovation in details. This increases the quality of the design. It can offer a sustainable approach by optimizing the use of materials and reduce environmental impact.

Problem and Sub-problem

The main problem of the research;

> ➢ Can AI , which is a current issue and known as new technology, be used in the design of Mevlevi garments, a traditional dress?

The sub-problem of the research;

> ➢ Is AI sufficient in image detection?

Method

AI is simply the ability of computer systems to have human-like intelligence. It refers to the capacity of computer programs to perform human-like intelligence tasks such as data analysis, learning, problem solving and decision making. This technology is used in many different industries and has become an effective tool for automating business processes, increasing efficiency and solving complex problems. AI is developing rapidly today, affecting many aspects of our lives, and is expected to be used more widely in the future (Pirim, 2006). Adobe Photoshop program was used in the research. This program is both up-to-date and among the most preferred programs. Being more up-to-date and popular helped this program to be preferred. There is a very wide content pool.

By redesigning Mevlevi costumes using AI, it can be carried out more quickly and efficiently without being negatively affected by the change (preserving its essence) and by adding the change to the design. It can save time and effort by optimizing the decision processes in creating patterns and fabric selection (Sultanova & Ayaz, 2013). Thanks to AI , the symbolic importance and spiritual values of Mevlevi costumes can be reflected in the design process. With data analysis and deep learning algorithms, the elements that carry the symbolic meanings of clothes can be reflected in the design

more effectively and accurately. The spiritual depth and meanings of traditional clothes can be combined with modern touches to make them suitable for today's fashion.

Extracting the features of Mevlevi clothes by scanning images using AI can provide great innovation and efficiency in the design process. With this method, each element of the clothes can be scanned in detail and their patterns, colors and textures can be analyzed. Thus, thanks to AI algorithms, the unique features of clothes can be determined and this information can be used in the design process. This can provide great advantages in terms of both time and cost.

Results

Figure 7 shows an example Mevlevi costume. This original design is the first to be identified with AI . AI can make different classifications when describing the figure. These classifications can address different parameters. Some of these parameters; foreground, background, top of the design, back of the design, entire design, colors on the design, patterns on the design, etc. parameters are included. He created 4 different definitions for this image. In the first definition, he described it as "a full body photograph of a young male whirling dervish with an extremely short moustache, a fez hat on his head, a black belt, a white long-sleeved shirt, arms open to the sides, gray background." In the second definition, he defined it as "a full body photograph of an average Turkish man with a moustache, wearing a white whirling dervish costume, with a plain gray background." In the third definition, he defined "Photograph of an attractive, middle-aged Turkish man, with a mustache and black hair, white dervish outfit, plain background, full body shot, dynamic pose." In the fourth and last definition, he defined it as "a photograph of a tall, thin man with a mustache and brown hair, wearing a white whirling dervish costume on a gray background."

Figure 7. Mevlevi Costume 1 (Semazen, 2024)

All these definitions were drawn by AI , but the desired Mevlevi clothes could not be designed in the drawings. No similarity between the drawn designs and the Mevlevi costumes could be found. Regional similarities sometimes occurred. By taking common information from the clothes described above and combining the common ideas of the designs, commands were given to AI and the designs seen in Figure 8 below were obtained.

Figure 8. AI Designs 1

When these designs are examined, the common features of all of them are that they have white tennure, white cardigan, white coin and white support. Elifî Nemed, on the other hand, varies in color and embroidery. Since there is a human figure in the figure, it is placed on the human figure and the common feature of all the figures is that they have hair and beards. Another Mevlevi costume is shown in Figure 9.

Figure 9. Mevlevi Costume 2 (Yoreselkostumler, 2024)

There are 4 different definitions for this figure. Definition one is "sufi whirling in white, full body, png transparent background", definition two is "whirling dervish in white clothes, plain background, high resolution", definition three is "swimming sufi, white background, png transparent, cut it out" and in definition 4 "A man in white and black clothes, whirling dervish style, isolated on transparent background. Wearing a traditional Ottoman cap and hat, such as a bathrobe or jins of the period, he dances with his arms raised above his head. The dancer has a dark skin tone, wears a long skirt that reflects behind her as she spins, and a long, cone-shaped brown headdress covering the hair. "No text isolated on a pure white background should appear inside the frame." When the common points of all these definitions are taken, the designs in Figure 10 are obtained.

Figure 10. AI Designs 2

These designs appear to be more realistic when compared to the designs in Figure 8. It can be seen that the alphabet nemeds and coins differ in the designs. A different Mevlevi costume example is shown in Figure 11.

Figure 11. Mevlevi Costume 3 (Kaiopoli, 2024)

The description for this outfit is also "A photograph of dervishes performing whirling dervishes in Istanbul, taken in the best photographer style. Very sharp full body shot of her on stage in a dystopian arena, with many people dancing around them, wearing a white dress and black belt covering her head. Award-winning photography, high resolution, hyper-realistic, professional color grading, depth of field, soft shadows, no contrast, clean sharp focus, a dark atmosphere with bokeh" description two also "Dervishes performing whirling dervishes in Istanbul, wearing white conical hats and black belts on their shoulders, with their long flowing skirts, danced in circles on the stage in front of a dark background, while the audience performed in the foreground, photographically. On her feet are white flowing dresses and black leather shoes. The background is dark and many people are watching them from different angles," and in definition four, "Dervishes performing whirling dervishes take the stage in an event hall, performing in the traditional su/apis style, wearing white, flowing long dresses and black belts. The audience watches them from behind or from the edge of their environment. In the front is a man pivoting in a standing pose in the center with both arms raised to keep them off the ground. He has dark hair covering half of his face, wears a tall red hat that covers only his head and neck, all other parts of his body are visible." When a design is created with AI by taking common and appropriate definitions from these definitions, the designs in Figure 12 emerge.

Figure 12. AI Designs 3

When these designs are compared to the previously drawn AI designs, it can be seen that the coins were drawn with a more realistic approach. It appears to be designed in a slightly more curved funnel shape. Since there is more than one whirling dervish in the described figure, AI designed it using more than one human figure. Again, it seems that Elifî Nemeds are closer to the original. Another example of Mevlevi costume can be seen in Figure 13.

Figure 13. Mevlevi Costume 4 (Bilgiyegel, 2024)

AI image description one "An elderly Sufi man dancing and twirling in a white robe and turban on a 24mm f/8 black background in the style of an unknown artist," description two "Asian in white with black hair and beard, wearing a flamboyant turban hat on his head." A man dances in the middle of the stage. Since successful men do not stay there for life, they wear traditional clothes such as a long dress; they flow forward in the style of their own power against a dark background", description three "A sufi in white, wearing a turban, twirling on a black background, in the style of a hyper-realistic photograph" and description four "In the center of the frame is a white dervish with a black background. This is a full body shot of him twirling around with his arms outstretched. He wears a turban and long dresses. The lighting is dark. "The shot was shot with a Sony Alpha camera in the style of a dark and moody piece." When the common points of all these designs were taken and the design was made by AI , the designs in Figure 14 were obtained.

Figure 14. AI Designs 4

Among these designs, the design on the left offers a more realistic and appropriate clothing design than the other designs. Each element of the outfit is designed in a more orderly manner. The color and coins are closer to the original in terms of design and are suitable.

In the study, many different designs were obtained by having AI identify and design sample clothes. These designs are the more suitable ones among the others. However, many faulty designs emerged during the implementation phase. Sometimes clothes are in pieces, sometimes they are designed in different colors, sometimes different clothes are formed, etc. Many faulty designs have also emerged.

Conclusion and Discussion

AI has started to be used frequently in the textile field, as it is used in almost every field. Companies and designers are developing their work in this direction. They are trying to gain a place in the market by keeping up with the developing technology. Technology is moving forward day by day with the discovery of new machines and materials. This development directs designers in this direction. Studies carried out by keeping up with innovation attract the attention of both producers and consumers. Investments are shifting towards this direction.

Bastaban and Sarihan's study discusses the version of AI's imitation of the stylistic features of its artists. Study results; In the resulting images; anatomical problems in figure depictions, composition and technical problems were observed.

Since no detailed experiments were carried out between paid and free versions during the process, no major differences were detected. However, it has been observed that the current AI infrastructure is not very compatible with the idea that artists can take away their professions. Nevertheless, the future status of artificial intelligence, which has a developing structure, may pose a question on the idea (Bastaban & Sarihan, 2024)

In the study, information about Mevlevi order and Mevlevi costumes was given. Information was provided in order to understand the subject of the study (Bölükbaşı, 2011; Orakçıoğlu, 2022; Tok, 2015). Research has been done about the past, present and future. Changes have been examined and transformations have been observed. Technical and design information has been sought from numerous studies and theses. The Mevlevi tradition was examined in detail and information was collected about the clothes, which are the subject of the article (Atasoy, 2000). Since clothes have a lot of variety, they are classified under different headings. When the subject of the study was summarized a little more, it was grouped under the heading of clothes, basic level designs were researched and the technical dimension started to be moved on.

In the study, information about AI, a current technology, is given. Usage examples and usage methods of the technology were emphasized. AI studies have been associated with Mevlevi order and Mevlevi costumes (Pirim, 2006). The properties of the clothes were investigated. Its symbolic meanings and symbols were examined along with its features. Information was provided about all stages of the clothes, from raw materials to production. Mevlevi clothes are traditional clothes. It has been passed down for years to the present day. The use of AI in the design and production of Mevlevi costumes not only contributes to the transfer of this valuable heritage to future generations, but also allows it to find a place in the modern fashion world. By utilizing AI, the spiritual and historical significance of these garments can be preserved, the efficiency of the design process can be increased and they can be aligned with current trends. Innovative designs attract the attention of users and manufacturers from all walks of life. AI enables detailed analysis of the complex details of the garment, from its patterns and colors to its textures, allowing its unique features to be revealed and its adaptation to the design process. There are different examples of AI applications at all stages of the production process. In addition, the use of AI -supported production processes offers significant advantages in terms of time and cost by providing more efficient material selection and cutting. In general, AI provides a way to seamlessly merge tradition and modernity in the design and production of Mevlevi costumes, ensuring that their cultural and symbolic significance is preserved while adapting to contemporary fashion sensibilities (Sultanova & Ayaz, 2013). Since it is a new and updated field of work, it is natural for there to be errors. It is thought that more accurate results will emerge by loading more information, improving systems, developing technology, increasing the samples and increasing new applications. Since the system looks at the event only on a figure basis and does not address it from a historical perspective, cultural influences are not visible in the designs. It is thought that with the updates to be made in this direction, the deficiencies will be eliminated by understanding its history. Although the designs are drawn on a computer, the design dimension cannot be seen in some examples. In order to create a clearer design, the same design was drawn repeatedly. There are also regional errors in the designs. No face scratching, no dress scratching, no pattern scratching, etc. Many problems were encountered. All these deficiencies are errors that can be eliminated with updates and regulations in the field. This study also has a detailed explanation about the positive and negative aspects of the system. Designs were produced by utilizing the image recognition, perception and design drawing features of AI. The designs were evaluated and compared. Comparisons were made with current examples.

Recommendations

Studies that examine the history, symbols and rituals of the Mevlevi order in more depth can make significant contributions to the design process. These studies can help design preserve traditional values. Studies should be conducted on how AI algorithms can be integrated with fashion design. In particular, the effective use of AI methods in fabric selection, pattern creation and details should be investigated. Surveys and user experience studies on the needs and preferences of people wearing Mevlevi clothing can increase the functionality of the design and user satisfaction. AI should be researched on sustainable material selection and production methods. This is important both to reduce

environmental impact and to increase the quality of the design. The balance of aesthetics and innovation should be investigated in the redesign of Mevlevi clothing. AI can offer creative approaches that will combine traditional motifs with a modern perspective.

Limitations of Study

This research was carried out by using a limited number of samples and designing the same samples by repeating them more than once.

Acknowledgements

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