

SynthRecollection

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By extracting toy data from childhood to the present and employing artificial intelligence algorithms to process my memory collection, generating visuals and extracting elements, I aim to create new designs that lead the audience on a journey to collectively explore the significance of objects in relation to our emotional selves.

(Include link to video demo here)

Introduction

Objects can indeed serve as triggers for human emotions because they may be associated with specific memories, feelings, or moods. This connection can be due to the symbolic significance of the object itself, past experiences related to it, or the emotional value people attach to the object. Through the extraction of toy data and the utilization of artificial intelligence algorithms, I have created a series of unique patterns that converge the past, present, and future. I then extracted elements from the generated images and used my own understanding and imagination to establish new design models. The aim of this process is to help us gain a deeper understanding of the evolution of personal identity. These objects transcend time, presenting my story to the audience to evoke emotional resonance. Simultaneously, they intertwine the memories and emotions of the viewers with

the stories of these objects, embarking on a journey filled with emotions and memories together.

Concept and Background Research

Matter, the visible things, physical or virtual, that exist in an objective environment. In *Vibrant Matter*, political philosopher Jane Bennett develops an important theory of materiality that cuts across human and nonhuman entities. She argues that these nonhuman forces have their own agency, and not just because of their "cultural significance." Their role is indeed material, it is embedded in our bodies and affects us. In addition, thinkers such as Graham Harman and Timothy Morton have proposed an "object-oriented ontology" that views material things as alive, multi-scalar, and even sentient. In the claim of the new materialism, it is proposed that human beings, from the very beginning, have considered that life is no longer limited, not only as moving, talking, and having bright colors, but as a kind of ever-changing substance, a kind of energy, or a kind of the capacity of things, and then anything can have the characteristics of life, human beings, animals, plants, stones, objects, and so on. blurs the definition or concept of life as we see it before us. Proponents of the new materialism assert that life exists not only in organic organisms, but also in other substances and phenomena, since everything can be considered a manifestation of matter or energy.

In addition, there is The Linking Effect between people and objects. This psychological phenomenon refers to the fact that our memories of one thing or concept are related to its connection with other things or concepts. When we associate new information with existing knowledge, experience, or memories during the learning or memorization process, linking will make it easier for us to remember and recall the information. People often possess objects of special sentimental value, such as mementos, relics, or family heirlooms. These objects are more than just material entities; they carry personal histories and emotional stories. They can trigger and represent personal memories, helping people to recognize themselves more deeply and understand their truest selves. At the same time, your personal attitude determines which part of your memories you choose to awaken. In the process of dealing with objects, a negative mindset corresponds to the unhappy memories they evoke, while a positive mindset corresponds to the beautiful memories they evoke, and your attitude determines the color of the memories brought by the objects, which can also represent your perception of your own self. In short, objects can be powerful emotional triggers that help people recognize themselves more deeply and reflect their emotional state and attitude toward life. These objects can help people relive good memories and prompt them to reflect and grow.

The human ability to "design" and "use tools" can be understood as "the ability to create vibrant material assemblages", where humans are able to combine different materials and elements to create objects or systems with specific functions and aesthetics. This can be understood as human beings being able to combine different materials and elements to

create objects or systems with specific functions and aesthetics. The creative process is often open-ended and full of uncertainty, thus making or designing is a process of creating assemblages that requires a deep and strong sensibility.

Technical Implementation

Data Acquisition and Preprocessing: First, I collect a large amount of image data of toys I grew up with (Fig. 1), e.g., my first Barbie doll, a bunny toy that my mom sewed for me, the first gift I received from my first love, etc. These data contain various features such as shapes, colors, textures, etc., which I would like to generate a new image of. These data contain various features of the new image I wish to generate, such as shape, color, texture, and so on.

Training the network: Next, I use these image data to train the StyleGAN model. During training, the model learns the statistical features of the data, including the distribution of pixels in the image, the texture, the shape, etc. StyleGAN accomplishes this using a multi-layer convolutional neural network (CNN).

Generating Images: After the model has been trained several times, it generates new images. After providing a random vector to the model, the model generates a new image based on this potential vector. After generating different images by adjusting the value of the potential vector (Fig. 2). After seeing these images, I extracted the forms and elements that were partially touching and familiar to me, processed them, designed a new model in blender (Fig. 3) and printed out by 3D printer(Fig.4). At last added narrated to the audience some descriptions of my favorite objects and memories of them.



Fig 1: part of my toys



Fig 2: generated from stylegan2 and fastgan(part of)



Fig 3: model designed by me by blender

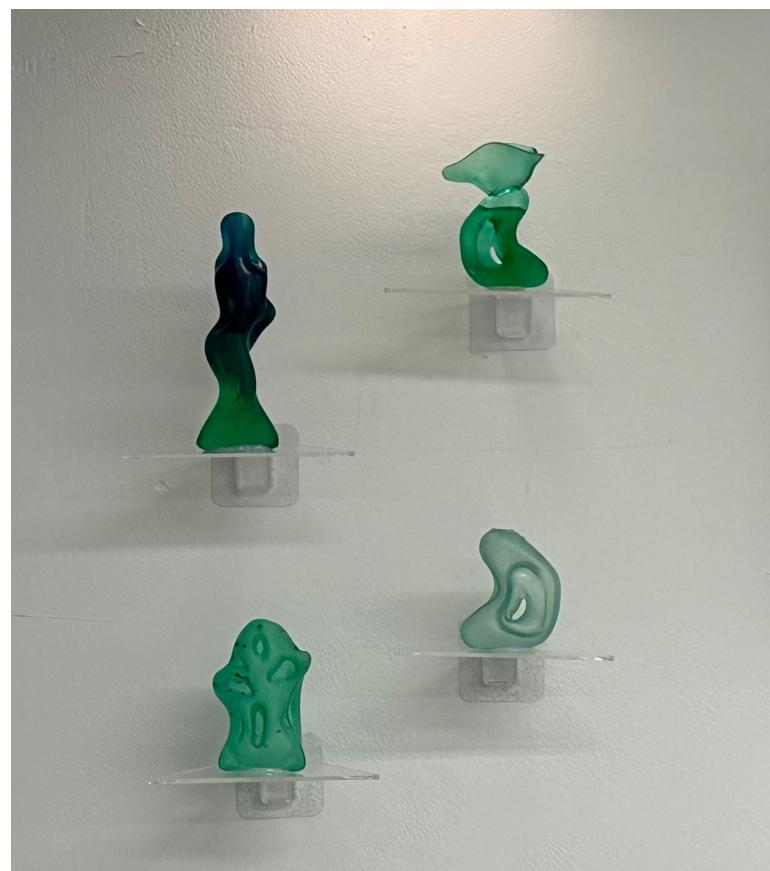


Fig 4: model printed by 3D printer

Reflection and Future Development

In the future, my work will undergo continuous innovation and technological evolution. Virtual widgets will no longer be static models, but entities with autonomy, interactivity and emotional intelligence. They will be able to sense the user's emotional state and interact

with the user through voice, expression and movement to fulfill their needs and emotions on a deeper level.

In addition, you will create an online platform for memory sharing, hoping that more users will upload images of their toys after users can customize the appearance, character traits and behavior of their virtual gadgets according to their preferences and memories, so that everyone can have a unique e-pet that fits with their memories and emotions. Additionally, exploring integration with Virtual Reality (VR) and Augmented Reality (AR) technologies can also create a more immersive experience for users.

In conclusion, future developments will allow my work to become more vivid, emotional and social, not just limited to me, but involving more users. Increased interactivity

Conclusion

In the beginning, I was inspired by the profound triggering of emotions and memories on the human mind. I was convinced that objects can be emotional mediums because of their ability to evoke specific memories, feelings and emotions. I began to think about how I could incorporate my personal emotions and experiences in order to create work that would resonate with the audience. Artificial intelligence algorithms played a key role in this process. I realized that by data processing my own memories and experiences, combined with the creativity of AI algorithms, I could generate designs that related to my personal emotions.

Artificial Intelligence is not just a tool, but a medium that helps me to translate emotions and memories from my inner world into concrete object forms. Through this creative process, I try to explore the passage of time, personal evolution, and changes in identity. By interweaving elements of the past, present and future, a more complete story can be formed, presenting my personal journey to the audience. I hope that these works are more than just artistic creations, but also a transmission of emotions, so that viewers can empathize with the stories in them, as well as reflect on their own emotions and memories.

References

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