

# *The Zombie Formalist: An Art Generator that Learns*

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## **Abstract**

*The Zombie Formalist* is a satirical body of work centering on a pair of generative light-boxes that generate geometric abstractions in response to audience attention. The Canada Council for the Arts funded project points to the intersection of art as commodity, surveillance capitalism and the automation of intellectual work through AI. The *Zombie Formalist* is the autonomous artist in your home; it learns what you like and creates more of what you want to see.

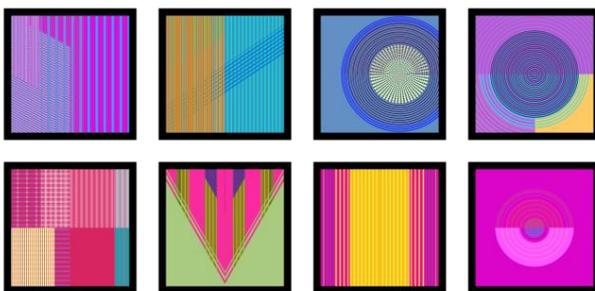


Fig. 1. Top 8 *Zombie Formalist* compositions ranked during testing according to Twitter engagement.

## **Artist Statement**

Flipping in the art market and the proliferation of “*Zombie Formalism*” indicate an increasing consideration of art objects as commodities selected for their potential as investments rather than for their cultural or personal importance. This trend continues in the form of the “crypto” art market where works are often bought in crypto-currencies and whose provenance is recorded using Blockchain.

While computer vision (face detection and recognition in particular) are often being deployed in public space to detect criminality, these same tools are valuable in the context of surveillance capitalism; there is significant

potential for such systems to be used to profile individuals in public for advertising.

In the not too distant future—as long governments continue to allow the expansion of these systems—face recognition in public space will undoubtedly be exploited for targeted advertising in public space. Brand messages will be tailored specifically to the passer-by thanks to connections with social media and web behaviour.

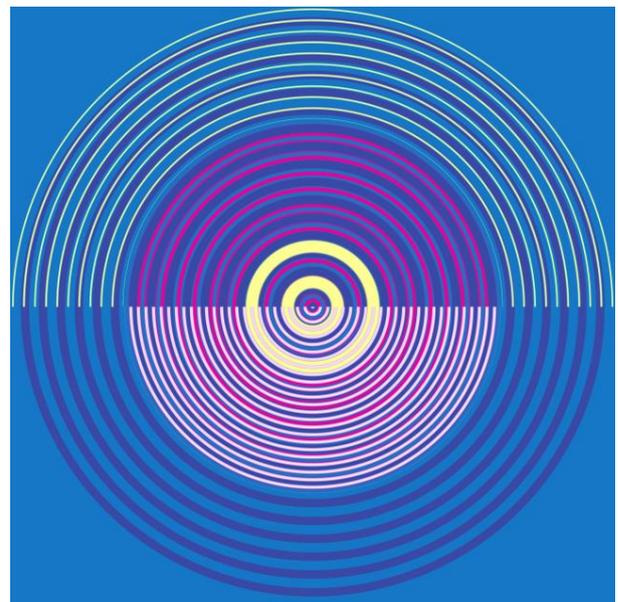


Fig. 2. *Zombie Formalist* composition selected by in-person engagement.

## **Project Description**

*The Zombie Formalist* follows these trends to create a system that uses face detection, Twitter (2021) and machine learning to create conceptually vapid formalist compositions whose properties are tuned according to, and their value wholly derived from, the preferences of the audience / market (see figs. 1 and 2).

The project has a number of manifestations centering on a pair of generative lightboxes that consist of square 27in displays, Nvidia Jetson TX2 boards and cameras that face the viewer, all enclosed in black contemporary art frames.

Light-boxes generate images from random parameters in the style of painters such as Gene David, Barnett Newman, Kenneth Noland, and Karl Benjamin. One generates images every two hours and uploads those to Twitter where the number of likes and retweets garnered by each composition are tracked. The other generates images when the audience is not looking at it (via face detection) and records the attention (duration of looking for each detected face) received by each composition. Twitter engagement and preferential looking are proxies for the system's consideration of the value of compositions. These continuous variables are thresholded and used to train classifiers to learn the difference between "good" (a lot of engagement) and "bad" (very little or no engagement) compositions.

The Twitter oriented light-box is currently collecting data for offline training and analysis. In the final version, training will happen onboard following from research and development of suitable classifier models using collected data. In the final work, the onboard predictive model will be used to filter generated compositions such that the probability of "good" compositions presented on screen will increase.

The light-boxes are framed and satirically marketed as high-tech objects where materials emphasize minimalism and elegance; mock-ups show them presented in stark contemporary spaces such as those in architecture and interior design magazines. In addition to the light-boxes, the work expands the notion of art as commodity by also including a series of kistch objects, see figure 3. These objects reference the art gallery gift shop where a famous work of art bought as a poster, coffee mug, phone case or even comforter. Through the development process of *The Zombie Formalist*, thousands of compositions have been generated; and a subset selected by Twitter engagement and in-person attention are

available on the Society6 (2021) Print on Demand site.



Fig. 3. Selection of kitsch objects showing Zombie Formalist compositions on various products from Society6.

## References

- Society6. 2021. Accessed March 8<sup>th</sup>, 2021. <http://www.society6.com/autoartmachine>  
 Twitter. 2021. Accessed March 8<sup>th</sup>, 2021. <http://www.twitter.com/autoartmachine>

## Biography

**Ben Bogart** is a non-binary disciplinary artist working for nearly two decades with generative computational processes (including physical modelling, chaotic equations, feedback systems, evolutionary algorithms, computer vision and machine learning) and has been inspired by knowledge in the natural sciences (quantum physics and cognitive neuroscience) in the service of an epistemological inquiry. Ben has produced processes, artifacts, texts, images and performances that have been presented at galleries, art festivals and academic conferences internationally. Notable exhibitions include solo shows at the Canadian Embassy at Transmediale in 2017 and the TechLab at the Surrey Art Gallery in 2018. Their research and practice have been funded by the Social Science and Humanities Research Council of Canada, the British Columbia Arts Council and the Canada Council for the Arts.