



Popular Art and the Algorithm – A Study of Social Media Use for Creative Expression

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ABSTRACT

The development of network technologies has led to an increase in the use of algorithms. They act as a silent manipulator of information, nudging communities on social media without their knowledge. The aim of this research was to find out how the youth between the ages of 17 and 24 interacts with the content on social media. And whether they are aware of algorithms and how they function. The research also sought to find out the diversity of content consumption and the function of algorithms here. The study finds that though the sample population is aware of algorithms, their understanding of how algorithms function varies.

Keywords:

popular art, Algorithm, social media, creative expression, diversity of content

Introduction

As algorithms continue to organize society, politics, institutions, and behaviour social scientists are worried about how unexpected output and data manipulation may affect the real world. Due in part to the psychological phenomenon of automation bias, algorithms can mistakenly project greater authority than human expertise because they are frequently thought of as neutral and unbiased. In certain instances, reliance on algorithms can also displace human responsibility for the outcomes. Pre-existing cultural, social, or institutional expectations; the selection of features and labels; technical constraints in their design; usage in unexpected contexts; or use by audiences not considered during the software's

original development are some of the ways that bias can find its way into algorithmic systems (Guttag 2021).

Algorithms are difficult to define (Striphas 2012). They are generally sets of defined steps structured to process instructions/data to produce an output. Informally, an algorithm is any well-defined computational procedure that takes some value, or set of values, as input and produces some value, or set of values, as output. An algorithm is thus a sequence of computational steps that transform the input into the output. We can also view an algorithm as a tool for solving a well-specified computational problem. The statement of the problem specifies in general terms the desired input/output relationship. The algorithm describes a specific computational procedure for achieving that input/output relationship (Kitchin 2016)(Thomas Cormen 2002).

People who previously had little interest in the workings of computers are becoming more concerned about their effects as an increasing amount of human life is conducted alongside and through computers, shaped by algorithmic selection both online and off. This worry is evident in the surge of scholarly and popular academic productions (Janet Vertesi 2019). In the past decade alone, twenty-two journals and at least four international conferences dealing with algorithms have started. Many of these journals deal with the technical, the software and the engineering and mathematical aspects of the algorithms. That algorithms are human-made and are as such subservient to the ideological influences of the people making them is a topic that has been mentioned only recently.

Review of existing literature

Let us review perspectives on algorithms from different fields of academic work. While not a scientific study, Eli Pariser (Pariser 2011) popularized the idea that our online experiences are shaped by personalized algorithms, creating "filter bubbles." It offered a startling new perspective on how the covert emergence of personalization on the Internet regulates and restricts the amount of information we can access. For example, Pariser notes that Google started personalizing each user's search results in December 2009. Google aims to predict what users are most likely to click on, rather than providing the most widely popular result. Pariser

argues that Google's policy change is a sign of the biggest change to occur on the Web in a long time: the emergence of personalization. Pariser revealed how the emerging hidden Web poses a threat to societal control over the way we share and consume information, and then he addressed what everyone can do to counteract this. A growing number of data companies are tracking personal information to sell to advertisers behind the scenes. This information ranges from an individual's political preferences to the colour of their living room to the hiking boots they may have just browsed on a portal or website. Individualized information universes are being created for every person on the Web using personalized filters. People will be typed and fed only pleasant, familiar, and belief-confirming news in a personalized world. Since these filters are invisible, we will not know what is being kept from us. Our future exposure will be shaped by our past interests, which means there will not be as much opportunity for chance meetings that lead to innovation, creativity, and free and open discussion. While everyone worries that the Internet is destroying privacy or shortening our attention spans, Pariser identifies a more widespread and harmful trend and demonstrate how we need to and can change directions.

Alexander Galloway (Galloway 2006) introduced the term 'algorithmic culture'. Coming from the critical theory framework, he views video games as a distinct cultural form that necessitates a fresh and original framework for interpretation. He examines video games as something to be played rather than as texts to be read, drawing on a wide range of disciplines, especially media studies and critical theory. In five condensed chapters, he explores how the 'algorithmic culture' that video games create interacts with theories of visuality, realism, allegory, and the avant-garde. It is from Galloway's approaches that one gets the depth and the expanse of algorithms. Algorithms have converted all digital transactions into a visual game. From the sorting of information in search engines and news feeds to the prediction of personal preferences and desires for online retailers to the encryption of personal information in credit cards and the calculating of shortest paths in our navigational devices, algorithms have expanded and woven their logic into the very fabric of all social processes, interactions, and experiences that increasingly rely on computation to unfold. To all this there is now a face and a fingerprint, our own, that we use every time we unlock our devices. The list of algorithmic capabilities is expanding quickly and encompasses every aspect

of human experience—from the way we fight using drones and ballistic missile algorithms to the way we manage our romantic relationships using dating apps.

The notion of an algorithmic identity was first proposed by Cheney-Lippold (Cheney-Lippold 2011). An industry of web analytics firms has emerged because of the internet's networked infrastructure and its technological ability to track users' movements across various servers and websites. These firms are actively gathering personal data about individuals and optimizing computer algorithms to make sense of it. A "new algorithmic identity," or an identity formation that uses mathematical algorithms to infer identity categories on otherwise anonymous beings, is the end-product of many of these firms. It uses statistical commonality models to determine one's gender, class, or race automatically at the same time as it defines the actual meaning of gender, class, or race themselves. Ultimately, it moves the practice of identification into an entirely digital, and thus measurable, plane.

Using the frame of Martin Heidegger (Heidegger 1977) where he said the world as a picture does not mean a picture of the world but the world conceived and grasped as a picture Uricchio (Uricchio 2011) revealed that the advent of digital technologies and the consequent rise in location-awareness have given rise to creative uses for images and raised fresh concerns regarding the status and worth of images. These applications, which provide strong alternatives to the visual economies of the past, rely on algorithmically defined relations between the viewing subject and the world viewed. In this new visual regime, the algorithmic reorganization of subject-object relations may provide insights that allow us to consider the times we live in. There is increased access to new representations of the world. It is argued that this multi-view or plural view of the world gives a deeper insight and a clearer picture of the world as it is. However, as Heidegger pointed out, the world picture does not change from an earlier, say medieval one, to a modern one. Rather, the world just becomes a picture, an object, with the human being looking at it emerging as the subject. However, with algorithms, pictures are only so much data. Data-driven decisions are an extension of algorithmic reorganization and management. Ostensibly, this is an objective way of making decisions that reduce or even eliminate human bias and prejudice. However, the pictures of and from the world that we see on our feeds are not necessarily what

we are looking for than what an algorithm chooses to show and algorithms have a human hand behind them so is this picture a worldview or a view of the world that an algorithm has represented for us depending on our action and behaviour in the digital space?

Coming from journalism studies Diakopoulos (Diakopoulos 2013) emphasized the importance of understanding that algorithms have biases and are fallible. What the public generally lacks understanding of is how algorithms use their influence over us. Clarity increases one's capacity to discuss and publicly debate the merits of any given algorithmic power.

Information and communication technologies are becoming increasingly omnipresent, and diffusion and domestication processes have allowed them to become ingrained in people's daily lives, noted Lee Rainie and Berry Wellman (Lee Rainie 2012). A new social operating system was the term given to it. They clarified our understanding of online and offline activities as a continuum in a hyper connected life while examining the effects of recent changes in ICT usage on people's lives. Practices conducted offline and online are not seen as distinct entities. The idea behind the Internet is to make people feel more connected to each other instead of more alone. To explain how people have changed how they interact with each other, becoming more networked as individuals rather than embedded in groups, they introduced the concept of networked individualism.

Shoshana Zuboff (Zuboff 2018) explored how algorithms affect and mould people's behaviour on social media as she dug into the social and economic ramifications of surveillance capitalism. Because of her depth and breadth in multiple disciplines, Zuboff was able to understand the social, political, business, and technological implications of the changes occurring in our time. The struggle between the government's enormous power, the hidden economic logic of surveillance capitalism, and the propaganda of machine supremacy, which seeks to control and mould human life, is at a turning point and, according to Zuboff, the stark issue at hand is whether we will be the masters of information and machines or its slaves.

Algorithm platforms collect feedback from different traffic information, such as the number of views and the time users spend on content. This data helps estimate the popularity of communication content. As a result, the selection criteria for communication content have shifted towards the criteria for generating traffic. The algorithm's goal is to provide content that the audience wants to see, which often leads to the selection of popular and trending topics.

This leads us to a more specific question with respect to art communication on social media. Algorithm technology has influenced communication methods in art communication, enabling personalized recommendations, shaping content creation, determining visibility, targeting advertising, and curating art collections (Liu 2023). In this context, art communication involves the creation and interpretation of visual or sensory expressions that go beyond literal representation, inviting viewers to engage with and derive meaning from the artwork. It is a dynamic and subjective process that contributes to cultural, emotional, and intellectual enrichment.

The Study

This study engaged online with eighty-eight youths engaged in popular art and creative content creation on social media between the ages of 17 and 24 years to understand –

- 1) Content Creation Habits
- 2) Awareness of Algorithms
- 3) Perceived Algorithmic Influence on Content Visibility
- 4) Perceived Impact of Algorithms on the Content itself
- 5) Engagement Metrics and Algorithmic Bias
- 6) Exposure to Diverse Content
- 7) Algorithmic Recommendations
- 8) Effect on Artistic Freedom
- 9) Suggestions for Improvement

Findings

The researchers engaged with eighty-eight respondents through an online survey to understand their social media activity and their awareness of algorithms. At this stage of the study, only frequencies were looked at. To begin with, only two per cent of the respondents were on social media for ten hours a day. All the rest were engaged with social media between three to five hours a day. This is more than the global average of two hours and twenty-four minutes (Chaffey 2023).

Among the social media platforms, Instagram was by far the most used platform followed by X (formerly Twitter), Pinterest and LinkedIn in that order.

Content Creation

Videos were the chosen medium to create content followed by texts and photographs. Blogs were the chosen platform for creating original content. This would mean that the respondents create blogs but use videos most as a means of expression or exploration compared to texts or photographs. However, when it came to sharing content, videos were followed by photographs, texts, and graphics – in that order. This establishes visuals as the chosen medium when it comes to creating content and sharing content on social media platforms.

The most important reason for being on social media is to stay updated with the industry and to keep track of trends. Using social media to establish their voice or curate other people's content was not important for the respondents.

Awareness of Algorithms

The awareness of algorithms is present among the sample surveyed. Fifty-five per cent of the respondents were aware social media platforms used algorithms.

The same set of respondents also reported that they had noticed a change in the visibility/reach of content on social media and that there was increased visibility for their content. Among the 88, only six respondents said they were unaware of algorithms being used by social media platforms.

Perceived Algorithmic Influence on Content Visibility

Forty per cent reported that algorithms on social media platforms influenced the popularity of certain types of creative content over others. Sixty-six per cent reported that the 'likes' one gets on what is shared is an indicator of one's success on social media. While getting comments does not play a significant role in the success of a social media post it is the sharing of content that is considered as a significant measure of success on social media. There was overall awareness that social media platforms used algorithms to determine the content shown on the feed. Content is modified based on these perceptions and such modification, according to sixty-six per cent of the respondents, increases chances of engagement with the audience. A significant proportion of the respondents felt confident in understanding how algorithms work on the social media platforms they used.

Perceived Impact of Algorithms on the Content Itself

Fifty-five per cent of the respondents were very aware that algorithms on social media platforms influence the popularity of certain types of creative content over others and that algorithmic bias affects the diversity of creative content on the social media feed.

Engagement Metrics and Algorithmic Bias

Sixty-five per cent of the respondents said they were aware of the algorithms serving them content according to their interests and that this showcasing of content was accurate.

Algorithmic Recommendations

Sixty-five per cent of them also said that algorithmic recommendations help them discover new recommendations. Diversity of feed on social media was not considered important by the respondents although one in four did engage with content that was not among their usual preferences that is content that did not usually appear on their feed.

Effect on Artistic Freedom

When surveying the effects on artistic freedom, more than half i.e. sixty-five per cent of the respondents reported that they refrained from sharing certain types of content either because the algorithm would not give that content enough traction or they believed they would not attract audience response. This, the respondents said, affects artistic freedom by limiting it to audience response and algorithmic activity. Only nine per cent of the respondents used social media to voice their own opinions.

Suggestions for Improvement

Two suggestions stood out when dealing with algorithms and how they can be improved. The most suggested was to make algorithms better. The second was to make the algorithms transparent. One person suggested a complete stop to the use of algorithms. There were no suggestions from the rest of the sample.

Analysis

Algorithms have a big influence on how communication content, including art, is chosen. In the past, the choice of communication content was determined by elements like the prevailing theme and the way of life of the populace. The selection criteria have evolved due to algorithmic intervention. Platforms that use algorithms to recommend content, and arrange content according to its popularity and traffic. This indicates that the standards used to select communication content now often coincide with those used to determine the generation of traffic. Content that receives a lot of traffic and popularity is given priority when choosing art communication content by algorithms. The kinds of content that are promoted and the subjects that are chosen for communication are affected by this change in the criteria. Algorithms have had a significant impact on communication methods in art communication. Algorithms analyze user preferences and behavior to provide personalized recommendations for art content tailoring the content to individual interests, increasing engagement and relevance but could compromise artistic expression, freedom, and creativity. Platforms like Instagram use algorithms to determine the visibility of art content

on users' feeds by determining the reach and exposure of artists and their work, potentially amplifying their audience and impact but it also makes them subservient, and even catering to audience preference rather than following their intuition. Algorithms can analyze data on popular trends, topics, and styles in art to inform content creation guiding artists in producing content that is more likely to resonate with their target audience. It can also lead to a degree of self-censorship or self-gatekeeping over what content is uploaded. Algorithms can identify specific demographics and interests of art enthusiasts, increasing the chances of engagement and conversion. Art collections or exhibitions can be curated based on various factors such as historical significance, popularity, or thematic relevance helping to shape the narrative and presentation of art, and guiding viewers' understanding and interpretation.

The data suggests that as far as the respondents are concerned there is a strong belief that the user is the driving force behind the feeds and that they continue to influence the content they see on their feeds. In a sense, they feel they can beat the algorithm. At the same time, there is an intuitive understanding that algorithms do shape what is being seen by people on social media and there is a clear desire for more information, understanding and knowledge about the way the algorithm works.

Conclusion

There is awareness that algorithms affect art communication. However, there appears to be a belief that the creator has agency over the process and the outcomes. This belief, though, is unfounded because there is an intuitive understanding that freedom of expression is manipulated if not outright curtailed.

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