

The Dark Side of Computer Algorithms

by Kirstin Moran

“We really need the Internet to be that thing that we all dreamed of it being. We need it to connect us all together. We need it to introduce us to new ideas and new people and different perspectives. And it's not going to do that if it leaves us all isolated in a Web of one” (Pariser 8:07). The birth of the Internet was an electrifying time unlocking extraordinary ways for humanity to communicate with one another. Although we have the illusion of being more connected than ever before, computer algorithms driving social media have put digital blinders on us. Too often, we mindlessly yield to algorithmic suggestions such as who our friends should be, what news is important, which products to purchase and the causes we should support. By continual deference to algorithms, we have elevated them beyond their capacity. Computer algorithms excel at organizing data but are devoid of emotion or conscience because they are nothing more than amoral codified instructions that respond to the input of the user. By design, social media algorithms primarily reflect users’ thoughts and values back to themselves. As a result, individuals are algorithmically filtered into censored bubbles which shield them from diverse perspectives. Although computer algorithms enable a personalized, user-friendly social media experience, they undermine a healthy society by exploiting human vulnerabilities for financial gain, acting as gatekeepers of political information, and inflicting psychological harm to children.

Computer algorithms generate a unique experience for social media users by filtering through massive volumes of content, presenting only what is of personal interest to the

individual. Social media platforms couple this curated content with an aesthetically pleasing interface to provide users a pleasurable experience. When perusing the news, for example, algorithms filter through innumerable articles and deliver the content it thinks is most relevant and interesting to the reader. The social media platform then organizes the cherry-picked information into a convenient news feed for easy access. Yet consider the implications to achieving a well-informed public when consequential news is suppressed in favor of trivial news simply because algorithms deemed the trivial articles more relevant to the user. Furthermore, delivering this individualized content requires algorithms to extrapolate large quantities of personal data by voluntary and involuntary means. Consequently, while engaging with social media platforms users are relinquishing their privacy and unwittingly rendering themselves vulnerable to manipulation.

Social media companies use computer algorithms to masterfully exploit their audience for profit. Dr. BJ Fogg opened the Persuasive Technology Lab at Stanford University in 1997, which studied the human psyche and developed ways that technology could be used to elicit desired behavioral response from computer users. This ground-breaking research provided the basis for many features incorporated into social media apps today. Through persuasive technology, algorithms captivate user attention while amassing vast databases of detailed personal data. The siphoned information is then monetized through digital advertising. Cristiano Lima from *The Washington Post* explains, “Digital advertising is a primary revenue driver for Facebook, which gives business partners a plethora of options for targeting users with messages based on demographics and interests” (1). This type of personalized marketing is known as microtargeted advertising. Businesses are eager to capitalize on this insider information because “knowing your psychological characteristics allows extracting 40% more clicks and 50% more

purchases from you” (Hilbert 9). Microtargeted advertising is lucrative for both the social media companies and businesses, resulting in a symbiotic relationship between the two. Social media companies betray the users they ostensibly serve by reducing the essence of their human identity down to mere commodities that are acquired and sold.

Another grave concern is the impact computer algorithms have on political discourse by controlling the dissemination of political information to the public. Rather than broadcasting ideas to diverse audiences, social media algorithms individualize political distribution of ads based largely upon users’ political leanings. The authors of “Ad Delivery Algorithms: The Hidden Arbiters of Political Messaging” identified the role and effects of Facebook’s algorithms on political ad delivery by running an investigational series of ad campaigns for both major political parties simultaneously. While Facebook maintains a lack of transparency toward the electorate, the outcomes of the research imply it holds a disproportionate amount of influence in shaping the national conversation due to the advertising distribution mechanisms it employs (Ali et al. 20). Facebook algorithms amplify political division and cater to confirmation bias by primarily delivering content that is agreeable to the user. This segregation of ideas is detrimental to a functioning democracy. Furthermore, when Ali and others sought to reach members of opposing political parties, they found that “among two campaigns trying to reach the same audience, the one that Facebook deems non-aligned will pay a significant cost penalty” (17). This effectively punishes campaigns for seeking engagement across the political spectrum and may prohibit campaigns with fewer financial resources from reaching an audience beyond their base. The effects of privatized social media computer algorithms on the political landscape result in stifled political discourse and further division of the nation.

Additionally, social media algorithms are having a negative impact on children during their most impressionable years through repeated exposure to destructive messages and behaviors. Adolescents are naturally inquisitive and are particularly vulnerable to manipulation by computer algorithms. The social media app TikTok utilizes an engagement-based algorithm which tracks how long a user watches, or even hovers over a video. Barry et al. from the *Wall Street Journal* explains, “Through that one powerful signal, TikTok can learn your most hidden interests and emotions, and drive users of any age deep into rabbit holes of content—in which feeds are heavily dominated by videos about a specific topic or theme” (Barry et al. 8). *The Wall Street Journal* examined which type of content TikTok algorithms would promote to adolescents through the fabrication of over thirty artificial users purportedly in their early teens (Barry et al. 7). They discovered that upon a single expression of interest in a questionable topic, the TikTok For You feed seized upon the inquiry and began promoting related content. This resulted in a spiraling effect in which the simulated adolescents were soon bombarded with video recommendations promoting explicit sexual behavior, drugs, or eating disorders. One of the accounts created by *The Wall Street Journal* was so dominated with sexual content that “at one point more than 90% of the account’s video feed was about bondage and sex” (Barry et al. 21). One ramification of this incessant subjection to toxic messaging is the implementation of these behaviors by minors who lack the maturity and discernment of adults. One can only speculate how many young lives have been destroyed by TikTok algorithms luring them into addictive patterns.

Although computer algorithms provide the luxury of convenience, it is imperative that we address the repercussions we may face as a nation if social media companies are allowed to continue their exploitative practices unabated. It is vital to the health of our society that social

media companies be held accountable for how they collect and use our information. As technology advances it is paramount that we seek to develop technological strategies that enable us to connect with one another while safeguarding our privacy and intellectual freedom.

Works Cited

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