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Filtering Bias and Search Results

Many people have become accustomed to the internet as an everyday luxury. It provides access to seemingly never ending information and connects us to our social media websites. Because of how many people use the internet and how many websites there are, when a search is created, thousands and even millions of results are produced. Obviously this is way too much information to sift through for ourselves and becomes the job of a mathematical equation, which many search engines apply to all of our searches, called an algorithm¹. Search engines use algorithms to determine the relevance of information in the index to what the user is searching for. These algorithms are personalized for the internet user. The mission of algorithms is to provide the internet user with less internet searching and show the user what they wanted. However, these algorithms are trapping us into our own little online universe called a filter bubble. Although the filtering is necessary to prevent an information overload, filter bubbles are also very problematic. These filter bubbles are created from algorithms which use past search and click history to control all of your searches. The information is acclimated for the internet user; however, the user cannot decide what gets in their filter bubble and what can get out. With these filter bubbles in place, our online searches become incomplete.

Social media websites and search engines have created your own unique online identity for you based upon your past searches, what you've previously clicked on, and location. Although this individualized personalization seems great, there is a lot more to a human being than what they search for online and what they click online. These algorithms only create a single identity for the user and we are much more complex than one single identity. A computer cannot pick up on all of our identities but

¹ Algorithms are a series of very complex equations and well defined instructions that calculate a function. We use these algorithms almost every day without even knowing -anti spam filters used on emails and online searches, images you view, searches you enter, and even the traffic lights you drive through – all of these use some form of an algorithm to try and make our lives easier.

it does the best it can with algorithms and our ever expanding filter bubbles. Identity is not certain; we act differently under different circumstances, around different people, and in different situations.

One problematic issue with filter bubbles and personalization is that algorithms characterize the user's identity according to searches. For example, if I was doing a research paper on the best candidate for presidency and I searched for Obama, the algorithms computed may believe I am a Democrat even though I was just doing research. The search of Obama is saved into my filter bubble and can change my search results forever. These filter bubbles can provide information the user wanted but not necessarily what they needed.

Searches are incomplete in the sense that they are personalized for our own unique online identity. Just because I search for something and find one website that I like doesn't necessarily mean that the search is complete. With filter bubbles, search engines are trying to take the research away and make it easier for the internet user to find material they want rather than information they need. Algorithms do not allow a careful or diligent search, and therefore, research is being limited to our own personal beliefs due in part to our own unique filter bubbles. Kelvin Newman (2012) gives us a great example of this with a junk food and vegetable analogy. Filter bubbles give us junk food when sometimes we need vegetables. For example, the website DuckDuckGo prides itself on being a search engine that does not use filter bubbles for the internet users. This can prevent your filter bubble from expanding and can lead to a better and more in depth search. Searches conducted on DuckDuckGo as opposed to Google come up with many different results. The search on DuckDuckGo provides you with information you actually searched for whereas Google shows you the information they think you want to see based upon your filter bubble and Google's algorithm. The information obtained on the front page of DuckDuckGo may be tucked into the one thousandth page of Google.

Search engines can withhold information from us because the algorithms determine that it is information we would not want to see. Search engines can do this by looking at our complex world of filter bubbles and sorting through our previous history. The filtering is necessary to limit information

overload, however there can be a better way to edit our filter bubble and to expand our search results. Jonathan Stray (2012) stated that, “if these individually-tailored filters are successful in giving us only what we want — as measured by what we click on or “like” — then maybe they’ll remove all the points of view we disagree with, all of the hard truths we’d prefer to ignore, and everything else in the world that might broaden our horizons. Stuck in our own little sycophantic universes, we’ll be [isolated](#), only dimly aware that other people exist or that we might need to work together with them in a shared world.” Jonathan Stray (2012) also asks a very important question, “Do filtered media worlds cause the online segregation we see, or do people construct self-reinforcing filters because they already have divergent beliefs?” The desire to know everything is limited by technology. Algorithms are an enhanced equation which dictate your search results and shape your filter bubble. With these enhanced algorithms ruling our search results, our end results are limited and vague. Our information we retrieve may not be the information we need.

These filter bubbles are needed, but they do limit our knowledge and search capability. Due to these complex algorithms, internet users find it easier to use search engines and don’t do the actual “research” they are assigned. While our filter bubble is expanding, our knowledge of divergent ideas is contracting. Filter bubbles present a major risk to every internet user. The internet is becoming easier to use and all of our searches are easier to conduct. Companies like Google and Amazon track your clicks, purchases, and likes, and convert them into a personal profile they can then sell to targeted advertisers. Then, online advertisers can try and sell you products based upon your unique filter bubble. Spam and other related advertisements are a problem which directly relates to filter bubbles. For example, I was recently looking at the Google Nexus 7 tablet coming out to get as a gift for someone. When I was done searching online, I received a lot of spam e-mails regarding the new Ipad, even though I was searching for something entirely different. Mistaken identity and filter bubbles go hand in hand. What online advertisers know about you – your location, gender, purchasing preferences, favorite news sources – doesn’t change much from day to day. Online advertisers can only infer so much about your

physical and emotional state.

Identity is something that can't be established on the internet. In the virtual world, you can have multiple identities and people tend to take this as an opportunity to further explore different identities. Filter bubbles try and establish an identity for you based upon your click history and likes, which is virtually impossible. Algorithms characterize the user's identity according to online searches. Our searches are incomplete in the sense that they are personalized for our own unique online identity. Filtering is necessary to limit information overload, however there should be a better way to edit our filter bubble and to expand our search results to better compensate for our human identity rather than our virtual identities.

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