

Algorithmic Curation: Laws, Rules, and Regulations
Algorithmic Curation: Facebook's News Feed and Truth

Thesis Prospectus

In STS 4500

Presented to

The Faculty of the

School of Engineering and Applied Science

University of Virginia

In Partial Fulfillment of the Requirements for the Degree

Bachelor of Science in Computer Science

By

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September 27, 2023

Technical Team Members: None

On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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Introduction:

Innovation frequently outstrips policy and regulation. With the rapid growth of the internet and computer, computational systems have become embedded within everyday tools and actions, frequently with hidden consequences (O’Neil, 2016). The internet—originally created to coordinate academic research—has grown into a monolithic network of data and devices. Billions of people rely on search engines and other algorithms to curate the information they view to produce relevant results; however, these engines are not impartial and bias free. They have the potential to filter and distort the truth.

Both my technical project and my STS project will explore different aspects of this issue. My technical project will provide a policy overview of the current regulations which exist to prevent the misuse of curative systems. It will also suggest ways to formulate and implement new policies to better protect against misuse. My STS project will analyze the impacts of curative technologies on the spread of truth and falsehoods using Facebook’s News Feed algorithm as a case study. I will continue research on these projects through the fall of 2023. In the spring of 2024, I hope to solidify my remaining research and write my STS project. I also hope to have my technical project approved and finalized by the end of the spring semester.

Technical Project:

Algorithmic Curation: Laws, Rules, and Regulations

My technical project will focus on reviewing the policies surrounding curative algorithms. The project will aim to provide an overview of the existing literature and to suggest ways that policies may be changed to promote better ethical decisions and regulatory measures. I will split the project into two parts. First, I will determine the extent and effectiveness of current laws regarding data acquisition and algorithmic restrictions. Second, I will explore ways to reformulate the policies to guide society towards safer curative systems.

From my current knowledge, I do not know of a comprehensive law which restricts what types of algorithmic curation technology companies can implement. Having a prosecutable law would make companies and developers accountable for their systems' effects in the real world. This might help incentive companies to act quickly upon social problems arising from their system such as Facebook's usage in Myanmar, India, and South America (Jacoby, 2018; Mozur, 2018; Ortutay, 2022). Accountability for large tech companies such as Apple, Google, and Microsoft seem to be lacking in the current technological climate. I believe that new policies should be carefully formulated which place responsibility on these corporations so that they will effectively govern the use of their products.

STS Project:

Algorithmic Curation: Facebook's News Feed and Truth

Within my STS project, I will analyze the effects of algorithmic curation on the spread of truths and falsehoods. To help motivate and guide my work, I will apply concepts from Langdon Winner's "Do Artifacts have Politics," Actor Network Theory (ANT), and Technological Momentum to Facebook's curative algorithm, the News Feed. The question I aim to answer is: What are the impacts of the News Feed on public discourse, and what safeguards and checks are in place to prevent abuse? Where appropriate I will ground my inquiry using the 2016 presidential campaign as a case study.

We produce an estimated 2.5 quintillion bytes of information daily (Perez, 2020). This massive amount of data forces Facebook and other companies to create algorithmic ways of labeling, ranking, and indexing information since they cannot solely rely on humans. Created in 2006, the Facebook News Feed filters content for over three billion monthly users. Each of these users have a personalized feed of posts and stories available to them based upon their digital profile (Dixon, 2023; Lapidés et al., 2015, p. 1; Mosseri, 2016). The News Feed algorithm plays a critical role in mediating interactions between users and the content hosted on Facebook. Without it, Facebook would present irrelevant content to its users.

While useful in narrowing the scope of information presented to a user, these forms of algorithmic systems create what technological activist Eli Pariser calls 'filter bubbles.' Filter bubbles are tailored and invisible information boundaries wherein an occupant cannot choose to enter or leave (Pariser, 2011, p. 6). Any user of Facebook's platform implicitly agrees to participate in a curated bubble of stories and ads. All information which does not align with the

user's profile is obscured. The News Feed filters information without the user's knowledge or consent through metrics which do not always align with the user's actual beliefs. A media study conducted through Michigan State University noted that Facebook's developer blogs frequently ended by saying: "we have learned that the actions people take on Facebook—liking, clicking, commenting or sharing a post don't always tell us the whole story of what is most meaningful to them" (Cotter et al., 2017, p. 1557). Predictive algorithms have imperfect data on what a user's core beliefs are; regardless, they still attempt to make predictions and curate information.

The News Feed is inherently political under Langdon Winner's definition of politics. It alters activities within the "arrangements of power and authority in human associations" (Winner, 1980, p. 123). The News Feed is not a passive actor within the social network. It actively forms associations and relationships, fundamentally changing how people interact with each other and information. The humanitarian organization, Amnesty International, has criticized Facebook saying that "its dangerous algorithms and its relentless pursuit of profit substantially contributed to [...] serious human rights violations" (*The Social Atrocity*, 2022). Additionally, reports and studies have shown that the News Feed can reinforce a user's biases and perpetuate misinformation as in the 2016 election (Hargreaves et al., 2018, p. 1; Jacoby, 2018). To see why these issues seem to go unaddressed, it is useful to apply ANT and Technological Momentum.

Facebook's service supports four primary groups of actors: the users, the News Feed, the hosted content, and the company itself. Users want to see stories relevant to them, whether from friends, family, or the news. The hosted content 'wants' to be consumed. Ads desire users' time and attention, and posts attempt to reach as wide an audience as possible. Facebook aims to satisfy these actors and connect them through the News Feed, benefiting from the ad revenue in the process. The News Feed algorithm accomplishes this by filtering and mediating the

relationships between the users and the content they view. Leaked internal studies conducted by Facebook showed that eliminating the curative components of the algorithm broke down social network's efficacy ([Name Withheld], 2018). In this way, the algorithm acts as an obligatory passage point which cannot be circumvented or removed. With over a decade of research behind it, this current network configuration has gained significant technological momentum.

Facebook's current metrics and models all support this structure, maximizing engagement and revenue. Switching algorithmic models would likely result in a significant decrease in profits. All of these factors increase the costs of alternatives and subsequently allow the present configuration to persist despite numerous controversies and ethical issues.

Since we access most, if not all, of our information digitally, algorithmic curation poses significant issues for freedom of speech and access to uncensored, factual information. With three billion users, what the News Feed displays and recommends directly impacts the circulation of facts in public discourse. Careful attention must be paid to ensure that these curative systems do not negatively impact our democracy and access to the truth.

Key Texts:

Actor Network Theory:

Actor Network Theory views technological systems in terms of actors and relations (Sismondo, 2010, p. 79). A successful artifact synthesizes and translates various actors' interests and associations within a network. This framework is unique in that it flattens a technological system, giving agency and importance to ordinary objects and creatures (even scallops) (Callon, 1984). By applying this framework to my project, I hope to treat Facebook's News Feed algorithm as an independent actor within the social network, enabling me to more easily analyze the associations between the algorithm and other actors (users, Facebook, hosted content, etc.).

Technological Momentum:

Technological Momentum argues that “science and technology produce black boxes, or facts and artifacts that are taken for granted” (Sismondo, 2010, p. 113). These artifacts become entrenched within a given problem domain and preclude the adoption of other alternatives through their widespread usage. In this way, technology gains ‘momentum’ and becomes harder to shape and control (Mayntz & Hughes, 1998). I will primarily draw upon the “The Development of Large Technical Systems” as my key text for this framework but may also use information from “An Introduction to Science and Technology Studies.” These ideas will be employed within my STS project to help explain design decisions within Facebook’s media network and why these decisions—while potentially harmful—might persist.

Do Artifacts have Politics:

Langdon Winner’s foundational paper, “Do Artifacts have Politics,” argues that technological artifacts sometimes require or support certain political structures independent of their actual use. I will employ Winner's argument to illustrate the inherent political qualities of

Facebook's technologies. Primarily, I will attempt to show how the Facebook News Feed affects and restructures individual interactions with the world and information.

The Facebook Dilemma:

The Facebook Dilemma is a two-part documentary series produced by Frontline, PBS. It follows the development of Facebook and how its system rapidly gained momentum worldwide. It argues that Facebook did so without having the necessary checks and balances to prevent misuse. The documentary contains plentiful interviews and correspondents from activists and employees surrounding Facebook tackling a wide range of issues. This series provides numerous primary sources and quotations which will be invaluable while writing my project.

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