Reading Assignment – Weapons of Math Destruction: Ch 2

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| Name: Paolo Matthew Tolentino | Date: 07/05/2023 |
| Major: BS Computer Science |  |

**Objective:** Evaluate student understanding and critical thinking skills by answering guide questions based on a book chapter.

**Instructions:** Read the assigned book chapter thoroughly and answer the following guide questions. Be sure to provide specific examples from the text to support your answers.

**Title:** Weapons of Math Destruction by Cathy O’Neil

**Chapter/s:** Chapter 2

**Guide Questions:**

1. **Briefly summarize the main ideas presented in the chapter. What are the key points the author is trying to convey?**

The main ideas presented in Chapter 2 are:

* The author's disillusionment with the use of mathematical models in the financial industry.
* The potential for mathematical models to perpetuate bias and discrimination.

1. **Describe the author's writing style. Is it clear, engaging, and easy to understand? Provide examples to support your opinion.**

The author's writing style is clear, engaging, and easy to understand. She uses a variety of examples and anecdotes to illustrate her points, and she does a good job of explaining complex concepts in a way that is accessible to the layperson.

1. **Identify any new terms or concepts introduced in the chapter. Define them and explain their significance to the chapter's main ideas.**

Some of the new terms or concepts introduced in the chapter include:

* **Algorithmic bias** - refers to the phenomenon where algorithms, which are sets of rules or procedures used to make automated decisions or predictions, produce biased or unfair outcomes that disproportionately impact certain groups of people.
* **Data discrimination** - refers to the unjust or unfair treatment of individuals or groups based on the analysis and interpretation of data about them.

Based on the terms or concepts that was introduced in the chapter, I believe that they are highly significant to the chapter’s main idea.

1. **Discuss the evidence or examples provided by the author to support their arguments. Are they convincing and relevant? Explain your reasoning.**

The author provides a variety of evidence and examples to support her arguments. For example, she cites the case of a school district that used a predictive algorithm to determine which students were most likely to drop out. The algorithm disproportionately identified Black students as being at risk of dropping out, even though there was no evidence that Black students were more likely to drop out than white students.

1. **Were there any areas in the chapter that you found confusing or difficult to understand? If so, describe those areas and explain why they were challenging.**

There were a few areas in the chapter that I found confusing or difficult to understand. For example, I was not sure what the author meant by the term "fairness criteria." I also had some trouble understanding the author's discussion of the case of the school district that used a predictive algorithm to determine which students were most likely to drop out.

1. **Identify any potential biases or assumptions the author may have made in presenting their ideas. How might these biases or assumptions affect the credibility of the chapter?**

In expressing her thoughts, the author may have made a few possible biases or assumptions. She might have believed, for instance, that all mathematical models are bad. She might have also believed that everyone who applies mathematical models is aware of the possibility for prejudice and discrimination.

But the author does a decent job of recognizing the possibility of prejudice and discrimination in the use of mathematical models. Additionally, she admits that not all mathematical models are bad.

1. **Compare the ideas presented in this chapter to those in previous chapters or other materials you have read on the topic. Are there any similarities or differences? Explain your observations.**

The concepts offered in Chapter 2 are compatible with the concepts presented in earlier chapters and other books on WMDs that I have studied. The author's consideration of the likelihood of prejudice and discrimination in the application of mathematical models is consistent with the work of other academics who have investigated WMDs.

1. **What questions or concerns do you have after reading this chapter? Are there any topics you would like to explore further?**

I have a few inquiries or worries after reading this chapter. I'm unsure of how to address, for instance, the possibility of bias and discrimination in the use of mathematical models. As for how to make sure those who utilize mathematical models are aware of the possibility for prejudice and discrimination, I have no idea.

1. **How do the ideas presented in the chapter relate to your own experiences, beliefs, or opinions? Provide examples to illustrate the connections.**

In several aspects, the concepts discussed in the chapter are like my own experiences, convictions, and perspectives. For instance, I have firsthand experience with the detrimental effects that algorithms may have on people's lives. Additionally, I have witnessed how discrimination and bias may be maintained using algorithms.

1. **Summarize your overall impression of the chapter. Do you agree or disagree with the author's main arguments? Why or why not?**

In general, Chapter 2 was interesting and thought-provoking. The author does a fantastic job of outlining how using mathematical models can lead to bias and discrimination. I especially value the author's recognition of the possibility of bias and discrimination in the use of these models.

Although I don't agree with all of the author's points of view, I believe she makes some significant points that should be taken into account. Anyone who is interested in knowing more about the possible risks posed by WMDs should read this chapter, in my opinion.

Prepared by: Bob Mathew D. Sunga