

CSC 591 – Sinless Software Engineering

End of Term Report and Feedback

Vitus Putra (vaputra@ncsu.edu)

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Overview:

This class is awesome. I love this class because it touches the concepts that are often overlooked as a software engineer. Bias in software engineering field could affect the lives of many, and it is important for us as a future engineer to acknowledge and do something to reduce bias and unfairness. Dr. Menzies did a great job in bringing the class to life, he is passionate to teach us about the concepts of bias and fairness in software engineering.

He is very flexible and understand about the difficulties that student might face in his class, and he ensured that we are still able to learn the concepts despite not having a prior experience in AI and Machine Learning. He gives constant update for the class, and he can create meaningful class discussion. There are couple of suggestions I would like to make, and I will separate my suggestion based on the assignments that we have done in the past:

1. Homework:

- a. The homework did help me understand the concepts better while at the same time helping me learn software tools and techniques used in development of a machine learning
- b. The documentation for the homework should be a bit more structured. I sometimes find it hard to understand what we are supposed to do in a homework because some steps are ambiguous.
- c. Use pseudocode on the homework instructions. At first, I find it hard to understand the Julia code in the instructions because I have zero experience with the language. I suggest that the code should be written as general pseudocode to make it easier for students to implement it in any language.
- d. Create a visual representation of the algorithm. There are some visuals that explains the FFT tree, but I sometimes still confused on how each code works in relation to the bigger picture.

2. Class Lecture:

- a. Use presentation tools such as power point to make it easier to understand a concept. In my opinion, using the GitHub Readme is not that great because my mind becomes distracted with different kind of information. Dividing each concept into a sizeable chunk of slides could help us learn easier
- b. I like to have more breakout session discussion because it helps us learn from each other. It also gives us more confidence in talking to the whole class

- c. I like that we have case studies that give us example of the real-world bias in the software system that our society use. Perhaps we could have more interactive case studies such as documentary to make it more exciting.
 - d. I like that we have some guest lecturer such as Joy. He inspires us to learn about fair AI and how as a software engineer, we could contribute to the effort of makings AI more fair.
- 3. Final Project
 - a. I was unsure at first when the final project for this class will be writing a research paper. As a master student who wants to go to the industry, I am more interested in the practical project. However, this class has taught me that hard work and perseverance does matter, and I am happy to be able to learn how to write research paper despite having no prior experience
 - b. I suggest that you give us more lecture about how to create research question and to design good experiment to answer the question, for I sometime having a difficulty of understanding how the research process works.
 - c. Another option is to give students an opportunity to choose between a research-focused final project as well as more practical final project. For example, a student could propose changes to an open-source AI repositories and model, which could be more interesting for students who want to work in the industry

Overall, thank you Dr. Menzies for teaching us this important subject. I hope my comments and feedback above could be used to make the class better for future students. I do believe that this kind of course should be available for all future computer scientist because it shows that our decisions in every software development project could impact many lives.

Vitus Putra
NCSU Computer Science