

Tareas calificadas por los compañeros: Reframe your teaching

Revisar los trabajos de tus compañeros

¡Felicitaciones por enviar tu trabajo! Ahora tus compañeros pueden revisarlo. Para obtener tu calificación, también debes revisar los trabajos de algunos de tus compañeros. Tu calificación debería estar lista antes del **11 de feb. 2:59 -05**.

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Machine learning pros and cons

Enviado el 8 de febrero de 2021

[Enlace para compartir](#)

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1. Choose a science concept, method, or experiment you need to teach about and describe it here.

Machine learning is a branch of the computer science artificial intelligence field whose main goal is to get computers to make decisions or predictions without being explicitly programmed to do so. Some important ideas of ML are

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2. Think how this concept, method, or experiment has a relevance for your students' everyday life, their future, or for society and develop these ideas into a case study or story or example to frame the science concept from question 1. Share your ideas here.

Frame: ML biases

Machine learning is used by many IT and non IT companies for doing different tasks in an efficient and correct way. Some examples of ML are classifying mail as SPAM, the custom Netflix recommendations on what to watch next, quality verification in factories, support to medical diagnoses given data or images of the patient and also help the prevention of diseases with emerging risk in a person, even the AI in videogames benefits from ML use. Sounds great, doesn't it? Anyway it is important to acknowledge that ML is not perfect.

Actually, ML's structure and implementation are factors that create a significant problem, ML models can be trained in such a way that they imitate human issues. Some famous cases where ML models became biased are:

1. Amazon made a personnel choosing model that preferred men over women. The model was trained with resumes.
2. In the US there was a ML model called COMPAS which was designed to assist judges at evaluating the probability of reoffense by prisoners to support decisions and sentences, but the ML model showed a bias against african american prisoners giving them higher risk assessments than white prisoners under similar charges. The exact code is not public but it was found that it was biased against african american prisoners.

So remember this idea, we train ML models but we must plan and monitor the development and results of the model carefully so we can get the desired results. Choosing a non biased dataset for training is important.

If a ML model recommends you a movie that seems boring it is no big deal, well, Netflix will lose some potential engagement with the customer and maybe some revenue, but no big deal. The important thing is that we can't allow to exist a system that discards a highly trained applicant for being a woman or that makes racist judgements.

To summarize be methodical and clever when designing and training ML models, you do not want to make your company lose money or even worse make unconscious unethical actions through some lines of code.

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3. Describe how you can implement the framed concept/method/experiment into your class.

I would explain it in a lecture and i would then invite my students to discuss or debate the technical and social issues related to the frame. The frame is sad so i would say in my lecture some examples on how AI and ML are being used for fascinating tasks like fighting against corruption which is not a technical but a human issue.

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4. Student learning - How would you know if framing your lesson will lead to an improved learning outcome for your students?

Before: I think the proposed frame would be successful because it has social SDG topics which are interesting and meaningful. Also the frame is very conceptual and non technical but it still emphasizes the idea of "ML uses defined datasets to learn, datasets can be well selected or biased and results will show themselves depending on the given training".

After: I think i could make a quiz on the concepts and some classes after assign a coding homework where practice can be made. A classical example is a program to identify photos as "cat picture or not cat picture", i would give several data sets and ask the students which is better. A dataset with cats of different ages, hair color and hair lenght would be better than a photo set of just persian white kittens. I would expect to assign good assessment grades in both the quiz and coding homework if the teaching was successful.

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5. Reflection - How is the teaching you have described in this assignment different from how you usually teach or because it tanks aroud the main concept but also includes social and economic topics. The concept is showed as something with daily applications and with not just technical but also human aspects and implications.

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Comentarios

Solo el estudiante puede ver comentarios que se dejan para ese estudiante y la persona que dejó el comentario.



Comparte tus ideas...

