

Research Methods and Professional Practice January 2022

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« Collaborative Learning Discussion 1



Umar Khan

Initial Post

1 day ago

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Last 7 mins ago

Ethics in computing refers to ethical principles focused on users, creators and stakeholders involved in development and implementation of computer technology. This includes how these individuals choose to conduct themselves and their use of programs and other computer resources in an online environment.

The case study "Malicious Inputs to Content Filters" deals with two ethical issues.

-Ethical implications of bias reinforcement in ML based applications

-Professional conduct of computing professionals responsible for the Blocker Plus software

It is well known that machine learning algorithms are susceptible to unfair bias. Widely used machine learning algorithms lead to inequality, racial and gender profiling, misrepresentation, and even economic redlining. The main causes of these problems are either biased datasets ("garbage in, garbage out") or feedback loops that generate unfair models over time. The case study specifically deals with the feedback loops generating malicious non-compliant ML model outputs. As the goal of the automated ML field is to produce end-to-end pipelines without human intervention and knowledge, various ethical concerns are introduced. Current approaches to address these problems is to perform data analysis, data cleaning and model evaluation to ensure fairness and inclusivity.

It can be argued that by developing and implementing a system that is prone to bias and unauthorized reprogramming can cause damage to wellbeing, public health, and safety of its users.

BCS code of conduct is also clear on withholding product/service performance related information which is not governed by confidentiality and intellectual property regulations.

References

ACM Ethics - The Official Site of the Association for Computing Machinery's Committee on Professional Ethics. (2022). ACM Code of Ethics and Professional Conduct.. Available at: <https://ethics.acm.org/>. [Accessed 26 January 2022].

BCS Code of Conduct (2022) | BCS. Available at: <https://www.bcs.org/membership-and-registrations/become-a-member/bcs-code-of-conduct/>. [Accessed January 29, 2022]



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1 reply

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Post by [Jan Kűfner](#)

7 mins ago

peer response

I would also like to add that the company is in violation of the BCS’s code of conduct, since they did not integrate options in their system to mitigate the vulnerability, that their algorithm is susceptible to malicious input. They also did not integrate ways to roll back their code prior to any attack. This lack of cyber security knowledge should not be present in this type of company, and I would argue that they lack sufficient professionalism. (BCS 2022)

References

BCS Code of Conduct (2022) | BCS. Available at: <https://www.bcs.org/membership-and-registrations/become-a-member/bcs-code-of-conduct/>. [Accessed January 29, 2022]

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