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Machine Learning that Matters
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Wagstaff, Kiri. "Machine learning that matters." arXiv preprint arXiv:1206.4656 (2012).

Author Wagstaff tried to raise awareness about the impact of machine learning in the real world with the paper "Machine learning that matters" in 2012.The aim is to inspire creative thought and accelerate the impact of machine learning techniques for the larger world, in a more real life field. It has been truly claimed that machine learning trends, for the past decade, has been solely improvements on algorithm design and domain specific result publication, rather than application in the real world. This trend persists because this is exactly what the field of ML expects. But the human life is beyond any field. To make ML solutions really useful, they should be noticed, valued and adopted by people of other fields in general to be used in their respective fields.

The paper discusses the problems with the current trends, which include excessive focus on benchmark data sets and abstract metrics. Most papers tend to express their results on a set of standard data sets. Although this has advantages, the field for which the ML solution is being discussed is not benefitted in real sense unless an even estensive work is done on collecting more relevant and recent data, and polished by experts of the respective fields. Moreover, the abstract metrics cannot define the measure of impact of a particular ML solution in general. That is because the percent of improvement in an algorithm has different effects for different fields of experiment.

Significant change of ideas and efforts have been proposed to make machine learning matter to the common life. A useful evaluation method should be defined in terms of real word objects or activities. Like money, lives saved etc in order to really understand the impact of an ML solution. People other than ML experts or students should be allowed to comment and critique on ML solutions to gain some real perspective. Everything should be done with the intention of having an impact on the world, and making it a better place by employing machine learning.

The changes in evaluation methods comes with a couple of obstacles one must face and must ne tackled well to gain succeess. First of all is the need

to generalize the ML terms so that general people can have a easy grasp of the workings of ML. Commitment of the engaged ML engineers is very imporatant because it determines the amount of feasible risk taking in sensitive situations. And lastly is the complexity of the very technique of machine learning. It requires knowledge and experience of graduate level to simply run ML algorithms to solve problems. This becomes an issue as experts of other fields are unable to deploy ML for their studies and bring about benefit for the world from their respective fields. The solution to this is to simplify, mature and make ML techniques more robust.

The authors take on why and how ML should really impact the society is a real concern and should be taken into account seriously. ML has a lot of potential and it should not reamain confined to algorithmic advancement. Its impact on human life will be immense in a positive manner, once the facts described by the author is taken care of. Every field of science, arts and business will be benefitted manyfold with the additional personal satisfaction of being able to create real difference in the world.