TOWARDS A BETTER SOCIETY AND A SUSTAINABLE WORLD

INFORMATION LAW AND DATA ETHICS COURSE PROJECT REPORT

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Abstract

Our world is ringing the alarm bells and we do not work enough before it is too late. If we don't take serious precautions, we may not have a world to live in, in a few hundreds or thousands of years, as renowned scientist Stephan Hawking once said (1). What you will read in this paper might seem to have jumped out of a dystopic novel or a TV show. However, the situation is serious, and we had better take it seriously. Here, I recommend exploiting technology to attain to a better world. What I mean by "better" is based on two main elements: A just order (fair society) and sustainable world.

We all come across hypes these days, some of which are technology-based, such as AI, Blockchain, IoT, and some are world-involving ones such as global warming, climate change, sustainability, carbon footprint. I hope we can make us of the former group to improve the latter. For the problems I mention here, there are things that governments and companies can do, and things we, as individuals, can do. And it might be the time for us to take the bull by the horns and think of the possibility of abandoning some of our rights, for the sake of humanity and our planet.

Keywords: AI, IoT, justice, democracy, sustainability, privacy, personal rights

INTRODUCTION

HISTORY OF WORLD

- Life began 3.7 billions year ago(2)

- Eukaryotic cells emerged about 2.7 billions years ago (3)

- First tools(start of technology) was invented about 3.3 millions years ago(4)

- Humans have been around for about 300.000 years(5)

- Industrial Revolution happened 250-300 years ago(4)

- Although pollution of the earth started 4000 years ago, its amount has roared since Industrial Revolution.(6)

SOME FIGURES & FACTS REGARDIING RESOURCES(Water and Land)

- Only 3% of the world's water is fresh water(7)

- By 2025, two-thirds of the world's population may face water shortages. And ecosystems around the world will suffer even more.(7)

- Agriculture uses 70% of the world's accessible freshwater(7)

- Four billion people — almost two thirds of the world's population — experience severe water scarcity for at least one month each year. (8)

- Over two billion people live in countries where water supply is inadequate(8)

- Half of the world's population could be living in areas facing water scarcity by as early as 2025(8)

- Some 700 million people could be displaced by intense water scarcity by 2030(8)

- By 2040, roughly 1 in 4 children worldwide will be living in areas of extremely high water stress(8)

- Globally agricultural land area is approximately five billion hectares, or 38 percent of the global land surface. About one-third of this is used as cropland, while the remaining two-thirds consist of meadows and pastures) for grazing livestock.(9)

SOME FIGURES & FACTS REGARDIING SUSTAIBLATY

- Water consumption for livestock is much more than human's consumption, which causes a sustainability problem and should be taken as sustainability issue as well as resource issue (10,11)

- Plastic disappear in 400 years on average(12)

- Our carbon footprint is increasing dramatically(13,14,15,16)

- By 2050, the Earth is expected to be approximately 2°C hotter(36)

- The International Energy Agency estimates that net-zero emissions might require investments of almost $5 trillion each year by 2030, and $4.5 trillion per year by 2050 (37)

- Global temperatures rose about 1.8°F (1°C) from 1901 to 2020. Average thickness of 30 well-studied glaciers has decreased more than 60 feet since 1980. Sea level rise has accelerated from 1.7 mm/year throughout most of the twentieth century to 3.2 mm/year since 1993. The area covered by sea ice in the Arctic at the end of summer has shrunk by about 40% since 1979. The amount of carbon dioxide in the atmosphere has risen by 25% since 1958, and by about 40% since the Industrial Revolution (38,39)
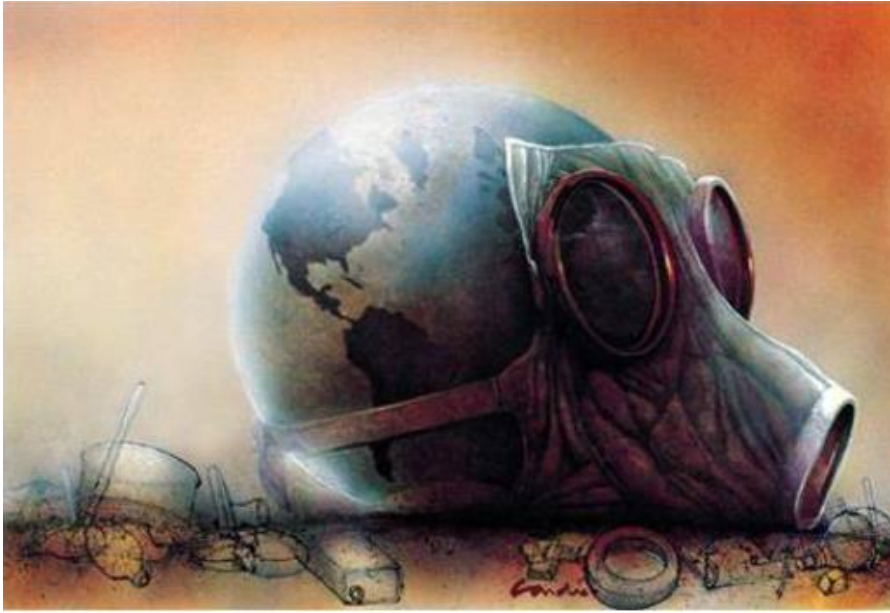
COVID-19 ERA

We all have seen that nature came to itself in the Covid-19 lockdown period (17,18)

There is another aspect of Corona. Some works show, Land-use change is the No. 1 cause of emergent disease events that involve a virus spreading from animal to human. Tearing down trees does not eliminate the presence of viruses in nature; rather, it encourages the spread of disease. (19)

Of course, our planet does not have consciousness but we still need to read the signs it grants.

Figure 1-Taken from https://www.nature.com/articles/s43017-020-0079-1
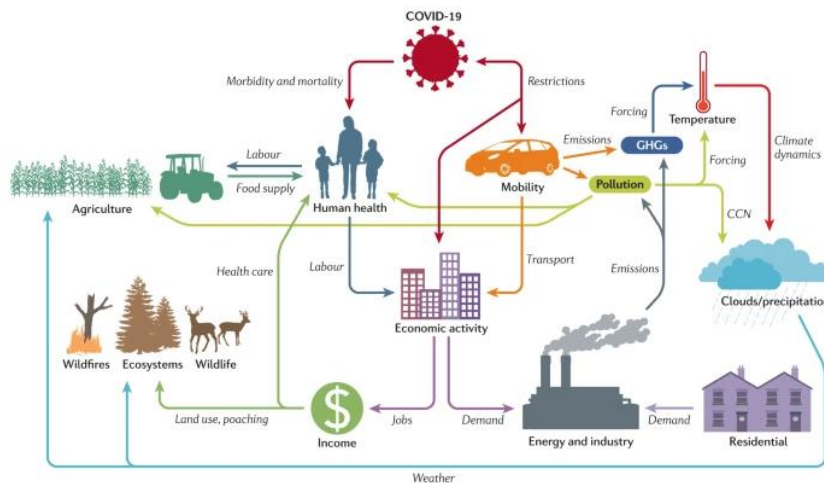
TECHNOLOGY

AI

I split AI into two categories. There are not-so-intelligent-looking AI technologies like credit modelling, fraud prediction etc. On the other side, there is object detection, face recognition, NLP, speech to text, text to speech etc, in which we can see sparkles of real intelligence. They all use the same principle at the background: Get some data, split it into train and test sets. Train your data on the first with ML and DL algorithms, test it on the second, evaluate and deploy your model.

There is another classification for AI(21)

- Narrow AI, is a type of AI which is able to perform a dedicated task with intelligence. The most common and currently available AI is Narrow AI in the world of Artificial Intelligence.
- General AI, is a type of intelligence which could perform any intellectual task with efficiency like a human.
- Super AI is a level of Intelligence of Systems at which machines could surpass human intelligence, and can perform any task better than human with cognitive properties. It is an outcome of general AI.

With this paper, I make suggestion, most of which require at least General AI. However some of them can be applied with Narrow AI, or indeed without any AI in it, via rule based models.

As a side note, the renowned futurist and scientist Michio Kaku, in his famous book "Physics of Future", predicts that Expert Systems will prevail by 2030, including robo-doctors , robo-assistants(much more developed than Siri)(p. 99-102) and in the mid-21st century, emotional robots will emerge(p. 108), and at the last decades of the century, he claims the AI will gain consciousness(p.124) (22) Consciousness is important, because in some parts I allege that our activities will be surveilled by non-conscious AI, so we don't need to worry, but what I'm telling now seems to be contradictory. Actually it is not, because what I am implying in other parts, is an entity who is not a human and who wouldn't use the information about us against us or try to make profit with it.

You may wonder if we will ever attain to a point where we will invent Super AI. He says the participants of ASIMOS Conference, held in 2009, made predictions varying from 20 to 1000 years. Since the range is so broad, we cannot statistically trust it. But we can trust that someday we will create a Super AI.

IOT

The Internet of things (IoT) describes physical objects (or groups of such objects) with sensors, processing ability, software, and other technologies that connect and exchange data with other devices and systems over the Internet or other communications networks (23).

There is also Social Internet of things: Social Internet of things (SIoT) is a new kind of IoT that focuses the importance of social interaction and relationship between IoT devices. SIoT is a pattern of how cross-domain IoT devices enabling application to application communication and collaboration without human intervention in order to serve their owners with autonomous services, and this only can be realized when gained low-level architecture support from both IoT software and hardware engineering.

JUSTICE, DEMOCRACY, AND SOCIETY

Today's justice system is based on traditional systems. Proof is major element in claims. Therefore, system is based on measurable, or rather easy to measure, things. But as in many areas, technology may come for help and justice systems, too, could apply to new technologies, indeed make use of it.

For example, James Cameron is said to have waited for his famous movie Avatar just because he didn't have necessary technology to shoot the film. Another example is from AI world. AI society went into a long winter period after some successes, due to the lack of necessary hardware, but now with the more advanced and powerful hardware we can execute very complex Deep Learning models. Just like these, our justice system can measure things it hasn't been able to, so far.

We can monitor and process much more data now. For example, why shouldn't we use IoT devices in a car in order to decide who was guilty in a car accident. This may not sound so repulsive to you, and rather you may like it but in the next section, but my suggestions to sustain a better society will be much more controversial.

Our democracy have been there for a couple of hundreds years, maybe thousands. Do everyone think it works properly and reasonably? Let's assume that there will be built a nuclear power station in your city. Who should vote for this? Everyone vs those who have investigated the topic in length and breadth. As Socrates states in Plato's famous book "Republic", isn't it the time to give the voting right to only educated people. But let's open this up. There is no absolute education, especially in such a world everything is bound to specialization. Therefore, if the problem in question is about nuclear power stations, only those whose field is this and who reads and watches these kinds of contents. The former would have much higher weight than the latter. But the rest of the people shouldn't have a word on this. As Socrates states, "Would you let a person command a ship who knows nothing of sailing?"

WHAT CAN WE DO?

In this part, I take the risk of being tagged insane or more mildly "neo Big Brother", owing to my suggestions. Let it be so. But some should take the risk for a better world. As I stated in the abstract part, some ideas you will read now may sound familiar to you, perhaps remind you George Orwell's famous 1984 or renowned TV series Black Mirror's 3rd season 1st episode(Nosedive), but fear not. I'm not imagining such a dystopic world. Still, some may find it unrealistic. Of course, I wouldn't imagine such a world in normal circumstances, but realize or not, the situation of the world is not normal and some should come up with extraordinary ideas in such abnormal times.

So, coming to the main topic, with all technologies mentioned above, why don't we tread steps towards an AI-monitoring world? Of course, I am not talking about Skynet, either. Let me make myself clear.

In the impressive movie "The Day World Stood Still", a human-like alien comes to world and tries to save world from humans, since we humans don't take care of the world good enough. Nobody expects such a thing to happen in real life but instead of that alien, we ourselves can take some firm steps for a better world, though not as hard as that alien's.

First, I must tell that most of the suggestions I offer here cannot be implemented in near future, as I stated earlier, we need at least General AI. But this is not a showstopper, we could start with small steps.

Secondly, there are some other steps that can be taken, including non-individual improvements, like prohibiting (or limiting) factories from emitting pollutive disposal, or in general governments/states passing more environment-conscious laws towards companies. But in this paper, we will only focus on individuals and laws made for directly individuals.

Let's get to the suggestions:

- Shops/Stores and banks must cooperate and relay the data that acquire to the central AI, governed by the United Nations and also to the local AI governed by the states. For this, all the items bought in a shop should be trackable regardless of the payment type, ie cash or credit card or any other type. This way, individuals get some positive or negative points depending on their content in the basket. Basket is only a generalization here. Of course, I'm not implying only basket items, not even things that can be only bought. All the activities and expenditures, including where you go, by what you go, what you do etc could be monitored.

- Points could be split into different categories. One could be environmentalism point, other could be your voting point about some specific issues.

- CCTVs(Mobeses in Turkey) could be used to watch what we do, but only by AI not by humans. For example, if one throws their thrash on the street instead of putting it in the bin, it will get a negative point.

- Let's open the shopping part a bit more. What you buy will corresponds to a carbon footprint and this may be calculated real time and make some warnings to you, like "Careful, you are about to exceed your carbon footprint this month". And at the end of the month, if they exceed the limit, they will get extra negative points.

- Let's continue with shopping. And this is about 'just order'. Have you ever wondered the money spent for the cancer treatment of the people who smoke 2-3 packages a day, or recovery of those who are addicted to alcohol or sugar. I think this is not fair and I should not pay for someone who don't take care of themselves. I pay, you pay, we all pay for their treatment, indirectly by the social state. With the help of technology, we can handle this problem, too. This way, people will tend to be more careful about their health. This will also diminish the health expenditures and enable those resources to be spent on more valuable areas, like preventing global problems we have been mentioning throughout the paper.

- Let's take general activities this time. If one has sun-bathe all day, especially during the top noon time, they are doomed to develop a skin cancer, as doctors says(25). So why should we pay for their cancer treatment, if they resist listening to doctors. This can be monitored by CCTV/Mobeses or other IoT devices.

- With IoT devices, we could be continuously listened, again only on condition that AI makes the processing. Some companies did this in the past, and still may have been doing, but with your consent (sometimes with default consent). This way, they recommend you some products, which you have been talking about. In our case, no consent will be required, as it will be the law. This way, for example, if you talk about climate change, carbon footprint with your children at home, you'll get extra points. Not to mention, child abuse plans, drug dealing and other evil things could be tracked and prevented.

- If you are a researcher on climate change, or any other sustainability topic, you'll get extra environmentalism points as well as you will have more right on voting about this topic.

- As Vegans/Vegetarians contribute much less carbon footprint than non-vegans, they should have more environmentalism points.

- In Covid-19 period, we saw that some people did not go to the hospital, even though they showed symptoms, because of the fear of catching the virus, and they actually got the virus and spread it to the society. However, with Iot devices, or let's think much more simply, during their searches on the Internet, the central AI can detect how likely this person is sick and send an emergency team to the house without waiting for him to come to the hospital. Novartis has already developed a similar system(26). Why don't our governments do?

- Again in shopping, those who go to shopping with non-plastic bags should have more points. This distinction could be done between plastic bottle users and non-plastic bottle users.

- We can promote secondhand shopping and as can be guessed secondhanders will get more points.

- Those who make green travel choices will have more points than others.

- We can even think extra points for those who are hubs/authorities in terms of graph theory. If you think carefully, the impact of some celebrities' exemplary actions would be much higher than any ordinary person.

- If you consume too much water, you'll get many negative points.

- The more you move, walk, do sports, the more you get points as you reduce the cost on health system
- Books you read, papers, documentaries, shows you watch, clubs you attend etc. may all have a point correspondence.
- That'd be great when AI tells us how much carbon footprint we contributed to world in our any action, even it warns us. I'm sure some of us would heed the warning. And what I suggest here, if one doesn't care the warnings, at least their friends, their close society should be informed. Maybe this will be effective on them. AI can do this via rule-based systems or ML-based anomaly detection algorithms.

More examples can be given. We can now talk about what we will do with these points. These must be discussed elaborately. Here are a few suggestions:
- Those with little points may have to pay fines. (But this may lead to a poor-rich problem, so the rich may not care these points. For them, other options may be executed)
- Compulsory public duties like cleaning environment, collecting rubbish on the shores etc
- Forbidding those people to register some events (concerts, matches etc)
- Even imprisonment might be another option(after a continual excess and despite warnings)
- All these points could be (or not) by other people in order us to behave well. This should be discussed carefully.

All the things I mentioned here may come to you as breaching of personal rights and data privacy. It is indeed. The question should be: **Could we abandon some of our personal rights and data privacy for the sake of just society, real democracy and sustainable world?** Now, I want to give China example, which you may not find a suitable example due to its undemocratic stand, but this is the only real one example I know and it works somehow. They implemented Social Credit Score system, which functions approximately as defined in this paper, but there are some differences of course (27,28,29,30,31).
We can develop a better rating system than China's, for the well-being of our planet, just as we were able to reduce the vaccine studies, which normally take at least 4 years, to 1 year during the Covid-19 process.

CONCLUSION

Children need leading and education about the world. But it seems not only children do need these, but also do we adults. And what is good is, the non-human Super AI will do for us. Therefore, as opposed to 1984 novel, not a conscious individual or individuals will know about our personal life. It will just do the warnings, and if these warnings are not abode by, second step will kick in and fines and duties will come to the scene. So, if we heed the warnings, there won't be any privacy problem for us. And surely, the data AI has(shopping data, contents of talking at home, etc.) should definitely not be examined by humans, and the heaviest penalties will have to be applied for those who try to sneak, so that people can have some confidence in the system.

It may still sound ridiculous to breach the privacy and personal rights while the world is doing the opposite, that is, regulating laws regarding more privacy. Considering the problems our world is facing, I think some of the over-elevated rights could be reviewed. Moreover, the violation of these rights will be made by algorithms, not individuals, in fact, user data is still processed by algorithms today. However, in the system proposed in this paper, user data is dug more profoundly. While this may sound scary at first, I think it's okay for an unconscious AI to process this data purely to save the planet and create a just order. What we need to do is to ensure that only algorithms have the information.

We know that a positive/negative action may not yield immediate results. It can take years to get the desired result, as in the case of the olive tree or the bamboo tree. Likewise, negative effects may occur after years in smokers or those who take long periods of sunbathing. We must be patient enough to see the effects of the system proposed here.

Short Term Recommendations

- Laws can be made that personal rights and privacy issues are not more important than the health of the world.
- Efforts to attain General AI should be continued at full speed, and governments should encourage institutions working on these issues. Until these systems emerge, preliminary steps should be taken by considering the appropriate regulations, with the work that can be done via rule-based system or within the capacity of Narrow AI.

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- Governments should pave the way for the companies, such as Novartis and Moderna, that are established on the "Artificial Intelligence Factory" system and incentives should be provided (26)
- Our genome and health data, too, could be accessed by the AI so it can make the warnings before it is too late, which also puts extra burden on the health system.
- Companies such as Notco, Beyondmeat, that reduce the carbon footprint should be encouraged.
- Even the guesses for Super AI's emerge range from tens to thousands years, we have a strong ability for simulating things. So, we should start to prepare for regulations, what or who will be responsible for the acts of AI.

Possible Reactions

At first, people would harshly object to these regulations. As stated in Serol Teber's "Davranışlarımızın Kökeni(Root of our behaviours)" book (p.128), it has been observed that the conservative members of the (monkey) colony, who did not learn the function of washing and eating the potatoes(developed for the first time) opposed it, took a stand against this new invention and attacked the monkeys who adopted these actions.(32). This behavioral pattern is in our genes. Therefore, we can expect such reactions. However, they will see the benefits of the system soon, if only the give enough time.

Last words

If we don't want our far far grandchildren to open their eyes under a red Martian sky one day, states/governments should think of giving a chance to what I suggest here. As we all know, Elon Musk has already begun to work on Mars option. They may even start talking about going far solar systems within or beyond our galaxy, just in the provocative movie Interstellar. Of course, we can and should look for other planets, but should we really give up our own so easily. Are our privacy more important than our planet's health? Think again, think hard!

> *Do not go gentle into that good night,*
> *Old age should burn and rave at close of day,*
> *Rage, rage against the dying of the light (from Interstellar).*

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