Investigation into Responsible AI and the ethics behind the data that is collected, stored, processed and evaluated.

Responsible Artificial Intelligence makes sure that machine learning regulations are sustainable, and driven ethically, in a way that has people's best interests in mind as opposed to financial profit, advertising, or sensational user exposure.

Responsibility is put in place by transparent governmental bodies such as the European Commissions' High Level Expert Group on AI or the Information Commissioners Office (ICO). These groups provide legal frameworks and social requirements for artificial intelligence, so that it develops in line with the UN's Sustainability Goals and so that companies maintain their Corporate Social Responsibility (CSR).

AI has had wonderful effects on the world already from data optimization, predictive maintenance that can recognise patterns in public health ect.... All of which help people work smarter and much more effectively, because automated individual decision-making and profiling can lead to quicker and more consistent decision. There is still a fear that AI can become self-deterministic or supersede human intelligence, as argued by Professor Stephen Hawking, and at present there are a lot of Automated Individual decision-making AIs, with no human involvement in the decision-making process.

The GDPR in place to prevent irresponsibility in automated decision-making AIs, Article 22, applies to solely decisions and profiling that has legal or similarly significant effects only, so if a company's processing does not match that definition then they can continue to carry out profiling and automated decision-making.

This means there's more emotionally and culturally at stake outside of Article 22 that AI can irresponsibly evaluate data on.

One instance where AI has failed in this regard is dating apps, where preferences end up polarising ethnic, weight, age and class groups and disproportionately ranking individuals because of the weight of implicit biases. All of this alongside ordinary online harassment. The dating app industry has a $4.4bn estimated worth and this is only the beginning.

The algorithms try to build potential matches by learning user behaviours. Matches and suggestions are based on collaborative filtering which evaluates: input data, filter settings, preferences, use of the app's services and similarities. Collaborative filtering is then combined with the Elo system to assign desirability ratings to users, 'a relative attractiveness'.

The fallout from this process, of algorithms sorting and weighing desire includes dissatisfaction with choices (because romantic and sexual compatibility and relationship longevity are difficult to trace and anticipate); dating fatigue; racial siloing; low esteem, a particular user may have no exposure to others because of their previous likes; and choice overload- a cognitive impairment in which people have a difficult time making a decision when faced with many options.

Some apps such as Grindr and OKCupid give users the option to filter out ethnicity, so in turn the algorithm learns from this pre-existing bias. Users accepting and rejecting people because of race means that if you try to have an algorithm that takes those acceptances and rejections and tries to predict people's preferences, it's definitely going to pick up these biases. This is similar to how the Beauty.AI algorithm judged a beauty pageant in 2016. The machine learning was skewed to favour light-skin because data scientists fed it comparatively few examples of women with dark skin, so in the end the algorithm decided for itself that light skin was associated with beauty. So, the data is not neutral and neither are the outcomes.

Another dating app that ended up racially siloing its users was Coffee Meets Bagel. When asked to explain why users who put 'no ethnic preference' were continuously showed only people of their own ethnicity, cofounder Dawoon Kang explained to BuzzFeed News, "I think you are misunderstanding the algorithm," she replied. "The algorithm is NOT saying that 'we secretly know you're more racist than you actually are…' What it's saying is 'I don't have enough information about you so I'm going to use empirical data to maximize your connection rate until I have enough information about you and can use that to maximize connection rate for you. Consequently, we will send you folks who have a high preference for bagels of your own ethnic identity, we do so because our data shows even though users may say they have no preference, they still (subconsciously or otherwise) prefer folks who match their own ethnicity. It does not compute "no ethnic preference" as wanting a diverse preference. I know that distinction may seem silly, but it's how the algorithm works currently."

With Coffee Meets Bagels there is a disconnect between what daters think selecting "no preference" will mean ("I am open to dating all different types of people") and what the app's algorithm understands it to mean ("I care so little about ethnicity that I won't think it's weird if I'm shown only one group").

There are other implications for when AI fails that GDPR Law tries to prevent through, Article 22. Firstly, UK GDPR sets a high standard for consent, which must be unambiguous and involve a clear affirmative action (so no pre-ticked boxes). Article 22 then protects individuals from automated decision-making that has legal ramifications or financial and credit related impact on them. UK GDPR requires companies to carry out a Data Protection Impact Assessment (DPIA) to show that they have identified and assessed what those risks are and how they will address them, especially if companies use hidden transformation systems or black box networks when processing their data.

The Three Challenges in AI are Time, Talent and Trust and here are some solutions to them.

Time- The amount of data available is overwhelming. Less complex data can reduce the time spent analysing it. The more the specific task a machine has to perform is, the faster the outcome and then when machines across different industries communicate with each other through deep learning, the results will be faster too, because of the exchange of knowledge and methodology.

Talent- People with different technical abilities can uncover more unique and useful insights from the data. Attending webinars and having open-sourcing platforms for data scientists can make business function better and inform a more collaborative culture.

Trust- The data that has been collected needs to be made accessible to all appropriate people within the company. This also means the data should be presented in a format that is easy for people to work with, so that people can identify the logic behind the machines its predictions. Also, data privacy, data governance, security and data lineage should be easy to trace for the company and users