



NEXTGEN NETWORK

PRACTICAL APPLICATIONS OF AI IN 2029
LONDON, UK | SEPTEMBER 2-3, 2019

At the sixth workshop in the NextGen Network in London, UK, participants met in groups and were tasked with imagining a scenario in 2029 to brainstorm practical applications of artificial intelligence (AI) with a mock news article that, when ethically implemented, could improve society in the UK. The discussions about values fed into group perceptions of how AI could be used to solve pressing social problems, such as: the effects of climate change, new solutions for a changing food industry, and data-driven approaches to improve health equality. Find the workshop key takeaways [here](#).

A NEW CAPITAL CITY

The day that changed it all - the great storm of September 2019. The whole of the UK was battered when Hurricane Dorian took a dramatic turn away from the US (due to increased temperatures of the whole Atlantic) and battered the south east coast for two weeks.

London was gone. Lost forever under 50 feet of water. The Thames Estuary had become the Thames Sea and the capital of the UK was officially moved to Manchester. At that time people knew it was time to change. The official United Nations inquiry established that the current rate of carbon in the air across the UK had caused Dorian to be dragged across the Atlantic. When analyzing the air, it was determined that 90% of carbon emissions were a result of transport pollution. The government announced immediately that it was necessary to change. We had to embrace a new era of transportation, and utilize AI to help ensure the most environmentally efficient way for people to move around.

When moving the capital city, it was decided to implement a whole new automated transport system. All vehicles now needed to be fully electric and fully autonomous - including private vehicles. The newly developed AI system tracked all vehicles' locations, as well as all individuals via their smart phone. Intended to ensure that a public transport system was more appealing due to increased availability and convenience, there was also a target to cut the current carbon levels across the UK by 90% in ten years. Private cars were still available, but heavily taxed and were hugely expensive to buy. Within two years private cars had reduced by 98% and, within five years, they were only found in museums.



The initial public reaction and reception was not good. People felt that their independence was being stripped and that their options were limited. They were not happy about the constant tracking the government was now implementing and riots occurred throughout the country. However, it was clearly presented to the nation that this was a long-term solution; the world was dying and trading a level of their privacy was necessary for the social, health and environmental good. Workshops and seminars were held at town halls across the country, and detailed information sent to every household to ensure that every member of society clearly understood what, how, and why their data would be used as well as the benefits of this new system. An opt-out clause was created for people who did not want to be part of the system; anyone could go to their local library on the third Wednesday of every month to fill in the 1000-page document.

Every transport option was included, with the needs of all users considered and accounted for. The system was fully inclusive, and those who had previously lived in digital poverty were provided with the technology that would allow them to access the system. The options included buses, trains, trams, mopeds, and self-relocating bikes and skateboards. A limited number of taxis were available to those who required them for accessibility or health reasons. All young people were issued with an electronic band so that they could be a part of the system without requiring a mobile phone. Data was stored anonymously, with strict guidelines put in place to ensure that data could not be compromised. The one time there was an attempted hack by a foreign agency, the blockchain system that had been implemented as a safeguarding measure prevented interference.

The system worked by tracking locations and habits of all users, and then predicting journeys that were to be taken. As time went on, the system became increasingly accurate as the amount of data gathered grew. Annual reviews of the system were conducted and were clearly visible to all. Statistics were regularly shared with commuters to demonstrate the improvement in their journey time. On average, commute time halved for most of the country. The transparency of the system had helped to ensure that people felt valued and safe, whilst also having increasingly efficient infrastructure.

Most importantly, the why behind the system had worked. Carbon emissions had been reduced to 10% of that just ten years earlier. The UK had hit its target of reducing carbon emissions by 90% in ten years. People are now happier, healthier, and safer as a result. There has not been a car casualty for over five years. Despite the implementation of the new system nationwide, HS2 is still not complete...the completion date has now been pushed back to 2059.

NOT DOGS SECURES £100M IN FUNDING

Former dinner lady Ruth Jones takes her alternative food company to another level after securing £100m in funding from venture capitalist FLT. The funding will be used to increase the capacity at their Sunderland plant, creating additional jobs and in global expansion.

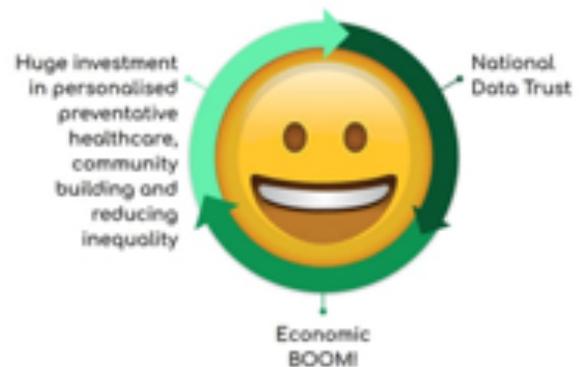


Jones started the business following reskilling through the government AI levy. After school lunches were automated, many dinner staff found themselves out of work. Jones applied for funding through the AI levy in order to learn about nutrition, something she always felt was lacking in the food she was serving.

On the course, she met co-founder Barbara Wilson where they formed the idea of Not Dogs. Now they are using AI to discover the correct nutrition balance for non-meat products.

While Not Dogs is thriving, some people are still unconvinced by the AI levy and its role in UK. The levy was applied from January 2020 on technology companies with more than 200 employees. Some feel this was too much of a tax on smaller companies. Jones and Wilson were able to find something they were passionate about buy many who have lost their jobs through automation and AI are still struggling to find what they can apply for funding for.

DATA-DRIVEN NATIONAL WELLBEING AT AN ALL-TIME HIGH



Today, a landmark study has been released showing the impact of wide-reaching policies which aimed to improve our overall national wellbeing through data-driven initiatives, accelerated greatly by the National Data Trust.

In 2020, after years of political and social turbulence, the UK faced high health inequality, loneliness and polarisation of views. A policy decision was made to prioritise happiness and wellbeing with a focus on community building. At the same time, the UK faced decisions on the direction of its AI industry. One policy initiative combined these areas to promote social wellbeing on a huge scale, and now we have evidence of how broad this reach has been.

A decision was made to invest in technology which helps policymakers, as well as responsible private companies, to understand our needs better. This led to the creation of the National Data Trust, which gathered anonymous data on all parts of the population via a variety of sources. The National Data Trust is an independent non-government body which adheres to a strict ethical framework and is overseen by a committee of experts. Individuals can opt-out of this, however the benefits of participation have been widely publicized, and trust has been built through the strong and transparent governance of the organization.

The National Data Trust made anonymised data available to companies certified as ethical on the basis that they contributed data back into the Trust. This gave technology companies in the UK an unrivalled economic advantage and incentivised responsible AI as companies not meeting ethical standards found themselves at a significant disadvantage. This has led to a booming ethical AI industry in

the UK, and the economic benefits of this have allowed for investment in personalised healthcare, prevention, and wellbeing. Initiatives have included a focus on social prescribing and community initiatives, with AI applications able to give personalised guidance based on circumstances, preferences and needs. One example was the development of a 'loneliness risk indicator' which allowed the application to identify pockets of loneliness in communities and provide personalized recommendations at the individual level to make connections between people to support each other. This has allowed further initiatives to emerge at a community-level using technology to connect groups with similar aims and access funding.

Betty Jones from east London had become isolated from her community due to ill health. She says, "using this application has changed my life. It just seems to know what will get me out of the house and can reassure me that the places I'm going are accessible for me based on my needs - even though they can fluctuate day to day." The use of personalised wellbeing technology has led to a 'virtuous circle' - meaning people can feed their data back into the National Data Trust which continues to improve its reach, diversity and impact.

An Edinburgh University longitudinal study has now traced the impact of this policy initiative against wellbeing measures and using advanced analytical techniques, was able to prove the remarkable efficacy of this policy in improving the UK's wellbeing and economic status. As a thriving centre of AI innovation, the UK has become a world-leader in the industry and its focus on ethical implementation has encouraged higher standards on a global scale.

BANANA.AI ACHIEVES 60% REDUCTION IN FOOD WASTE

Supermarket supply chain company Banana.ai today reported that it has reduced food waste by 60% in operating supermarkets.

The company has been lauded by environmental experts, government, and consumers for addressing the seemingly insoluble problem of food waste. In 2019, the UK was wasting 1.9m tons of food per day due to primitive over ordering practices by supermarkets, driving an ecological crisis and food inequality worldwide.

The introduction that year of new data sharing frameworks, in particular the UK governments food waste data trust, opened a new world of possibilities for intelligent food supply chains. Consumers opted-in to share their data to solve this major global problem, helping companies understand for the first-time what food consumers wanted, where and when.

Banana.ai founder Ben Anna was working in Tesco as a consumer experience and check-out engineer when these new changes took place. As the global environmental crisis put pressure on supermarkets to cut costs, Anna lost his job. However, he was determined to fix the problems that put his job, and the safety of the world in jeopardy.



He took a voluntary retraining course in AI and machine learning under the new National AI retraining scheme, and began working on the Banana.ai algorithm after class.

The AI started with trust data to build a projections algorithm to predict what food was needed where. Anna sold his concept back to Tesco in 2021. In only six months, the algorithm was able to reduce waste in stores by 30%, leading to investment and companywide rollout. It wasn't long before every supermarket wanted to join in, and Banana.ai is set to be a powerbroker in the food and drink market for years to come.

The current Banana.ai platform asks users to opt-in to share their purchase data, smart fridge and smart waste disposal data when shopping at a partner supermarket. The AI takes this data from every user to generate predictive orders for supermarkets. This means that supermarkets are demanding more precise orders for suppliers worldwide, lowering demand of food. Consumers get reduced prices, and supermarkets are most cost-efficient.

It is not only cheaper to shop with the Banana.ai opt-in, it also means that producers are able to sell to a more diverse customer base, reducing global food poverty levels. The company is now seeking a major international expansion to bring the benefits to other demand heavy markets.

"There is enough food on this planet for everyone", says Anna, "We just needed an AI to help us distribute it in a more efficient manner."

However, not everyone is so enthusiastic. Food banks and homeless charities have had a reduction of food bank donations, as Banana.ai enabled supermarkets have less waste to spare. A manager of a foodbank, who wished to remain anonymous told this publication: "This is just another example of Artificial Intelligence making the world a better place, but forgetting about the need on its own doorstep."

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