TECHNOLOGY

Agri-AI-Tech

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The pandemic shows us a way forward for the food supply of the future.

☑ **INSIGHT** | **NOTE**   22 May 2020

As the global lockdown proceeds, with attention split between the lockdown exit and the next potential wave of COVID-19 cases, the realities of global labor risk are getting clearer. New common language of essential and non-essential, remote and non-remote-able are shaping a new landscape of technological demand. With such a crisis, an equal interest in investigating what emerging technology can do has emerged. Not only to help respond to the pandemic, but also to mediate this division of work, and to understand what

can be done to better prepare the world for the next round of shocks from isolation and quarantine. This interest has naturally given leeway to the question of what AI can and cannot do for the pandemic.

Indeed, in the short run there has been a wide interest in leveraging AI for healthcare, to improve the digital frontline of how hospitals and doctors can better respond safely to larger spikes in infection victims or be able to automate certain parts of that response at scale. With the good comes the bad, as parallel to these explorations has been a wide publication of rushed ML generated epidemiological models and under-developed – though novel – healthcare solutions; such a rush can promote a rise in repetitive studies, incoherent non-reviewed modeling, and under appreciation for the complex and feedback-heavy environment of hospitals and healthcare, driven by a rush for engineers and startups to repurpose their data science talents seemingly for the common good.

There are many places for future research and innovation for AI in healthcare, but it should not exhaust the vision for what AI can do to help. Some of the best work AI firms might do in the coming year(s) may be in some critical primary social and economic sectors impacted by public health shocks and supply chain shake ups; most notably, food production and distribution.

> *"Some of the best work AI firms might do in the coming year(s) may be in food production and distribution."*

The lockdown has added a disruption to global agricultural supply chains from the readjustment of supply chain, as impacted by the dropping production and logistics bottleneck, followed by a distorted panicked demand of the days right pre-lockdown. As the concept of work continues to be limited by lockdowns, the high-value commodities which happen to be more labor intensive are more affected by the turmoil.

In the case of diary business, the disruption leads to the sad practice of milk-dumping, due to the inability to cope with the inelasticity of the novel demand. In US alone, 50% of consumers' food spending is allocated on restaurants -– however, with inconsistent access

to delivery services as well as inconsistent use and demand for such services, restaurants will likely experience a broad restructuring, in the best case scenarios.

We can further expand our field of visions to consider how urban areas of high population densities are hit harder, therefore the food supply chain is impacted at a larger scale in highly urbanized countries. The lockdown of ports and plunged currencies put countries who depend on imported food at a vulnerable position. Coordination and collaboration based on a lack of sufficient information at a global level becomes questionable. The new challenge for the broad expanse of food production and distribution is how to quickly adapt to a new rising logic of repackaging, relabelling, remote purchase and distribution, in a word, the entire chain of production. Moreover, effective access to insight and analytics to better match this new and changing distribution of demand to the reorganization of supply.

So what can an extensive AI programs do to help with this?

What is needed is a broader conversation among those with the data capture and processing and those with the means to effectively leverage that data to provide the insights needed. This is not a quick process, but one which has the potential to be an essential means of expanding global food chain resilience, while tackling its waste and pollution and contribution to global viral outbreaks simultaneously, through what we can call **Agri-AI-Tech.**

This is a collaborative innovation problem, pointed at the demand to establish and improve global data and analytics cooperation. Perhaps more fundamentally, what we are talking about is not the distribution of hyper precision, nor the promise of full-automation, but the increasing push of data, with the purpose to define, as an objective, the inherent value of improving the capacity of each individual actor to learn and respond to global disruptions as they happen in a more effective capacity. This is the question which a new generation of firms and funding must address in relation to extreme events – the next pandemic, the next systemic shock –- what's the maximum value to be extracted from global real-time data cooperation and global data collaboration at the multilateral level? AI

can help in that battle and may be one of the most essential tools towards advancing the predictive capabilities, database coherence, and progressive minor automation to achieve this at the scale demanded.

In the face of a pandemic, industrial cooperation platforms at regional, national and global levels for agricultural data are needed. The dire reality remains that most existing firms are not capable of scaling out basic data processing and automation effectively -– indeed, one of the biggest problems with enterprise AI is not its efficacy but the paucity of available data scientists, employed and deployed to effectively translate the results, driving a global demand for no-code data science solutions.

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A progressive global challenge initiative is called for to improve a multi-level, multi-sector consideration of the end to end needs to scale information across these supply chains. In this battle against COVID-19, the most pressing issue is not yield capacity, but how new systems supported by advanced analytics can improve global cooperation and responsiveness to achieve the fluidity of global food supply chain required for embracing uncertainty in the age of pandemics and see the benefits of what an Agri-AI-Tech system may be able to harvest.

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