# Class Notes

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## Class Information

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| Course Name: | ITAI-2372 |
| Instructor: | Anna Rachapudi |
| Date: | 1-23-25 |
| Topic: | AI implemented into legacy industries |

## Main Content

Automation of even the smallest part in a supply chain becomes a new role with highly technical skills and sought after pay (obviously). Artificial Intelligence presents new challenges for the already complex operation of the healthcare system, the benefits of AI do not split evenly for all industries both new and young and this has to do with the way some hospitals operate there is a non-zero chance that a hospital operating with high profits is the most likely contender for being the fastest at implementing AI solutions into some space of their operation. That being said not all AI is good AI in other words there will be mistakes especially in early adoption stage where the AI used could spit out a completely erroneous diagnosis which in turn becomes a slippery slope.

Automation in the farming industry could become something more common as farmers are notoriously bad with their loaned money, they are also the ones who have the most to lose in trying to update their farms technologically. Artificial intelligence applications that exist right now such as Plantafriend helps you provide your plant with the best of the best in care as it uses AI to analyze the image of the plant to identify if the plant is: overwatered, stressed, underweight or dying. This is one example of how AI could be implemented at large scale within farms with these same techniques as they could prove useful in early detection of weed growth, plant insect infestation or even what the percentage rate yield will be based on all of the previous data. Now if we were to marry both of these systems we could have a far better, healthier and accurate crop yield and supply chain predictions.

## Key Points

* Artificial intelligence being deployed in healthcare and the farming industry?
* What challenges does the AI revolution bring to these industries?
* Is deploying AI in either particularly dangerous?

## Definitions/Concepts

* Job Displacement: This refers to what would likely happen.if there were to be AI agents of systems that wipe out entire workforces in one go.
* Increased Complexity: Within healthcare there are already too many lose ends and adding Artificial intelligence to the mix could make the whole thing even more convoluted to manage appropriately.
* Digital Divide: The marked separation between those the small fry of either healthcare or farming industry who cannot afford to add artificial intelligence (i.e; rich vs poor)
* Precision Farming: The emergent strategy of leveraging existent technologies to advance what we understand at the micro level.
* PlantFriend app: A new utilization of AI to help aide you in growing and maintaining plants.
* Over-Realiance: This refers to the idea that we may become complacent at some point and in doing so create a security flaw within systems that are already not efficient, streamlined nor flexible enough to withstand a critical system failure.
* Predictive Farming: A type of agriculture which uses technology and AI to sort of guess in the smartest way possible with data about a farm various different point such as; yield death, weed emergence, over-fertilization, plant disease etc. This mostly focuses on using tech at a larger macro level.
* Intelligent Supply Chain; The idea that once all of our farms have AI aides we can then compensate that data with that of retailers, vendor and logistics operations in an effort to be as efficient and vicariously help reduce the amount of food or in this case the “yield” of the farms.

## Examples/Applications

* Responsible Farming
* Supply Chain Smart Management
* Farming Predictively
* Healthcare GenAi

## Questions/Clarifications

1. Why does AI need to be in absolutely everything?
2. What if something goes wrong within farms who adopt the same AI service at once and get cyberattacked?
3. What guarantees that we, as in the general population, that the owners of fully autonomous farms won’t somehow make mistakes with our food?
4. How exactly will HIPPA be honored if there is a third-party at all times in between PCP and patient?

## Summary/Reflection

Overall, the class went over what AI could become in the near future as more and more industries rush to break into it. Both industries, healthcare and Farming both stand to lose an exorbitant amount if there were anything to go wrong; basically they have a lot to lose and gain. We also go over what these implementations mean for ethics, safety and possible advancements as both need a serious set of extra hands, notoriously. We ended the class off by exploring the supply chain side of the operation which also has lots to lose and gain. Lastly, we delved into what these systems could mean for; the human cost, exponential economic growth, possible catastrophic scenarios and an increasing gap between those who reap the benefits of AI and those who will be left behind.

I thought this class meeting was very productive, granted I got into it an hour late, I still very much enjoyed it and had fun learning about some very interesting technology. I do wish asked a bit more on some of the concepts like that of the supply chain being consolidated into one with the supply chain. I think that there are some even better ways to implement AI within that industry alone. We could use AI agents to drive for the truck haulers as they rest for 8 hours as their health is being personalized by their own AI. Or we could set it up at the level of retailers so that they can get ahead of the curve when it comes to throwing their food away. This could be a system that handshakes with their logistics AI to get data on wether or not the probability of there being enough people who buy “X food product” before it spoils is high or low so they could give it to the those in need. A rather invasive and maybe unethical implementation could be closely watching who spends the most time in the store and how much they spend on average on groceries (along with other data points) could potentially open the door to Personalized Sales where all you need is somehow magically always in stock even when other grocers don’t have it.