**Healthcare**

**Problems being handled by AI/Use Cases:**

-Mundane Work

-Large amounts of data analysis

-Can fully automate appointments

-Reduces Wait Time

**Medical Imaging/Diagnosis/Pattern Recognition (X-Rays, CT Scans, etc.)**

-Near Impossible and expensive to look through thousands of records on your own, AI makes it possible.

-Able to identify issues the moment a similar scan is on Record, or old archived data.

-Able to suggest treatments based off what did and didn’t work

**Predictive Analytics**

-Can infer from certain things like, BMI, already diabetic, doesn’t exercise, means there’s a good chance there could be heart issues in the future

-Using data from lifestyles or genetics can also suggest lifestyle improvements or treatments for early intervention.

-Can also use data from high-risk potential based off personal and overall patient history.

**Personalized Treatment Plans**

-Custom treatment plans based off all factors, genetics, lifestyle, history, etc.

**Preventive Health Care**

-Early Treatment to prevent future cases

**Hospital Administration**

-Can automate scheduling, insurance information, and other mundane manual tasks to be done by AI.

-Can reduce physical documentation

(<https://www.medicalsolutions.com/>)

Travel Nursing Jobs

**Drug Discovery**

-FDA approved 3 or 4 drugs every year

-Some drugs are needed earlier than they’re released and available

(https://www.insitro.com/)

Buy and Assimilate data to estimate drug releases

**Remote Monitoring**

-Smart Devices (Apple Watch, IPhone, etc)

-Can Identify stuff like a fall, or accident, or even something like irregular heart rate conditions instantly.

**Problems Not Solved:**

-Highly Regulated Industry

-People don’t trust each other

-Integration/Power to Integrate (Biggest Challenge)

**PHI – Personal Health Information**

**PII – Personally Identifiable Information**

**Bias in AI Models**

-AI could misinterpret or not understand certain parts of information and give a wrong diagnosis.

-Decisions will be unfair and inaccurate if there is unmanaged Bias.

-Data needs to be diverse to be accurate

**Integration with Hospital Management Systems**

-Hospitals have specific databases (EPIC)

-Not easy to access or integrate.

-Highly Regulated Industry

**Problems Created by AI:**

**Job Displacement**

-AI taking certain jobs (Repetitive, Boring tasks)

**Overreliance on Technology**

-If AI systems go down, patients are at risk.

**Misdiagnosis**

-If AI identifies something as something else, it could lead to the wrong treatment provided for a patient.

**Complexity**

**-**As more information needs to be sorted and solved, more and more systems need to be implemented for data to work

**Digital Divide**

-AI Systems are not affordable for everybody

**Use Cases I Can Think Of:**

**-Disease Recognition**

**-Patient Recognition/Automatic Profile Finding**

**-Automatic Prescription**

**-Treatment Suggestion**

**-Easily Searchable Database**

**Agriculture**

**AI Uses:**

**Crop Monitoring**

-Automatic monitoring of crops health and status reducing time needed watching crops.

**Disease Preventive Care**

-Can identify potential diseases using data on seasons or new diseases and suggest preventive measures.

-Prevents waste and overuse of chemicals

**Plant Care Apps/Precision Farming**

-Can give suggestions on status or potential care needed for plant.

**Automated Reading and Pest Control**

-Can identify pests and automatically spray pests to control possible outbreak of pests in farms.

**Yield Prediction**

-Can identify weather forecasts, state of the world, type of soil and crop, what season it is, and estimate a possible yield more accurately than certain farmers can for orders and prices.

-Prevent loss of fruit and vegetables

**Supply Chain Optimization**

-Optimizing the chain of supply can be influenced by routes and deliveries, store stock, and other patterns of usage like how often they’re bought can also prevent waste.

**Problems Yet to be Solved**

**Data Privacy/Security**

-People don’t trust AI and data collected can make people feel like their privacy is invaded

**Integration**

-Farmers knowledge that exists has to be extracted, and different techniques applied to make AI more useful on the field.

**High Initial Cost**

-Farmers are usually cheaper, and using constant AI on large-scale farms will be more expensive than just a few employees maintaining entire fields on their own.

**Regulatory Hurdles**

-Food sanitation, and other regulations on farms may make it difficult for AI to be properly used.

**Problems Caused by AI**

**Job Displacement**

-Certain jobs are going to be taken over by AI.

**Technology Reliance**

-Farms will be completely dependent on AI systems, so farmers may disappear and not be able to help during a system outage.

**Digital Divide**

-Will cause a divide on cost and performance of luxury vs poor farms using and not using AI.

**Environmental Impact**

-AI infrastructure costs more resources and pollution can impact the environment.

**Increased Complexity**

-Different crops and farms require different systems and complex development to properly function.

**Use Cases I Can Think Of:**

**-Automatic Crop Care Depending on World Conditions (Season, Time, Crop Type, Soil Type)**

**-Crop Health Monitoring**

**-Automatic Harvesting/Watering**

**-Proper use of chemicals/pesticide to prevent disease and bugs**

**-Aid in best procedure for farmers to take during certain times of the year, or keep them updated on potential new diseases or unexpected weather.**