**Health Care**

Hospitals, medical/cancer research, clinical trials, palliative care, elderly care programs, health insurance e.t.c

Problems being handles by A.I (use cases)

1. Medical imaging and diagnosis- image and pattern recognition

* Large amount of data to be analyzed
* MRI;s CT scans, X Rays, e.t.c
* AI analyzes thousands of imagery and gives results based on pattern recognition. Saves the tedious work.

1. Predictive analysis

* Preventive healthcare suggestions based off pattern recognition
* Identifies high risks potential patients based on past data and medical analysis. Geography, lifestyle, background,habits and medical history e.t.c
* For ex: An athlete vs less active engineer person going to see the doctor for muscle pain

1. Personalized treatment plans

* Based on all factors, generative AI can be used to create personal plans and solutions

1. Hospital administration tests

* Arduous forms can be digitized and prompted by AI

(Medical solutions nebraska)

* Mass hires nurses, mass care is necessary in order to reduce risk
* Risl is reduced with transfer (medical systems hires and find travel nurses from a system)
* Nurses have their timesheet,very important for precision. Medical systems have 15,000 data entry operators entering this information into the system. This can lead to misconstrued information, irregular data.
* Optical
* Not only can AI reduce the irregularities, AI also reduces money expenditure and can be

1. Drug discovery

* AI company in Bay area
* Thousands (15,000- 20,000 at least)of drugs manufactured and FDA only approves 5-6 a year
* These drugs are tested on living things, Animals, humans, clinical trials, gathered data, compiled to show FDA, etc. the process is long but the demand is high
* A systematic estimate for how soon the process and progress is necessary
* AI can solve the problem, drug release crosses lifetimes and AI can speed up the process
* Compounds in medication can have different effects in people
* AI can help with that. It can sift through medical history and millions of data to create better drug discovery (finding medication to be released and medication to be prescribed)

1. Remote monitors- timely intervention

* Apple can identify falls and accidents to seek out help
* They also track all our physical habits. Sleep, heart rate, ecg, a lot of our variables
* It can alsop track abnormalities, so it can point out what is happening with your body as it happens and intervene if necessary

**Dream to Reality;**

App in phone, variable on wrist. App has all medical history and data loaded. A genet=rative AI app that uses predictive analysis to detect your possibilities. Also gives you opportunities to get a specialist ASAP. Reviews for specialists, location scan, gets consent to transfer medical info, and once you have location information it does all the work for you. Speeds up the diagnosis process with as little stress as possible. Everything is done in the app.

Problems yet to be solved; why the dream is not a reality

* PHI (personal health information)
* PII (personal identity information)
* HIPAA violations can be brutal
* Transferring data can be difficult, patient must give release of information for any transfer
* Integration
* Communication
* Must make sure data is diverse for accuracy. Consciously must be managed for proper solutions.
* AI can process millions of data to aid with diligence
* EPIC database for developing reports. Access takes 3 months
* Data integrations
* Regulatory issues/ approvals
* AI creates ethical questions

Job displacement

* Humanoid capable of everything, high brain power
* Common sense is the most important commodity in the world
* Humans will always be needed because the algorithm will always be manipulated
* The human mind is the most creative and intrinsic. It has knowledge and understanding computers can not
* Human conscience is always needed
* Increased complexity
* Missed diagnosis
* Automations are to aid human life, not replace
* Lots of complexities for information exchange
* Digital divide. AI systems are not available for everybody. Healthcare is of lower quality for most

**Agriculture**

Farming, Fishing, Poultry, dairy

Pesticides

* Produce filled with chemicals
* Animals stay away from the food
* Crop monitoring is arduous
* Preventive care in crops causes disease and hardship for consumers

Potential use cases for AI:

* preventive timely interventions for crop disease
* Precision forming. Knowing exactly what the crop needs
* Automated weeding and pest control. Robots weed plants and spray for pest control
* Heal prediction. AI can detect information about the crop in order to make sure their produce
* Supply chain optimization

Problems yet to be solved;

* Data privacy
* Integration with traditional practices. Traditional farming techniques must be incorporated into AI systems. Lots of extracting and inputting, very tedious
* High initial costs
* Regulatory hurdles. Agriculture is highly regulatory. Wrong data could cause mass destruction
* Biases in AI models. If the models do not consider diverse climate, farming, soil, and environment conditions.

Problems created by AI

* Job displacement
* Over reliance on technology
* Digital divide
* Environmental issues. GPU’s can cause radiation and environmental impact.
* Increase complexities

**Beauty industry**

Haircare, Skincare, Makeup, Fragrances, Feminine Hygiene/menstrual care

Potential uses for AI

1. Product personalization and reccomendation.

* Hair types/ porosit/ dye and hair transformations recorded to recommend best products to use for upkeep and bring health to hair.
* Skin type/ past products used and recorded dermatology medical history data considered to reccomend products and tips for healthy bright skin
* Skin type and desired look shared for AI to use to recommend makeup products
* Desired scents, budget, and possible allergies shared for proper recommendations
* Cycle tracking app with access to medical history that not only monitors and alerts you about how your hormones may be affecting your body and mind, but also about which care products and foods/ vitamins would help. Also recommendations for non toxic menstrual care products and their price point.

1. Consumer engagement

* Generative AI can create hyper personalized conversations for marketing which can help sales go up
* Engaging customer service that interacts specific to each user

1. Supply chain optimization

* Try before you buy
* AI can predict trends in customer demand

Problems yet to be solved

* Lack of transparency regarding ingredients and sustainability practices
* Pressure to innovate and follow trends
* Greenwashing

Problems created by AI

* Data privacy (personal data, medical history and facial skans)
* Algorithmic bias and lack of inclusivity(AI data may not be diverse enough to tend to all skin tones, features, and body types)
* Over reliance