Brainstorming

Date 12/05/24

Science Fair Ideas

- ~~How does studying affect your brain and which methods are better for different people~~
- ~~Are headphones/earphones dangerous~~
- Black holes (how they form, and effect)
- How does music affect humans and change them.
- ~~Sound in the universe~~
- ~~Why is sleeping important~~
- ~~How are dreams formed~~

- ~~How are gemstones created~~
- ~~What are stars/planets made of~~
- ~~When do stars/planets die~~
- ~~Reflexes~~
- ~~How do substances affect rate of growth of plant (water)~~
- ~~How can pollution affecting human life span~~
- ~~What makes teeth stronger than others.~~
- ~~Why do personalities change~~

- ~~Why does the flavor of something go or disappear the longer you let it sit.~~
- ~~How does temperature affect the rate of growth of plants.~~
- ~~Relation of learning & physical~~
- ~~How does shampoo help your hair grow if your hair is dead cells~~
- How does fungi develop
- ~~Fruit juice vs. soft drinks vs. sports drinks.~~
- Circadian Rhythm

- ~~Which skin moisturizer works best~~
- How does genetics ~~work~~. DNA.
- ~~Different sugars and measuring them.~~
- ~~Peppermint affect on academics.~~
- Glowing Bacteria
- Why does water glow in the dark
- Impact AI
- IS AI trustable

Final Idea: AI Reasearch

Plan

Date 12/12/24

Topics I want to research:

- Background Reasearch
- Who created it?
- Why it was created / Reasoning?
- Evolution
- How does it know the answer to so much?
- Is the information trustable / foolproof?
- Pros & Cons
- How much is it used?
- Why is it used that much?
- Is it being misused?
- Main use
- How was AI developed / based on what?
- How does it affect us?
  - ↳ How does it affect different age groups
- World without AI

01: Who created AI and why? Date [12/16/24]

Who created AI?

↳ The modern AI started with British mathematician, and logician; Alan Turing. It didn't just stop there, It only progressed greater as the 21st century continued.

Why was it created

↳ It all started with the idea to recreate how the human brain works to think. AI aims to create machines and systems that need/recreate human knowledge / intelligence to work/operate. It has now gone above and beyond that now.

02: Evolution of AI

Graph provided on slides

03: How did AI develop?

- It all started with the idea that they wanted to recreate a symbolic system that showed us how the human brain works to think.

- 1956: The first ever AI was created and tested to see if it could solve complex mathematical questions. Later a programming language was created

- 1960: Used knowledge and information to create

the first robot that could barely move and carried out simple tasks

- 1970: Chatbot was created. Which would help people out (something like Siri & Alexa)

- 2000: AI proved to be more intelligent compared to humans when it beat a world champion at chess

04: Trustable / Identifiable Information.

Trustable

↳ Most of the time the information that AI provides is mostly, if not always, proven through mathematics. When it comes to some cases, such as self-driving car, we can't predict what the roads will be like (traffic) this can't be proven through mathematics. So most of the time, depending on the situation and information there is a backup reason to justify the information.

Identifiable

↳ If the data provided by AI is taken straight off of a personal website (per say), then, Yes it is identifiable. Sometimes Anonymous Techniques can be used to rid personal identifiers that relate to the data set that is being used.

05: Pros & Cons

Date 01/01/25

PROS

- Saving time
- eliminating bias
- automating tasks
- Smoothely handles big data
- Quick decision-making
- Digital Assistants
- Risky tasks completed
- Medical Applications
- Full-time availability
- Enhanced efficiency
- Streamline
- reduce human error
- Automation
- Surveillence
- Problem-solving
- Can save Buisness costs
- Global Growth impact
- Improvements to daily life
- Resilience & Sustainability

CONS

- costly implementation
- Potential job loss
- lack of emotion & Creativity
- Discrimination
- Some biased decisions
- Spread misfortune
- Lack of Explainability
- Social Manipulation
- Privacy and Security
- Lack of Data Privacy
- Weakening Ethics & Goodwill
- Autonomous Weapons
- Financial Crisis
- Loss of Human Influence
- Uncontrollable Self-Aware
- Increased criminal Activity
- Economic & Political Instability
- Take over Job Roles
- Impact Humanity & Judgement

06: Application

Date [redacted]

- Education
- Healthcare
- Finance
- Transportation
- Agriculture
- Retail
- Manufacturing
- Marketing
- Cybersecurity
- Entertainement
- Gaming
- Environmental Management
- Human Resources
- Law
- Smart Cities

08: Is AI Being misused? Date [redacted]

- Facial Recognition
- Bias in Finance and Lending
- Scams
- Tracking & Monitoring

etc.

09: The different types of AI (7 types)

1. Narrow AI
   - ↳ Also considered weak AI. Can't independently learn skills beyond their design. It is used to perform and complete very specific actions and jobs. Built to excel in one cognitive capability. Almost all AI used now, fall into the category of Narrow AI.
   - It often uses natural language processing, neutral network, and machine learning algorithms to perform specific tasks
   - ↳ Ex. Self-driving cars, AI virtual assistants

2. Artificial General intelligence
   - ↳ Also called general AI or strong AI. Designed to, perform various actions at the same level as humans, such as think and learn.
   - They are built using quantum hardware, super computers, and generative AI
   - ↳ Ex. ChatGPT

Date

4. Artificial Superintelligence
   - Also called super AI. Surpass humans when it comes to knowledge and capabilities.
   - Its concept is also what fuels the popular media trope, "AI Takeovers". But at this point its just speculation.
   - It is said that it could be "the most capable forms of intelligence on earth." says Dave Rogenmoser, CEO of AI writing company Jasper.

4. Reactive Machine AI
   - Can respond to requests and tasks immediatly. Are not capable of storing memory. Only a limited combination of inputs can be responded to. Most fundamental type of AI.
   - In practice, useful in autonomous functions. Examples of such autonomous functions include: filtering spam or recommending items based on your shopping history.
     - Ex. IBM Deep Blue, Netflix Recommendation Engine

5. Limited Memory AI
   - Store memory and use it to make predictions. Perform tasks based on the limited knowledge.

- The core is deep learning which immitate the neurons in our brains function

Page

Date [01/06/25]

The ability to absorb data and learn from experiences, helping it improve its accuracy of actions.

↳ Ex: ChatBots, Virtual Assistants, Self-driving cars.

6. Theory of Mind AI

↳ ability to interpret and recognize human emotions. Term is borrowed from psycology. It is not achieved yet, if it is, then it would be a substanial milestone in AI development.

- There are lots of positive affects, but also many risks to the tech world, if there was an emotionally intelligent AI. This type could lead to automation of more jobs.

7. Self-Aware AI

↳ Refers to hypothetical stage, where AI posses self-awareness. One of the ultimate goals of AI. It is said that once AI reaches this point, it will be out of our control.

10: Targeted Audience

Date

- There is "AI-driven Audience Targeting" which is used in Marketing. It uses machine learning to engage with certain age groups based on their demographic, behavioral, geographic, and psychographic characteristics. This guides marketing strategies.

- Larger jobs/companies with complex operations rely on AI. Healthcare & Banking also rely heavily on AI. Consumers are also relying on AI.

11: Impact/Effect on different age groups

~~Effect on kids - Teens~~

- Educational Transformation - revolutionizing education. AI-powered learning tools, interactive applications, and personalized tutoring systems.

- Digital Literacy and Online Safety - accessing information online, learning to recognize misinformation, and protect their online identity.

- Impact on Social skills - can impact social development. Effects on child's physical and mental health. Breaks must be encouraged.

Date 10/24/24

Effect on Teens - Adults

- Students are using it to cheat
- Help get answers to unasked questions
- Lead to Bullying, disinformation
- Chance of being humbler
- Treat other life, living systems with respect

Effect on Senior Citizens

- Healthcare Assistance - remote patient monitoring systems. 24/7 access to healthcare information.

- Transportation and Mobility - ride sharing platforms. reduce reliance on public transportation. provide door-to-door transportation.

- Cognitive Assistance & Social Engagement - AI can help with memory enhancement, and mental simulation.

- Enable Independent Living - voice-activated assistants such as Alexa, can help with tasks such as turning on and off the lights.

Date

12. Impact on Society

Positive impact

This is where the pros and cons help make the decision. There was an equal amount of pros and cons.

There is a big positive impact. It helps with jobs, help get work, that is not capable of humans, done. It could go on. It helps us in our day-to-day life, and helps many important prople in our lives.

Negative Impact

Here, lets summarize all the ways AI could negatively impact society-

The cost plays a big role. There are decisions being made that may discriminate others. There are biased opinions. AI is taking over certain jobs. Lastly there is a hoge impact on Social development, Humanity and judgement.

Date 01/15/24

13: World without AI

It's really hard to imagine a world without AI. AI is used in our day to day life, and it would be hard to describe the world without it.

First of all we would have to acknowledge that without AI, we would have to do all the work that AI does for us. This includes finding answers to questions, doing work that humans at the moment can't do. That would also mean we didn't have access to laptops, cell phones etc.

looking at this life would be hard

14: Future with AI

Here I'll explain a couple examples of AI in the future

- Edge AI and on-device processing - faster & real time analytics. Improves privacy for healthcare, and autonomous especially.

Page

Date

- Explainable AI: enabling businesses to trust and validate AI system's decisions, especially in fields such as legal services and finance.
- Generative AI & Natural Language Processing: Human like text, art, & Imitation. These automate content creation, and customer support. It also enhances operational efficiency.
- Human-Centric AI: Collaboration between machines and humans. Can be used in complex situations such as risk analysis & medical diagnostics.

Date

15: Conclusion

Looking at the information that I have collected & researched in the previous slides we know that, AI was created to help humans go about their day-to-day life. We also briefly talked about the evolution of AI, and how it evolved over the years. We also looked at if it's trustable, which in most cases is, and we looked at if it was identifiable, learning that yes, it is identifiable. There are many pros, such as Saving Time, and Reducing Human Error etc. We also looked at many Cons, such as Bias facts, and misuse. AI is applied in many ways such as education, Marketing etc.. We then looked at graphs & statistics We then looked at the different AI and how its impacting different groups, such as senior citizens in their daily life. We then looked at the Impact and how life would look like without AI. Lastly we can conclude that AI has many positive aspects but many negative situations because of decisions being made that AI is being misused. In the end without AI life would be impossible, unimaginable. AI definetly has a positive impact on society and individuals.

Page