**TAHA DAWOOD**

**Assignment 1**

TOPIC/QUESTION: Is it possible to know for sure if something is AI-generated?

Hypothesis: I think that it will not be possible to know if something is AI-generated, because AI is always developing, and will eventually reach near-human intelligence.

Manipulated variable: The piece of writing/image presented to the individuals/checker.

Independent variable: The source from which the writing is from (human writer, ChatGPT, Photoshop)

Controlled variable: The group of individuals being asked, AI checker being used

Resources (not complete, still need more)

<https://www.techtarget.com/searchenterpriseai/feature/How-to-detect-AI-generated-content#:~:text=Repetitive%20words%20and%20phrases.,might%20be%20written%20by%20humans>.

<https://www.forbes.com/sites/ariannajohnson/2023/06/07/new-tool-can-tell-if-something-is-ai-written-with-99-accuracy/?sh=77755df95ed4>

**Assignment 2: Procedure**

**Step 1:**

Prepare the following:

An article written 100% by AI

An article written 100% by a human

A human written article with some changes made by A.I

An original image

And finally, a different image expanded by AI

You can use ChatGPT, PhotoShop Generative Fill, and original articles and pictures written or taken by real humans.

**Step 2:**

Ask 3 different people and 3 different AI checkers which one is AI generated and which one is original/human created

**Step 3:**

Repeat steps 1 and 2 as many times as you feel necessary. The more tests, the better.

What to change: The photo/piece of writing presented to the individuals/checker

What **NOT** to change: The people being interviewed and AI checker being used

**Step 4:**

Record the results. See if the responses from the humans and AI checkers were accurate to if AI created the piece of writing/photo or not.

If the results are not accurate, then it proves that we can't know whether something is or isn’t AI-generated.

If the results are accurate, then it is safe to say that we can know if something is or isn’t AI-generated.

***However…***

These results may change over time as AI technology advances, so this experiment can be conducted at any time in the future

***Jan 03, 2024***

After finishing my background research, I understand that there is a lot more about AI than I realised. It does not only affect jobs, but also can lead to issues with justice systems because of algorithmic bias, and security breaches.

**Assignment 3: Background research**

General Topic: How AI affects jobs and how to prevent AI from making a negative impact.

Is it possible to accurately distinguish between AI and human intelligence, and how does this affect society?

As AI develops, it may be impossible to distinguish between AI and natural intelligence. This could prove to be dangerous, with AI perhaps being so close to human intelligence, it can act just like a human being who has extraordinary intelligence. This may lead to a decrease in job opportunities for actual human beings, privacy concerns, security risks and in general a lack of natural human creativity in society.

This project will experiment with ways to determine what is or isn’t AI created, and how to know what is generated by AI.

Specific Topic: AI predictability, knowing what is or isn’t created by AI

We already know that AI has the potential to be something revolutionary, yet incredibly dangerous. We know it can make privacy violation, that it can lead to algorithmic biad and that is can lead to job loss. These days, it is obvious to tell what is AI generated using AI checkers or intuition. But what about in the next 5, 10 or 20 years from today? How advanced will AI be by then?

In order to prevent AI from making a negative impact on society, there are some things which need to be understood about AI. For example, what is the nature of AI? How can we tell if something is AI or not? What can we do to prevent AI from reaching a point where natural intelligence is not needed? Is it possible to know if something is AI generated?

The thing we don’t know about AI is the most dangerous thing about it: We don’t know how unexplainable and unpredictable it is

All of these things are crucial in making sure AI can not lead to making a negative impact on society

My project will experiment with methods to determine between AI and human intelligence.

It will test the reliability of these methods and prove if it is or isn’t possible to know what is or isn’t created by AI

In this experiment, I will give a series of human and AI generated pieces of writing or art to a variety of people and AI checkers. I will tell them ways to know between artificial and natural intelligence. Finally, without telling the people or AI checkers which or the pieces of writing or art is created by man or machine, I will ask them what is created by AI or by a human.

These experiments will lead to the conclusion that it is or isn’t possible to know what is AI generated or man-made.

All of this is on the Google Slides (link to it below)

<https://docs.google.com/presentation/d/1kq3_smlv7D36osI57K97wNDBFz3cE92GYXKX82vD1Mg/edit#slide=id.g2aa961c275f_0_10>

SOURCES

<https://www.simplilearn.com/advantages-and-disadvantages-of-artificial-intelligence-article#:~:text=The%20drawbacks%20of%20AI%20include,human%2Dlike%20creativity%20and%20empathy>.

<https://builtin.com/artificial-intelligence/risks-of-artificial-intelligence>

<https://decrypt.co/resources/what-are-the-dangers-of-ai>

<https://www.scientificamerican.com/article/how-can-we-trust-ai-if-we-dont-know-how-it-works/#:~:text=But%20AI%20systems%20have%20a,expect%20is%20a%20significant%20challenge>.

<https://northwestbylines.co.uk/business/technology/potential-dangers-in-artificial-intelligence-can-we-control-it/>

***Jan 26, 2024***

**Assignment 4, Data Collecting & Organizing**

I now begin my data collection. I use multiple sources and CHATGPT to create pieces of writing. I WILL NOT USE PICTURES SINCE IT WILL WASTE INK, TIME AND PAPER, AND THERE ARE NO GOOD AI CHECKERS FOR PHOTOS. Once I have collected all of my pieces. I will create a survey form and ask my family members to see which one of the pieces they think is written by A.I, and I will ask AI checkers if they think they know the difference. After going through 2 of each piece, I will then give them tricks and signs to know what is AI generated or not and then see how the results get affected. All pieces of writing will be sourced, credited and linked to below. After all of my data is collected, I will organize it into tables and graphs.

Answers to the experiment will be in this log book ONLY.

TRICKS PROVIDED: Incorrect and outdated information. Lack of depth and personality. Repetitive language. (<https://www.semrush.com/blog/how-to-detect-ai-written-content-and-plagiarism/>)

(<https://originality.ai/blog/how-to-detect-ai-generated-articles>)

Sources:

* <https://www.history.com/topics/inventions/albert-einstein>
* <https://www.nobelprize.org/prizes/physics/1921/einstein/biographical/>

* <https://brainly.in/question/57140224#:~:text=Throughout%20the%20book%2C%20Harry%20learns,his%20next%20year%20at%20Hogwarts>.
* <https://www.sparknotes.com/lit/harrypotter/>

* <https://hosted.lib.uiowa.edu/histmed/plague/>
* <https://my.clevelandclinic.org/health/diseases/21590-bubonic-plague>

* <https://en.wikipedia.org/wiki/Bird_of_prey>
* <https://www.123helpme.com/essay/Raptors-Birds-of-Prey-203919>

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**ROUND 1 (no hints, pure instinct) (topic: background of Albert Einstein)**

Instructions: Write an “H” next to the number if you think it is human written, write an “A” if you think it is AI generated, write an “E” if you think it is human but edited by AI.

***(A) 1)*** *Albert Einstein, born on March 14, 1879, in Ulm, Germany, was a brilliant physicist whose life story is etched in the annals of scientific history. As a child, he displayed an early fascination with mathematics and physics, which paved the way for his groundbreaking contributions to science. In 1905, Einstein published his famous theory of special relativity, revolutionizing our understanding of space and time. This theory introduced the iconic equation E=mc^2, showcasing the equivalence of mass and energy. Einstein's work did not stop there; in 1915, he formulated the theory of general relativity, explaining the force of gravity as the curvature of spacetime.*

*His theories earned him international acclaim, and he*

*was awarded the Nobel Prize in Physics in 1921 for his explanation of the*

*photoelectric effect. Einstein's life was not only marked by his scientific*

*achievements but also by his advocacy for pacifism, civil rights, and*

*humanitarian causes. Fleeing Nazi persecution, he emigrated to the United*

*States, where he joined the Institute for Advanced Study in Princeton and*

*continued his groundbreaking research. Albert Einstein's legacy as a scientific*

*genius and a symbol of intellectual curiosity endures to this day, inspiring generations of scientists and thinkers around the world.*

***(H) 2)*** *Albert Einstein was born at Ulm, in Württemberg, Germany, on March 14, 1879. Six weeks later the family moved to Munich, where he later on began his schooling at the Luitpold Gymnasium. Later, they moved to Italy and Albert continued his education at Aarau, Switzerland and in 1896 he entered the Swiss Federal Polytechnic School in Zurich to be trained as a teacher in physics and mathematics. In 1901, the year he gained his diploma, he acquired Swiss citizenship and, as he was unable to find a teaching post, he accepted a position as technical assistant in the Swiss Patent Office. In 1905 he obtained his doctor’s degree.*

***(E) 3)*** *Albert Einstein was born in the picturesque southern German city of Ulm on March 14, 1879. Growing up in a middle-class Jewish household in Munich, young Einstein displayed an early affinity for various pursuits. He found solace in music, demonstrating his talent on the violin, while also nurturing a deep fascination for the realms of mathematics and science. In an unexpected turn of events, he made the bold decision to discontinue his formal education in 1894, opting to embark on a journey to Switzerland.*

*In Switzerland, Einstein resumed his academic pursuits and gained admission to the prestigious Swiss Federal Polytechnic Institute in Zurich, marking a pivotal step in his intellectual journey. Notably, in 1896, he took the significant step of renouncing his German citizenship, setting the stage for his future as a cosmopolitan thinker. This act of relinquishment left him officially stateless for a time until he eventually obtained Swiss citizenship in 1901, solidifying his connection with his newfound home.*

**ANSWERS: 1)** A **2)** H **3)** E

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**ROUND 2 (no hints, pure instinct)**

TOPIC: Harry Potter and the Philosophers Stone Summary

*Instructions: Write an “H” next to the number if you think it is human written, write an “A” if you think it is AI generated, write an “E” if you think it is human but edited by AI.*

***(H) 1)*** Harry Potter and the Philosopher's Stone (also known as Harry Potter and the Sorcerer's Stone in the US) is the first book in the Harry Potter series by J.K. Rowling. It is a fantasy novel that tells the story of Harry Potter, a young orphan boy who discovers that he is a wizard and is admitted to the Hogwarts School of Witchcraft and Wizardry.

The story begins with Harry living with his cruel and neglectful relatives, the Dursleys. On his eleventh birthday, Harry receives an invitation to attend Hogwarts, and he discovers that his parents were wizards who were killed by the evil wizard Voldemort. At Hogwarts, Harry makes friends with Ron Weasley and Hermione Granger, and they embark on a quest to find the Philosopher's Stone, a magical artifact that can grant immortality.

The trio learns that the Philosopher's Stone is being protected at Hogwarts by a series of obstacles, including a three-headed dog, a giant chessboard, and a deadly plant. They eventually reach the Stone but are confronted by Voldemort, who has possessed the body of Professor Quirrell. Harry defeats Quirrell and Voldemort, and the Stone is destroyed.

Throughout the book, Harry learns about the wizarding world and his place in it. He also discovers that he has a unique connection to Voldemort, who is still alive and seeking to return to power. The book ends with Harry returning to the Dursleys for the summer, but looking forward to his next year at Hogwarts.

Overall, Harry Potter and the Philosopher's Stone is a thrilling and magical adventure that introduces readers to the world of Hogwarts and the characters that inhabit it. The book sets the stage for the rest of the series, which explores Harry's ongoing battle against Voldemort and his quest to become the greatest wizard of all time.

***(A) 2)*** "Harry Potter and the Philosopher's Stone" is the first book in the Harry Potter series, where a young orphan named Harry discovers he's a wizard and attends Hogwarts School of Witchcraft and Wizardry. He learns about his past, makes friends, and faces a threat related to the powerful Philosopher's Stone, setting the stage for the series' magical adventures.

***(E) 3)*** "Harry Potter and the Sorcerer's Stone," a 1997 novel by J.K. Rowling, known as "Harry Potter and the Philosopher's Stone" elsewhere, is a seminal work in contemporary fiction that introduces the young orphan Harry, who discovers he is a wizard on his eleventh birthday. As Harry enters Hogwarts School of Witchcraft and Wizardry, the story unfolds, exploring identity and themes of friendship and courage in a magical world. This book's success led to a beloved global series and a popular film adaptation in 2001.

**ANSWERS: 1)** H **2)** A**3)** E

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**ROUND 3 (tricks provided, use the tricks for answer))**TOPIC: Black DeathTricks: Look for repetitive language, incorrect/outdated information and lack of depth

*Instructions: Write an “H” next to the number if you think it is human written, write an “A” if you think it is AI generated, write an “E” if you think it is human but edited by AI.*

**(H) 1)** Bubonic plague is an infection spread mostly to humans by infected fleas that travel on rodents. Called the Black Death, it killed millions of Europeans during the Middle Ages. Prevention doesn’t include a vaccine, but does involve reducing your exposure to mice, rats, squirrels and other animals that may be infected.

***(E) 2***) In the annals of medieval history, the calamity that befell the 14th century was often christened with a variety of names by its contemporaries. To the people of that era, it was known interchangeably as the "Great Pestilence" or the "Great Plague." Those who chronicled the harrowing days of the plague during its merciless reign referred to it as the "Great Mortality." It was not until the 16th century in the lands of Sweden and Denmark that the somber adjective "black" made its debut in describing this catastrophic event for the first time. This choice of word likely aimed to depict the dismal and dreadful nature of the terrors that unfolded. In the realm of linguistic evolution, the German physician Justus Hecker hypothesized that a misinterpretation of the Latin phrase "atra mors," meaning "terrible" or "black death," took root in Scandinavia. This gave rise to the infamous appellation "The Black Death in the 14th century," which subsequently gained widespread usage in both German- and English-speaking domains.

***(A) 3)*** The Black Plague, a devastating pandemic that ravaged Europe in the 14th century, was known by various names in its time, including the "Great Pestilence" and the "Great Plague." Contemporary accounts referred to it as the "Great Mortality." It was only in the 16th century that the term "black" was first introduced, likely to convey the profound dread and gloom that characterized the era. This name may have originated from a mistranslation of the Latin term "atra mors," signifying a terrible or black death. This misinterpretation by a German physician, Justus Hecker, solidified the term "The Black Death," which ultimately became widely recognized in German- and English-speaking regions.

**ANSWERS: 1)** H **2)** E **3)** A

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**ROUND 4 (tricks provided, use the tricks for answer)**

TOPIC: Birds of Prey

Tricks: Look for repetitive language, incorrect/outdated information and lack of depth, look for lack of emotion, check facts and details,

*Instructions: Write an “H” next to the number if you think it is human written, write an “A” if you think it is AI generated, write an “E” if you think it is human but edited by AI.*

***(H) 1)*** Birds of prey or predatory birds, also known as raptors, are hypercarnivorous bird species that actively hunt and feed on other vertebrates (mainly mammals, reptiles and other smaller birds). In addition to speed and strength, these predators have keen eyesigh[t](https://en.wikipedia.org/wiki/Bird_vision) for detecting prey from a distance or during flight, strong feet with sharp talons for grasping or killing prey, and powerful, curved beaks for tearing off flesh. Although predatory birds primarily hunt live prey, many species (such as fish eagles, vultures and condors) also scavenge and eat carrion.

***(E) 2)*** Birds of prey, or raptors, are those feathered hunters that rely on their impressive talons rather than their beaks for a meal. Scientifically speaking, these avian predators belong to the Aves class, specifically the modern bird subclass Neornithes, and fall under the order Falconiformes, known for their predatory prowess (you can fact-check this on seaworld.org if you'd like). Now, what sets raptors apart from the crowd is their remarkable long-range vision, which makes spotting potential snacks a breeze. To up the ante, most of them boast a pretty sharp sense of smell, helping them detect their dinner from a distance. Those strong, curved talons? They're the secret weapons that allow these birds to snatch and secure their prey while soaring through the skies. Once they've successfully bagged a meal and landed in a safe spot, their hooked beaks with razor-sharp edges come into play, tearing that meat apart like it's no big deal. And here's a tidbit to wrap it up: when it comes to dining habits, all these raptors share some common ground.

***(A)3)*** Birds of prey, those magnificent hunters of the avian world, command attention with their predatory prowess. From the soaring eagles to the stealthy owls, these remarkable creatures are finely tuned for the hunt. With keen eyesight that can spot prey from dizzying heights and often an acute sense of smell, they've got the tracking game down to a science. What truly sets them apart, though, are their formidable talons. Armed with curved, razor-sharp talons, they effortlessly capture and secure their quarry mid-flight. And when it's time for a meal, their powerful beaks make short work of tearing into their catch. These avian predators, representing a diverse range of species, are a testament to the remarkable adaptations that have evolved in the world of birds.

**ANSWERS: 1)** H **2)** E **3)** A

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PRINT THIS

**FORM FOR RESPONSES TO A.I OR NOT QUESTIONS**

*Instructions: Write the letter “A” if you think the text is AI written. Write the letter “H” if you think it is human written, and “E” if you think it is edited by A.I.*

**USE A PEN**

1):

2):

3):

ROUND NUMBER: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Checkers used: <https://contentdetector.ai/>

<https://gptzero.me/>

Jan 28, 2024

I survey all of my respondents and my AI checkers

The respondents tend to mix up between AI and edited by AI

The AI checkers get very confused between AI and human, and hardly identify AI edited articles.

Feb 4, 2024

Conclusion: To keep it concise, the results from my respondents and AI checkers prove my hypothesis correct. It is not possible to identify between humans and AI, well, at least not consistently, as not a single respondent got every single question correct. After getting results from the experiment and organizing my data, it is clear that human beings struggle to identify the difference between an AI-written article and a human-written article edited by AI. This could prove to be bad news for the world since the ripple effects could cause security violations, privacy breaches, and job loss.

Next Steps: There are small things I as an individual can do. For starters, interviewing more people would be a good thing to do, interviewing people with more AI experience would certainly change the results. It would have also been good to find out what other methods there were to identify between human and AI. What was interesting and I wished I could have dived deeper into is how the respondents would mix up between AI and AI edited articles. It would be nice to know what caused that. However, there are big things the world would need to do, such as doing more research on AI detection and providing public knowledge on how to identify AI.