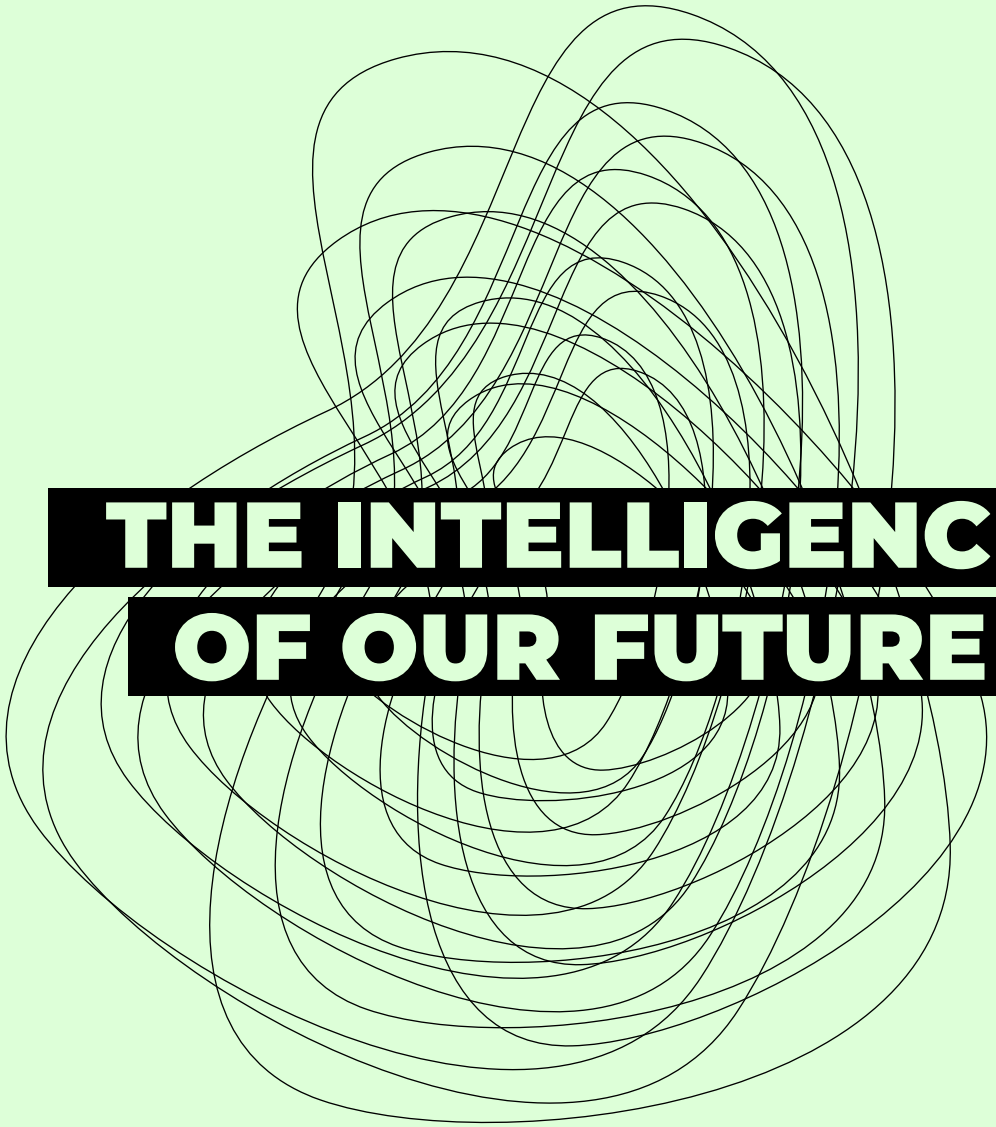
DIM3377 TRENDS & RESEARCH—FEBRUARY 2022



THE INTELLIGENCE OF OUR FUTURE

CAITLYN CHEW SU'EN 2004941 TD05 (INTEGRATED)

01 EXPLORING THREE TOPICS

ONE

Reframing Masculinity

(Source: LMS reading material - JWT Future 2019)

TWO

Living with AI/AI Predicting the Future

(Source: www.wired.com - The Future of Futures series)

THREE

Sustainable Economic Growth

(Source: https://news.climate.columbia.edu/2020/01/27/economic-growth-environmental-sustainability/ - Columbia Climate School, 2020)

02 SHORTLISTING ONE TOPIC

Shortlisted Topic: Living With AI (Source: www.wired.com - The Future of Futures Series, 2021)

Biased information refers to the which can lead to AI having skewed views on society and reflecting the problems of racism, sexism, ableism et cetera that humans already face. This problem arose due to data processed by algorithms and systems being tainted by negative human opinions that disrupted the objectiveness of the AI itself. However, it is also increasingly difficult to differentiate fact from opinion due to differing human perceptions and moral values that may influence the unbiasedness of an AI.

The methods in which data is collected to augment and improve AI has also received attention on the possible infringement of privacy it may bring. Some examples are social media platforms, where advertisements, recommended products and posts appear based on the users' search history and activity. This then raises the question of how much data is actually stored and collected, and eventually sold to advertisers and third-party companies. Data is necessary for AI to improve the vastness of its outlook, but it should not be at the expense of users' entire privacy being compromised as this would cause them to feel uncomfortable as well, possibly stopping the chain of objective information collected.

Lastly, how intangible AI is can pose an issue in its usage. Taken in the context of financial and stock market advisory, 'robo-advisors' have been predicted to be able to drastically reduce the need for traditional human advisors for investments. However, if a wrong prediction is made, it is hard to determine who is liable. Although algorithms are able to use data to form projections and map predictions based on trends, real-life does not always follow the theory that is expected of it and there may be certain discrepancies that occur. Yet, there would be no actual person to be held accountable due to the AI not bearing any individual weight or tangible humanity. This largely 'unknown' sense of AI can make people hesitant to trust it with their money without any guarantee of accuracy or customer protection.

Overall, the heavy reliance on AI is inevitable, but there has to be considerations and legislations in place to ensure the safety of customers, be it material, digital or emotional. This matters as everyone has to eventually progress with the rapid evolution of technology, and people have to feel secure before completely being able to incorporate new technology in their close spaces.

02 SHORTLISTING ONE TOPIC

Shortlisted Topic: Living With AI (Source: www.wired.com - The Future of Futures Series, 2021)

Biased information refers to the which can lead to AI having skewed views on society and reflecting the problems of racism, sexism, ableism et cetera that humans already face. This problem arose due to data processed by algorithms and systems being tainted by negative human opinions that disrupted the objectiveness of the AI itself. However, it is also increasingly difficult to differentiate fact from opinion due to differing human perceptions and moral values that may influence the unbiasedness of an AI.

The methods in which data is collected to augment and improve AI has also received attention on the possible infringement of privacy it may bring. Some examples are social media platforms, where advertisements, recommended products and posts appear based on the users' search history and activity. This then raises the question of how much data is actually stored and collected, and eventually sold to advertisers and third-party companies. Data is necessary for AI to improve the vastness of its outlook, but it should not be at the expense of users' entire privacy being compromised as this would cause them to feel uncomfortable as well, possibly stopping the chain of objective information collected.

Lastly, how intangible AI is can pose an issue in its usage. Taken in the context of financial and stock market advisory, 'robo-advisors' have been predicted to be able to drastically reduce the need for traditional human advisors for investments. However, if a wrong prediction is made, it is hard to determine who is liable. Although algorithms are able to use data to form projections and map predictions based on trends, real-life does not always follow the theory that is expected of it and there may be certain discrepancies that occur. Yet, there would be no actual person to be held accountable due to the AI not bearing any individual weight or tangible humanity. This largely 'unknown' sense of AI can make people hesitant to trust it with their money without any guarantee of accuracy or customer protection.

Overall, the heavy reliance on AI is inevitable, but there has to be considerations and legislations in place to ensure the safety of customers, be it material, digital or emotional. This matters as everyone has to eventually progress with the rapid evolution of technology, and people have to feel secure before completely being able to incorporate new technology in their close spaces.

03 ABOUT CHOSEN TOPIC

Artificial Intelligence (AI) has become increasingly prevalent in today's context, being used in all our devices and redefining the new normal in how much technology is integrated into our lives. However, with the multitude of data from users worldwide being processed into algorithmic systems, we often underestimate our ability to shape the way AIs behave. A main issue surrounding AI is biased information that can lead to AI having skewed views on society and reflecting the problems of racism, sexism, ableism et cetera that humans already face.

As described in an article by The Straits Times, "People also describe racism on popular video games like 'Second Life' and 'Fortnite'; some women have described being sexually harassed or assaulted on VR platforms". This is a regrettable reflection of existing social issues repeated in the virtual space due to pre-existing data that has been tainted by negative human opinions that disrupted the objectiveness of the AI itself. Text-generating AI also show biasness when prompted with words related to gender and race, as shown from a language model by Cohere, a tech startup, which has a "(tendency) to associate men and women with stereotypically "male" and "female" occupations, like 'male scientist' and 'female housekeeper'".

AIs' ability to use preexisting data to map predictions of the future has also been leveraged upon, from trivial matters such as predictive text or predictive Google searches, to darker issues such as 'pre-crime'. In 2013, Robert McDaniel was told by police officers that he would be involved in a crime as pre-determined by the Chicago police's predictive tool to identify people related to crimes. However, the police were unable to verify his role in the crime, and instead made McDaniel the target of neighbourhood scrutiny due to their frequent visits. However, in an interview with McDaniel himself, it was revealed that the tool "wasn't particularly predictive... Cops would just use the list as a way to target people". Upon greater research, researchers also found that overrepresentation and underrepresentation of race, religion and gender in database systems could lead to inaccurate identifications of 'future criminals'. This then led to the shut-down of the 'heat list', but McDaniel was shot on two separate occasions - one in 2013 and one in 2021 - showing the long-lasting effect of negative reactions from resentful people around him believing that he was working with the police.

In conclusion, my findings drawn from literature sources are that human behaviour greatly affects the results of AI predictions, because human perception affects the data fed into algorithmic systems. However, it is not impossible to eliminate bias - although AI do not have the emotional capabilities that humans do, systems can be built upon contextual information that gives insight to what initially led to negative perceptions, which can then be used to counter bias. Moving forward, I shall explore other ways to counter information bias and the methods to make this more accessible to non-tech individuals.

03 ABOUT CHOSEN TOPIC

Literature sources

Article: Misinformation already present in the metaverse
https://www.straitstimes.com/tech/tech-news/misinformation-already-present-in-the-metaverse

Journal: Bias in data-driven artificial intelligence systems—An introductory survey
https://wires.onlinelibrary.wiley.com/doi/full/10.1002/widm.1356

Journal: To predict and serve?
https://rss.onlinelibrary.wiley.com/doi/full/10.1111/j.1740-9713.2016.00960.x

Website: Heat Listed
https://www.theverge.com/22444020/chicago-pd-predictive-policing-heat-list

Website: How bias creeps into the AI designed to detect toxicity
https://venturebeat.com/2021/12/09/how-bias-creeps-into-the-ai-designed-to-detect-toxicity/

04 REFRAMING THE PROBLEM

Issue
-
Artificial Intelligence (AI) is affected by data provided by humans, which can be skewed by biases and personal opinions. Hence, more data has to be collected in order to be able to counter information bias and harmful ideologies. However, this poses an issue on what constitutes ethical standards of data collection.

Impact
-
With biased information fed into algorithmic systems, AI may further reflect many negative stereotypes present in the world, concerning race, religion, gender, age et cetera. The intangibility of AI also may result in a lack of accountability, where these smart systems are used as a shield for people behind a computer screen.

PROBLEM ONE

Problem
One problem could be the layman's lack of understanding of how people can affect AI and vice-versa. Mostly, only software developers and computer engineers are at the forefront of the AI development, hence making AI a topic too niche for the average person to completely grasp the concept of.

Question
How can we enable users to easily understand that their data affects AI systems such that they will be mindful about the content they upload onto the internet?

Target Audience
Youths and adults and who spend long hours on their devices using and interacting with others on social media
Consume media actively and provide their personal opinions online either through commenting, liking, sharing or directly posting

PROBLEM TWO

Problem
The intangibility of AI makes it difficult for people to visualise its impact until often much too late, when negative consequences are on full display.

Question
How can we make AI more tangible and familiar to users as a persona for them to control their data before AIs learn hostile points of view?

Target Audience
Youths (receiving secondary to tertiary education) who use social media freely without being mindful of their digital footprint
Many youths treat social media platforms as their diary, airing their best and worst into cyberspace

05 RESEARCH PLAN

The question: How can we enable users to easily understand that their data affects AI systems such that they will be mindful about the content they upload onto the internet?

K What do I already know?	W What do I need to find out?	H How will I find the information I need?	L What you hoped to learn?
The layman's lack of understanding of AI can be a cause for users to remain unaware of how they personally affect AI.	How much do the layman contribute to AI systems? What are some current methods of data collection? What determines if a piece of data is used?	Creating a survey - How do people perceive personal data collection (Do they feel it is important; Are they conscious of their digital footprint) - Do they feel hindered by the intangibility of AI? - What makes users feel conscious of their posts? (e.g. Parental supervision, Humanised AI)	Learn about what would help users be more mindful of what they put online Learn about what would enable easy understanding of AI systems
Algorithms in AI allow for smart filtering of data, leading to personal feeds becoming tailored towards what is already shown. Information about the particular individual is also collected, shaping their online personality.	How much do people share online? How much can a person's online persona differ from their actual life?	Self Ethnography - Looking through past posts and seeing how social media is utilised - Understand all common online interactions and how it translates to data collection	Learn about how even small interactions can be used in shaping the AI landscape
Some people use their online personality as a shield to display toxic online behaviour, such as being a keyboard warrior and making hate comments/posts. This inadvertently affects AI systems when data is used and fed into algorithmic systems.	What encourages people to be gracious and positive to others online? What heps users be more aware of their impact online?	Observational Research - What posts or platforms encourage positive online behaviour, is there a trend of the type of content that encourages mutual respect and online etiquette? - Is there a way to nudge people through subtle messaging for them to be kinder online? - Are users influenced by other users, or are they self-motivated to create a safe online environment?	Learn about when people will be encouraged to leave a positive digital footprint through subtle messaging and interface display

06 MARKET RESEARCH

DEMOGRAPHICS

Target
Youths and adults (aged 13-35) with internet access and social media accounts across Instagram, TikTok and more

To find out
Age: How does age affect social media usage?

Gender: Is there a difference between how males and females use social media?

Number of accounts per social media platform

PSYCHOGRAPHICS

Target
Avid users of social media, inclusive of those who frequently post and those who do not. Preferably those who spend at least 2 hours a day across all social media platforms

To find out
Most frequently used/browsed social media platform

Daily hours spent on social media (across all accounts)

Account privacy settings, and the reason for it

How much they share about their lives on social media

06 MARKET RESEARCH

INTERVIEW

With an industry expert about the usage of user data in AI systems to learn first-hand about how data is actually used to develop smart algorithmic systems

Interview questions
- How much does present social media data impact future AI algorithms? (impact of public opinions, does the data from social media substantial enough to be used in algorithms)
- In your opinion, how has AI changed from 5 years ago due to the rise of active users on social media platforms?
- How would you describe the social impact of personal data collection in AI systems to the layman? (easy enough for a young teenager to understand)

Prior research to complete before interview
- Privacy policies of each social media platform
- Any reported statistics of community data affecting AI systems

SELF-ETHNOGRAPHY

Using myself as a data source to understand the behaviours of my peers and those similar to me in terms of demographics and psychographics

Method
- Looking through my past posts to observe how I use social media
- Understand how much I share and my perception of social media posts
- Understand all common online interactions and how it translates to data collection

OBSERVATIONAL RESEARCH

Using observational skills to confirm or form hypotheses. Gives more insight into how people behave

Logistics
- Online, using databases like Google Analytics to understand user behaviour on websites and other social platforms
- Can also observe comments and behaviour from netizens on actual posts, media and websites that garner high traction

Things to consider
- What posts or platforms encourage positive online behaviour, is there a trend of the type of content that encourages mutual respect and online etiquette?
- Is there a way to nudge people through subtle messaging for them to be kinder online?
- Are users influenced by other users, or are they self-motivated to create a safe online environment?

06 MARKET RESEARCH

SURVEY

To gain knowledge on how people currently utilise social media in order to better understand how this will affect AI

Logistics
- Conducted online through Google Forms
- Shared through my personal social media and communication channels
- Target responses: 35

Survey questions
Understanding demographics
- Age
- Gender
- Current occupation
- Education

Understanding psychographics
- What social media platforms do you use?
- What is your most frequently browsed social media platform?
- How long do you usually spend on social media per day (across all accounts)
- What kind of content do you like you see? (e.g. Art, Politics, Music, TV shows etc.)

Understanding behaviours
- Are your accounts private or public? Is there a specific reason for this?
- (Give case example: 'Many people often filter what they post on social media, while others use online anonymity as a shield to air their opinions in public.') On a scale of 1 to 10, how much does your online activity reflect your actual life and opinions? (1 = bears no resemblance; 10 = almost exactly the same)
- Are you actively conscious of your digital footprint? Why or why not?
- What makes you feel more aware of the posts you upload on social media? (e.g. Parental/family monitoring, awareness of others)
- Have you had an unpleasant online interaction? (e.g. keyboard warriors - racism, sexism etc.) If you are comfortable to do so, please detail your experience below.

07 USER PERSONA

Lily Tan, 14
Student at EZPZ Secondary School,
in the Student Council and Netball

- Recently created her first Instagram account
- Has a public account and posts her day-to-day thoughts without thinking about who would see it
- Treats social media like her diary

GOALS/MOTIVATIONS
- To keep her friends updated on her day-to-day thoughts
- To keep up with her friends' posts
- Inspired by online influencers (such as YouTubers and streamers) who seem to post a lot about their lives, wants to follow them

PAIN POINTS
- Her mother follows her account to monitor her posts, and is displeased that Lily seems to be oversharing
- She occasionally gets random people commenting on her posts calling her mean names.

07 USER EXPERIENCE MAP

Phases	Entering Instagram	Checks the responses from her friends on her last post	Browses feed	Uploads another post about how she does not enjoy attending school	Gets a message from her mother telling her to take down her most recent post	Exits Instagram
Actions	Clicks on the app icon	Looks at her account and the interactions on her last post	Scrolls through the explore page and following page	Creates new post, writes lengthy caption	Looks at message notification	Closes the app and switches off her phone
Thoughts and emotions	"I'm interested to see what people have commented on my posts, I want to see what they post too." Feels happy and excited	"Only two likes and no comments? Did they not like what I posted?" Feels upset and neglected	"I guess I'll see what other people are up to. Maybe my favourite streamers have posted!" Feels cheerful	"They do have new posts! I'll upload one too. I'm so sick of school lately, the work is so hard and everything is so unfair. I'm sure my friends would agree." Feels inspired	"Why does she have to monitor what I do? She always tries to take away any kind of fun I have." Feels indignant and angry	"Whatever. It's my account, I don't have to listen to what she says." Feels annoyed
Influences	Self-influenced	Friends, followers	Famous online personalities, friends	Famous online personalities, friends	Mother	Mother, self-influenced
Happiness level						

08 CREATING THE BRIEF

Title of Project
The Intelligence of Our Future

Problem Statement
The layman are not mindful of how their online activity and behaviour affects artificial intelligence (AI) algorithms, which creates a vicious cycle wherein people experience the negative reflection of human behaviour on AI-generated/moderated online platforms and virtual reality.

Background
Artificial Intelligence (AI) has become increasingly prevalent in today's context, being used in all our devices and redefining the new normal in how much technology is integrated into our lives. However, with the multitude of data from users worldwide being processed into algorithmic systems, we often underestimate our ability to shape the way AIs behave. A main issue surrounding AI is biased information that can lead to AI having skewed views on society and reflecting the problems of racism, sexism, ableism et cetera that humans already face. However, the layman's lack of understanding of how people can affect AI and vice-versa hinders the unbiased development of AI. Mostly, only software developers and computer engineers are at the forefront of the AI development, hence making AI a topic too niche for the average person to completely grasp the concept of.

Brief
- Raise awareness of digital mindfulness when online due to its effects on AI that would be heavily prominent in the future
- Launch an integrated solution that can resonate with Gen Zs and Millennials on safe and positive online behaviour
- Activate action from Gen Zs and Millenials to emulate maintaining respectful online spaces
- Engage frequent social media users in thinking deeper about the consequences of their digital footprint beyond themselves

Examples of possible solutions
- A digital story-based experience to prompt the user to discover how they personally affect AI. (e.g. Decision-based game/digital journey through a website/animation where the user affects the outcome of the future 50 years down the road)
- An integrated campaign using shock factor to educate users on the effects of their online behaviour on AI and encourage action for them to calibrate their online interactions to create a more positive digital future (e.g. Ambient advertising showcasing the impact of AI, interactive public showcase that allow people to learn more about how their data is used to develop AI algorithms)
- A digital campaign on social media platforms through partnership with their companies (e.g. Instagram/Meta, Twitter) to produce a digital avatar with characteristics mirroring that of its user. The data would be taken from data that is already collected and sold, giving users a more transparent idea of their data being used. (e.g. 'About me' section -> click on avatar to find out more -> Hello, I'm ABC! I believe that migrant workers should be given more work and social benefits in Singapore. 87% of my browsing history supports this.)

THE END