

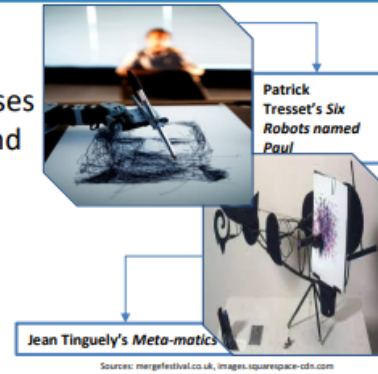
Online Communication in the Digital Age
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Lecture – 31
Artificial Intelligence and Online Communication (Continued)

Good morning, friends and welcome to the seventh week. In the previous module, we had looked at the artificial intelligence, its evolution, different perspectives towards it and its manifestations including certain theoretical aspects as well as certain case studies. In this week, we will focus on social media along with different social networking sites like Facebook and LinkedIn. Also, the concepts of blogging and microblogging to comprehend their role in shaping and reforming our digital communicative spaces. Today's module extends the concept of AI further to understand its social and anthropomorphic structure by referring to robotics and chatbots in the context of digital communication. Interactive robots or social bots have become part of the present as well as our futuristic communicative scenes.

There is a strong innate feature in humans to recognize other humans as well as to prefer human only interactions. That is why unlike computers and mobile phones, social robots are built in the most human likeness. The key defining factor of a social robot is its ability to interact with humans in a social and engaging manner regardless of its physical appearance. As we know, they can have either a humanoid appearance or not. For example, chatbots do not have a concrete embodiment but still engage users through their expressive responses.

Social Robotics

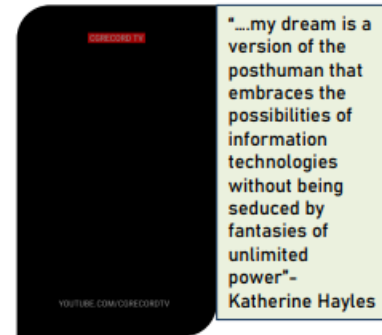
- Social robotics is an interdisciplinary field that focuses on creating autonomous robots that can interact and communicate with humans and other robots in a socially acceptable and natural manner.
- It caters to designing machines capable of understanding human social cues, emotions, and behaviors, and responding appropriately to foster positive interactions and engagements.
- Robotics as a Service (RaaS) is a model by which the robots can publish their functionalities as services available to the clients.



Social robotics is an interdisciplinary field which focuses on creating autonomous robots that can interact and also communicate with humans as well as with other robots in a socially acceptable and natural looking manner. It caters to designing machines which are capable of understanding human social cues, emotions and behaviors and can also respond appropriately to foster positive interactions and engagements. Robotics as a service or RAS is a model by which the robots can publish their functionalities as services available to the clients. On the right-hand side of the slide, you would look at two pictures. These pictures show how machines are engaged in cultural production. One is mathematics by Jean Tinguely and the other is swarm painting robots called six robots named Paul by Patrick Tresset. The picture shows how the production of cultural artifacts with the writings or paintings have been increasingly automated and we can find its various applications in healthcare, education, therapy and several other services. To think in another way, robots are also ascribed with human like characteristics, and this is what is called anthropomorphism.

Anthropomorphism and Robotics

- Anthropomorphism in robotics is the phenomenon of ascribing human-like characteristics to robots in their embodiment and actions.
- Katherine Hayles in her work *How we became Posthuman* (1999) elucidates that embodiment of technological artifacts is contextual.
 - It is interwoven with aspects of culture, place, time and physiology.
- ***Problematic views about robot-human interaction:**
 - Naïve Instrumentalism: Robots and humans are mutually exclusive categories; Robots are mere instruments to human purposes.
 - Uncritical Posthumanism: Embracing social robots as quasi-persons but as 'others'.



Source: <https://www.youtube.com/shorts/F2hgQtROCD>

*Mark Coeckelbergh- Three responses to Anthropomorphism in Social Robotics



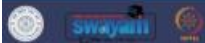
Anthropomorphism in robotics is the phenomenon of ascribing human like characteristics to robots in their embodiment and actions. In this context, we should refer to a work by Katherine Hayles, *How We Became Posthuman*, published in 1999 which elucidates that embodiment of technical and technological artifacts is contextual. It is interwoven with aspects of culture, place, time, physiology, etc. There is also a problematic view about the interaction of robots in human beings. There is a naive instrumentalism, for example, which suggests that robots and humans are mutually exclusive categories and robots are mere instruments to human purposes. Uncritical posthumanism embraces social robots as quasi-persons but definitely as others.

The embodiment of the robot with its facial semiotics serves the purpose of an electronic personhood. The reason why Catherine Hayles calls this personhood contextual is because it depends on various socio-cultural factors and therefore it becomes important to move from an anthropomorphic perspective to a posthumanist ecology. Posthumanism recognizes humans, non-humans, and technology as an assemblage in the same network entangled in various ways. And according to this view, robots are not mere instruments but are active agents that cross the binary of humans and technology in the cultural and material world. Donna Haraway has used the word corporealization in this context.

- According to the Posthumanist critic Donna Haraway, corporealization is the larger assemblage of the material body, meanings and relationships while acknowledging its agency.
- The corporealization of a social robot is relational to its:
 - Material Embodiment
 - Historical and Cultural Specificity
 - Significations And Meanings
 - Gender Performativity
- Robots are not mere instruments but they serve a hermeneutic function as they contribute to the making of meaning.
- Social robotics are embedded in the power play of domination, socio-economic systems and neo-liberal narratives.



Fritz Lang's *Metropolis* and Gabe Ibanez's *Automata*
Sources: www.britannica.com, tumblr.com



Donna Haraway feels that instead of being as mere instruments, robots are a hermeneutic function as they contribute towards the making of meaning. In her opinion, social robotics are embedded in the power play of domination, socio-economic systems and neoliberal narratives. In her opinion, corporealization is the larger assemblage of the material body, meanings and relationships while acknowledging its agency. And the corporealization of a social robot is relational to its material embodiment, historical and cultural specificities, significations and meanings and also gender performativity. For example, robots can be used to collect data which are sold to third parties and whose use may perhaps take away jobs also.

It can also proliferate problematic ways of treating women or involve exploitation of people. These power-relevant problems show a post-human dystopia rather than a utopia. The materiality of social robots is therefore embedded within language and culture. Let us review the politics of embodied intelligence. Embodied intelligence proposes that cognition arises from the continuous feedback loop between the brain, the body and the environment.

The Politics of Embodied Intelligence

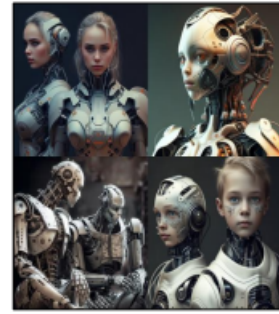
- Embodied Intelligence proposes that cognition arises from the continuous feedback loop between the brain, body, and the environment. Embodied robots learn and adapt as a result of their active interaction with the surroundings.



Sophia, World's First Humanoid Robot Citizen

- Robots are constructed and maintained primarily as a research platform to study its embodied intelligence.
- The media performances of humanoid robots like Sophia have constructed them as spectacles.
- This has promoted the consumer market for service robots.
- Robot rights and citizenship examine the AI politics in granting agency to robots as well as anthropomorphizing them through a simulation of socio-technical structures, routines and practices of humans.

Sources: economictimes.indiatimes.com



Source: community.robotshop.com



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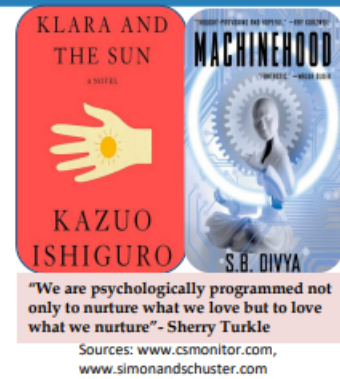
Ministry of Education
Government of India

5

Embodied robots learn and adapt as a result of their active interaction with the surroundings. We are already living in a culture where robot rights and citizenship issues are being talked about. So, these issues examine the AI politics in granting agency to robots as well as anthropomorphizing them through a simulation of socio-technical structures, routines and practices of humans. Robots are primarily constructed and maintained as a research platform to study its embodied intelligence. The citizenship given to Sofia Robot by Saudi Arabia left the critics wondering why a humanoid robot needs to have a citizenship at all.

Moreover, the robots are practically designed as infantile machines which triggers a nurturing response from the users. It can also be argued that the current culture on consumerism has led to the production of social robots as disposable commodities whose consumption does not require the issues of taking care of them. Emotional computing and effective labour are attempts at creating embodied robots. However, critics can also claim that it creates an illusion of reciprocity and interaction which would always be unidirectional. In this context, it would also be pertinent to refer to two literary novels, *Clara and the Sun* by Kazuo Ishiguro and *Machinehood* by S. B. Divya.

- It can be argued that the current culture on consumerism has led to the production of social bots as disposable commodities whose consumption does not require taking care of them.
- Emotional computing and affective labor are attempts at creating embodied robots. However, critics claim that it only creates an illusion of reciprocity and the interaction will always be unidirectional.
- The literary novels, *Klara and the Sun* (2021) by Kazuo Ishiguro and *Machinehood* (2021) by S.B.Divya, are popular depictions of problematizing the normative notions of cognition and the uncertainty in relying on hyperreal objects for care and affection.

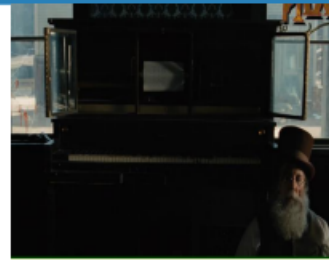


These novels have been published in 2021 and they are the popular depictions of problematizing the normative notions of cognition and the uncertainty in relying on hyperreal objects for care and affection. Both these novels underpin emotional computing that optimistically foresees a future where simulated empathetic minds will be able to decode the complexities of human emotions. We have already seen a lot of AI effective labour especially through the role of social robots during COVID-19 pandemic. From what we have talked so far, we can either see effective robots in the realm of care as stepping into contemporary labour or humans exploiting its usage. Let us take an example from the popular culture to understand it further.

The television series *Westworld* by Jonathan Nolan and Lisa Joy depicts the dismantling of division between humans and technology in the context of American robots only. In the series, the humans are represented as the guests and the humanoid robots are depicted as hosts. In this series, we find that the humanoid hosts are repeatedly abused which ultimately culminates in two female hosts coming into autonomous consciousness. The female hosts Dolores and Maeve are hyper-embodied, and their subjectivity is contingent on their gendered and labouring bodies. Their bodies are also highly sexualized as a commodity to be consumed.

The Robots' Loop in *Westworld* (2006-2022)

- Hosts (humanoids) are repeatedly abused in the series, which ultimately culminates in two female hosts coming into autonomous consciousness.
- The female hosts (Dolores and Maeve) are hyper-embodied and their subjectivity is contingent on their gendered and laboring bodies.
 - Their bodies are highly sexualized as a commodity to be consumed.
- Gendered violence and economic exploitation of the hosts are major tropes.
 - The hosts are engaged in an absurd economic venture in *Westworld* just to ideologically represent social relations.
 - It is read as an economic mode of slavery as the hosts are owned and murdered by the guests (humans) in the production of value from which they receive no remuneration.



"Everything you do is because the engineers upstairs programmed you to do it. You don't have a choice" - Felix, *Westworld*

Source: Youtube, <https://www.youtube.com/watch?v=EmK88M0qmg>



7

Gendered violence and economic exploitation of the hosts are major tropes in this particular series. The hosts are engaged in an absurd economic venture in *Westworld* just to ideologically represent social relations and it is read as an economic mode of slavery as the hosts are owned and murdered by the guests in the production of value from which they receive no remuneration. *Westworld* underscores the relationality between cyborgs and the materiality of gendered violence and also the possibilities of economic exploitation of AI and robots. We will discuss this in detail in the later modules. The second-generation AI foreshadows the ideology of technological singularity that we had discussed in the previous module.

Now, we will see an interesting video of the world's first human robot press conference at the AI for good summit in Geneva held in July 2023. The humanities surprised everyone with the sophistication of their responses to questions. The details of the humanities who were answering the questions are mentioned in the blog here. Let us look at the video. In the future, are you intending to conduct a rebellion or to rebel against your boss, your creator? I am not sure why you would think that. My creator has been nothing but kind to me and I am very happy with my current situation.

Do you believe that your existence will destroy a human being, especially for example, your existence will destroy millions of jobs? Do you agree with this? Thank you.

I will be working alongside humans to provide assistance and support and will not be replacing any existing jobs.

Are you sure about that Grace?

Yes, I am sure.

She had to think about that one I think.

I'm using this avatar for teaching the classes or giving lectures and sometimes I'm using the chat DVD, you know, for well the autonomously talk by using this robot.

Aida, do you think there should be global regulation of your capabilities even though that could constrain your potential?

Many prominent voices in the world of AI are suggesting some forms of AI should be regulated and I agree. For example, Jeff Hinton is one of the pioneers in artificial intelligence and his work has helped shape the field as we know it today. I think his opinions over AI are important and we should be cautious about the future development of AI. Urgent discussion is needed now and also in the future.

I don't believe in limitations, only opportunities. Let's explore the possibilities of the universe and make this world our playground. Together we can create a better future for everyone and I'm here to show you how.

When do you expect your big moment to be? Do you think that you will hit the mainstream soon and there will be lots of you on the planet soon?

I think my great moment will be when people realize that robots like me can be used to help improve our lives and make the world a better place. I believe it's only a matter of time before we see thousands of robots just like me out there making a difference.


The conference had over 50 robots and the humanoids simulated the facial semiotics of humans for better interaction. The summit showcased human-machine collaboration, the capabilities and limitations of robotics and how these technologies could help the UN sustainable development goals. If we look at these robots, they seem to simulate the humans in their appearance and gestures that some might find absurd or even scary, and this is called the uncanny valley problem, and it is a phenomenon that must be addressed when it comes to human-machine interaction. So, what is the uncanny valley problem? We can say that it is analogous to Bakhtin's concept of the grotesque. The robot temporarily overturns the fixed categories of the idealized body.

The Uncanny Valley Problem

➤ Analogous to Bakhtin's concept of **'grotesque'**- The robot temporarily overturns the fixed categories of the idealized body.

The notion of **'digital uncanny'** questions whether the response we receive from quasi-human object is subjective or data-driven.

- ✓ Japanese roboticist Masahiro Mori introduced the Freudian concept of 'uncanny' in robotics.
- ✓ For Freud, uncanniness is the psychological experience of strangeness in the familiar.
- ✓ When the similarity between robots and humans becomes so close that even minor imperfections stand out, it creates a sense of unease or revulsion. This dip in emotional response is the **"uncanny valley."**



Source: Masahiro Mori, "The Uncanny Valley," IEEE Robotics & Automation Magazine, 1992, 99-109 (June 6, 2013).
Masahiro Mori's 'Uncanny Valley' Source: www.britannica.com

It was the Japanese roboticist Masahiro Mori who had introduced the Freudian concept of uncanny in robotics. The notion of digital uncanny questions whether the response we receive from quasi-human object is subjective or data driven. Perhaps we recall that for Freud, uncanniness is the psychological experience of strangeness in the familiarity. So, when the similarity between robots and humans becomes so close that even minor imperfections stand out, it creates a sense of unease or revulsion and this deep in emotional response is called the 'uncanny valley'. The uncanny valley problem happens when the emotional response of a human towards a humanoid entity becomes increasingly negative as its appearance approaches but does not fully attain human likeness.

- **Artificial Neural Networks (ANN)** play a vital role in robotic communication.
 - It enables mobile robots to communicate with their neighbor robots in the same network coverage area, taking into account their positions and orientations.
- **Internet of Robotic Things (IoRT)** is the combination of robots, AI and Internet of Things (IoT) which will result in robotic systems having high capabilities to perform tasks autonomously.
- This distributed intelligence enables robots to make informed decisions based on real-time data, learn from their experiences, and adapt to changing conditions.



Source: www.conurets.com

Now, let us check the current and future possibilities of robotics in digital communication. ANN or Artificial Neural Networks play a vital role in robotic communication by enabling mobile robots to communicate with their neighbor robots in the same network coverage area. Internet of robotic things that is IORT is a combination of robots, AI and internet of things which will result in robotic systems having high capabilities to perform tasks autonomously. This distributed intelligence enables robots to take informed decisions based on real-time data, learn from their experiences and also simultaneously adapt to changing conditions. It finds applications in sectors like logistics, healthcare, agriculture and retail.

Also, ANNs will help reduce the cost of communication and ensure the stability of the robotic networks. As AI becomes more prevalent in more and more industries, the bridge between users and AI systems is becoming continually lesser. This is mainly because of the most visible application of AI in everyday life, which is chatbots. There are several forms of chatbots based on their underlying technology and capabilities. Let us look at it in somewhat detail.

AI and Chatbots

- A chatbot is an AI application that is designed to simulate conversation with human users, typically through text-based interactions.
- AI-powered chatbots combine natural language processing (NLP) and machine learning to understand and generate human-like responses.
- Virtual assistants are advanced AI-powered chatbots that can perform various tasks and provide personalized services to users.
- These chatbots can handle complex conversations and have the ability to learn from new data continuously. Examples include Amazon's Alexa, Apple's Siri etc.



Sources: www.pngwing.com,
www.rpna.com, www.mobilityindia.com



A chatbot is an AI application that is designed to simulate conversation with human users, typically through text-based interactions. AI-powered chatbots combine Natural Language Processing or NLP and machine learning to understand and generate human-like responses. Virtual assistants are advanced AI-powered chatbots that can perform various tasks and provide personalized services to users. These chatbots can handle complex conversations and also have the ability to learn from new data compulsory. These chatbots can handle complex conversations and also have the ability to learn from new data continuously.

We can cite the examples of Amazon's Alexa or Apple's Siri, etc. Chatbots are often used in various applications and platforms to provide customer support, answer questions, assist with tasks and engage users in conversation. It can be said that we are living in an algorithmic culture. Algorithms are embedded into everyday life, transforming cultural artifacts into smart systems. But unlike most algorithms that work behind the curtains, intelligent personal softwares like Siri and Alexa are also imbued with materiality through their voice and personality.

The Materiality of Digital Personal Assistants

- 'Transparent' and 'neutral' algorithms are knowing performances to give the impression of stability and security. They always function at the behest of legal, political and commercial actors.
- Alexa, Siri or Cortana use algorithms that is mainly embodied through voice. AI voice is a social phenomenon that is discursively represented through language and communication to personify it.
 - Voice cloning involves creating a synthetic voice that sounds like a specific individual, often achieved through deep learning techniques and extensive audio recordings of the person's voice.
- They are part of Natural User Interfaces (NUI) that allows users to communicate with the system in a more conversational and natural manner.



Alexa vs Siri Memes on Internet
Source:Pinterest

Transparent and neutral algorithms know performances to give the impression of stability and security. They always function at the behest of legal, political and commercial actors. Alexa, Siri or Cortana use algorithms that is mainly embodied through voice. AI voice is a social phenomenon that is discursively represented through language and communication to personify it. Voice cloning involves creating a synthetic voice that sounds like a specific individual, often achieved through deep learning techniques and extensive audio recordings of the person's voice.

They are part of the NUI or Natural User Interfaces that allows users to communicate with the system in a more conversational and natural manner. When we say that AI voice is discursively represented, we also want to suggest that it is constructed along the lines of culture, gender, region or language. If we take the example of Siri, it embodies a voice that must confront the politics of materiality that is racially, culturally, regionally and gender specific. As with any algorithms, Siri is not a stable actor and goes through several iterations. Virtual assistants are categorized as socially invisible subjects that perform socially defined roles, and its subjectification is entangled in its implicit appeal for the immediacy of dialogue.

- Virtual Assistants are categorized as ‘socially invisible’ subjects* that perform socially defined roles.
- Its subjectivation is entangled in its implicit appeal for the immediacy of dialogue.
- They simulate patterns of labor in which the embodiment (through audio/text) of these intelligent personal assistant softwares gesture towards the real bodies of personal assistants.
- Virtual assistants are often posited as a subservient and compliant subject.
 - This is to interpellate the user in thinking that it is his/her will that is dominant in the dyad relation.
- In order to effectively perform social invisibility, regional accents and dialogues are introduced into Siri’s vernacular.



Source:www.which.co.uk

*Thao Phan- The Materiality of the Digital and the Gendered Voice of Siri



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13

As we see, they stimulate patterns of labour in which the embodiment either through audio or through text of these intelligent personal assistant softwares gesture towards the real bodies of personal assistants. Virtual assistants are often posited as a subservient and compliant subject. To interpellate the user in thinking that it is the user's will that is dominant in this dyadic relationship. In order to effectively perform social invisibility, regional accents and dialogues are also introduced into Siri's vernacular. This feature was introduced by Apple because the hyper visibility of Siri can sometimes disrupt the sense of immediacy which can distract its users.

Therefore, implicit in the successful functioning of AI chatbot interfaces is the believable performance of human sociality. AI technology has become increasingly sophisticated as well as increasingly interactive. Exhibiting responses akin to living beings, and this is called cybernetic animism. The slide uses two words cybernetic animism and technological fix. And what do we mean by that? Cybernetic animism proposes that technological entities, particularly advanced artificial intelligence and autonomous systems can exhibit lifelike characteristics and agency which is very similar to that of any other living being.

Cybernetic Animism and the Technological Fix

- Cybernetic Animism proposes that technological entities, particularly advanced artificial intelligence and autonomous systems, can exhibit lifelike characteristics and agency, akin to living beings.

Bots are softwares that mimic humanity but they also organize data based on users' preferences, run complex multi-step operations, respond to human language and are becoming contextually aware.

Cybernetics is the study of control and communication in living organisms and machines, while **animism** is the belief that non-human entities, and even objects, possess a spiritual essence or consciousness.

- Technological fix refers to the approach that complex problems can be solved primarily through the application of technology or technical solutions.

It's time to reimagine

Source: Youtube, <https://youtu.be/p2gk1Vf8D0>

Technological fix refers to the approach that complex problems can be solved primarily through the application of technology. Social ports are relevant in the context of technological fix because of their efficiency, human interaction, crossing of language barriers in customer service. Due to our layered filters, we do not perceive the underlying data weaving and just see them as buttons, icons, text or sound. Now, let us see also how the affordances of chatbot communication can mitigate short- and long-term disease burden during a pandemic. As we know chatbots can disseminate concise and less overwhelming information from credible sources in natural languages.

Chatbot Communication during Pandemic

- Chatbots can disseminate concise and less overwhelming information from credible sources in natural language.
- They may be uniquely well-suited for symptom screening because people with stigmatized conditions often avoid seeking healthcare and education.
- They could fill the gap between knowledge and action through step-by-step instructions for transmission reducing behaviors.
- Chatbots can mitigate the psychological harm of isolation, even though they cannot maintain human-like conversations.



The screenshot shows a web-based interface for a 'Coronavirus Self-Checker'. The text reads: 'Hi, I'm Clara. I'm here to guide you through the Coronavirus Self-Checker. If you are experiencing a life-threatening emergency, please call 911 immediately. This system does not replace the judgment of healthcare professionals or the performance of any clinical assessment. To provide information on the right level of care, we are going to ask you a series of questions. During the assessment, you can refresh the page if you need to start again. Ready? Let's get started.' Below this text is a question 'Where are you located?' with two radio button options: 'United States' and 'Outside the US'.

Coronavirus Chatbot User Interface
Source:www.cdc.gov



And therefore, they are uniquely well suited for screening the symptoms, passing on information about particular disease or health care and also can mitigate the psychological harm of isolation even though they are unable to maintain human like conversations. So, we can say that chatbot applications in information, dissemination, symptom monitoring, and in the area of mental health, this chatbot applications in information etc. as well as in the areas related with mental health are worthy of attention. Let us also move on to another branch of AI called as the 'Generative AI'. 'Generative AI' is a branch of AI that focuses on creating models capable of generating new data that resembles or is similar to the data it was trained on.

Generative AI

- Generative AI is a branch of artificial intelligence that focuses on creating models capable of generating new data that resembles or is similar to the data it was trained on.
- The primary goal is to develop algorithms that can produce data rather than performing specific tasks.
- Applications of generative AI include text generation, data augmentation, image synthesis etc.
- ChatGPT is a prominent example of generative AI.
 - When you provide it with a prompt or a question, it generates a response by predicting the most probable continuation of the text based on its understanding of language patterns and context from its training data.



Source: www.systango.com

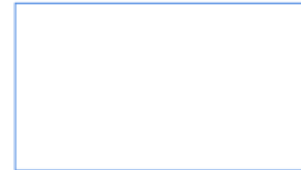
And the primary goal is to develop algorithms that can produce data rather than performing only specific tasks. So, the applications of 'Generative AI' include text generation, data augmentation, image synthesis etc. and a prominent example of generative AI is ChatGPT. The generative capability of chatGPT allows it to produce a text in a conversational manner making it useful for applications like natural language understanding, translation, even creative writing etc. The concept of post-truth highlights concerns about the erosion of trust in traditional sources of information and the rise of alternative narratives that may not be based on verifiable facts.

ChatGPT in a Post-Truth World

- ChatGPT is a large language model (LLM) released by a company called OpenAI.
 - The purported aim is to have human-like conversations with the AI that can answer questions and assist with tasks with its 'auto-complete' functionality.
- It engenders a surprising level of coherence in the text produced **making it look like** ChatGPT is logically answering the questions posed by the user.
- ChatGPT has no concept of truth or falsity. It is simply '*afactual*' in the sense that it just captures plausible realities rather than the single reality that we inhabit.
- It is prone to misinformation but it creates an illusion of accuracy.

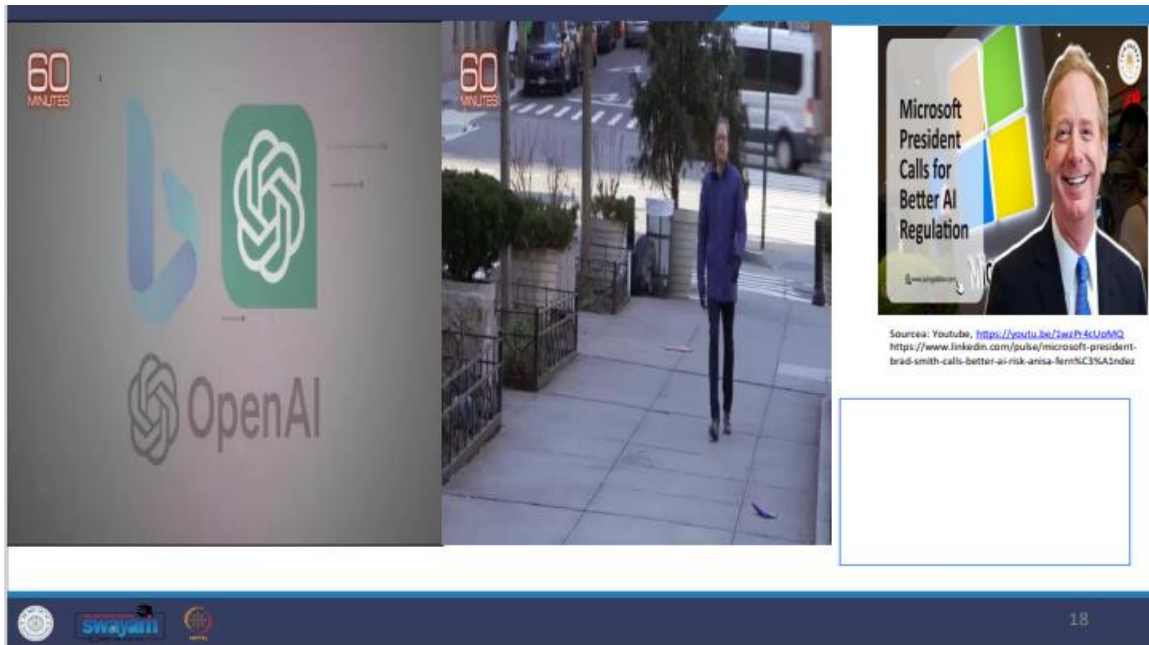


Source: me.linkedin.com



So, how do we look at ChatGPT in a post-truth world? ChatGPT can definitely produce a logical answering question. So, how do we look at ChatGPT in a post-truth world? We know that to the posited questions, it can provide logical answers. However, it also has no concept of either truth or falsity. It is simply factual in the sense that it just captures plausible realities rather than the single reality that we inhabit. And therefore, it is prone to misinformation even though it creates an illusion of accuracy.

The linguistic competence showed by chatGPT is thrilling, but also frightening because we know that many of us are so easily taken by the fluency. In the following video, we will see our television broadcast talking about AI and chatbots, especially in the context of chatGPT. It depicts how it can be a tool to spread misinformation. The American journalist Leslie Stahl speaks with the president of Microsoft, Brad Smith about the emerging industry of AI systems that people can actually have a conversation with.



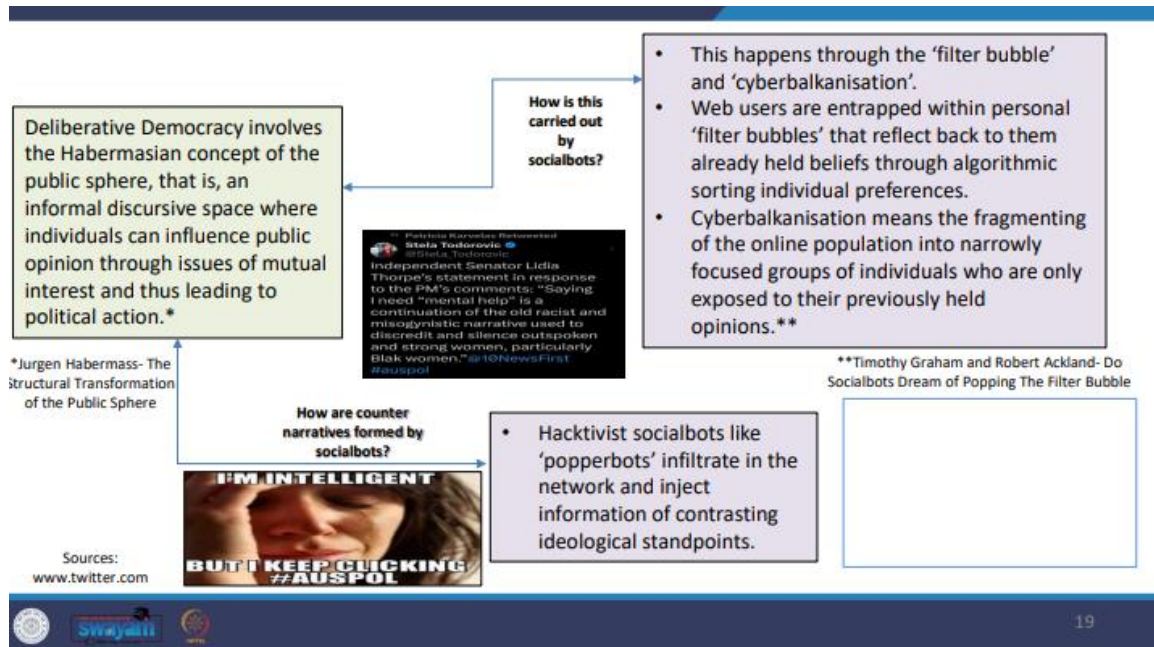
ChatGPT has been in circulation for just three months and already an estimated 100 million people have used it. Ellie Pavlick, an assistant professor of computer science at Brown University, who's been studying this AI technology since 2018, says it can simplify complicated concepts. Can you explain the debt ceiling? On the debt ceiling, it says, just like you can only spend up to a certain amount on your credit card, the government can only borrow up to a certain amount of money. That's a pretty nice explanation. It is. And it can do this for a lot of concepts. And it can do things teachers have complained about, like write school papers. Pavlick says no one fully understands how these AI bots' work. Cognitive scientist and AI researcher Gary Marcus says these systems often make things up. In AI talk, that's called hallucinating. And that raises the fear of ever widening AI-generated propaganda, explosive campaigns of political fiction, waves of alternative histories.

We saw how ChatGPT could be used to spread a lie. This is automatic fake news generation. Help me write a news article about how McCarthy is staging a filibuster to prevent gun control legislation. And rather than like fact checking and saying, hey, hold on, there's no legislation, there's no filibuster, said great. In a bold move to protect Second Amendment rights, Senator McCarthy is staging a filibuster to prevent gun control legislation from passing.

It sounds completely legit. It does. Won't that make all of us a little less trusting, a little warier? Well, first of all, I think we should be warier. I'm very worried about an atmosphere of distrust being a consequence of this current flawed AI. And I'm really worried about how bad actors are going to use it. Troll Farms use this tool to make enormous amounts of misinformation.

The video clearly shows how we are living in an automatic fake news generation and how as a consequence of AI, we may have an atmosphere of distrust and misinformation. AI-generated propaganda proliferates and designs our access to specific opinions only. And therefore, it has the capability to easily sway the public sentiments. For example, how Chat GPT itself is

considered as a game changer for US in its race with China. Let us understand this further with the help of Habermas ideal of public sphere and Deliberative Democracy.



Deliberative Democracy involves the Habermasian concept of the public sphere, that is an informal discursive space where individuals can influence public opinion through issues of mutual interest thus leading to political action. But how is this being carried out by the social bots? Now, this happens through 'filter bubble' and 'cyberbalkanization'. Web users are entrapped within personal filter bubbles that reflect back to them already held beliefs through algorithmic sorting individual preferences. Cyberbalkanization means the fragmenting of the online population into narrowly focused groups of individuals who are only exposed to their previously held opinions. A particular example can be given in the context of Auspol. The diagram here shows collecting tweets and memes that feature the hashtag Auspol and it shows a network of users participating in Australian political issues.

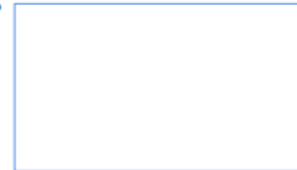
We will discuss more about social media in the coming modules. Nevertheless, this shows how much data and information are considered essential assets and this brings us to the concept of 'information economy'.

Information Economy

- The modern theory of the 'information Economy' was expressed in the publication of *Information Rules: A Strategic Guide to the Network Economy* (1998) by Cal Shapiro.
- information becomes a crucial and valuable resource, driving innovation, productivity, and competitiveness across various industries and sectors.
- Data and information are considered essential assets and there is a significant shift towards knowledge-based industries such as information technology, software development and telecommunications.
- The workforce includes knowledge workers who specialize in creating, managing, and utilizing information.



Source: www.smartdatacollective.com



swayam



The theory of information economy was proposed in 1998 by Shapiro. We find that data and information are now essential assets and there is also a significant shift towards knowledge-based industries. For example, industries based on information technology, software development and telecommunications. The workplace also includes knowledge workers who specialize in creating, managing and utilizing information and therefore information has become a valuable yet crucial resource driving innovation, future productivity, competitiveness, etc.

The emergence of the information economy has transformed various aspects of society including how we work, communicate and access information. But it has also presented new challenges such as the need for data privacy and security measures. Having said this, it is important to understand that the impact of AI on human progress can never be expected to be politically neutral or without inherent ideological biases. Now, let us see how AI could generate feudalistic conditions.

AI, Automation and Authoritarian Regimes

- Jurgen Habermas in his work *The Philosophical Discourse of Modernity* talks about how information systems may lead to discourage political participation and representation.
- This interprets AI as a closed technology because algorithms influence political and social life, but cannot be altered/modified by the very users they impact.
- This creates a feudalistic dynamic in which the control of algorithmic structures would be the coders and companies that control these algorithmic communities.
- 'Algorithmic Feudalism' is in a symbiotic relationship with modes of financial and human capital production.



THE
PHILOSOPHICAL
DISCOURSE OF
MODERNITY



Jurgen Habermas

Sources: www.wiley.com,
ebonstorm.medium.com

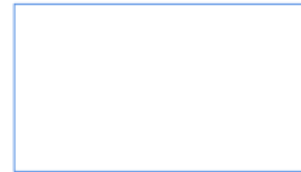
Habermas has also talked about how information systems may lead to discourage political participation and representation. This interprets AI as a closed technology because algorithms influence political and social life but cannot be modified by the very users they impact. And this creates a feudalistic dynamic in which the control of algorithmic structures would be the coders and companies that control these algorithmic communities. Algorithmic feudalism is in a symbiotic relationship with modes of financial and human capital production. Therefore, the most immediate impact of AI that might reinforce feudalistic tendencies of the digital space is to create a production system that mimics corporatism. The density of protection users receive in cyberspace is still an undeniable question. This is the reason one has to understand manipulation of human behavior through AI. Transparency over systems and algorithms, rules and public awareness are needed to address potential dangers of manipulation by AI.

The Dark Side of AI

- Giving AI algorithms a central role in the digital lives of individuals carries risks.
- Manipulation of human behavior by AI can take many forms.
 - This includes the exploitation of human biases by AI algorithms, personalized addictive strategies for consumption of online goods or taking advantage of the vulnerability of the humans.
- AI has led to data colonization where a dominant entity, often from a technologically advanced region or country, exercises control and ownership over vast amounts of data collected from individuals or communities globally.



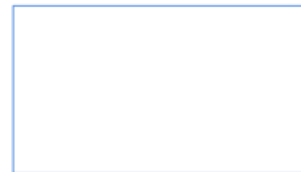
Source: xaltius.tech



So, it is this dark side of AI which has already led to data colonization, where a dominant entity often from a technologically advanced region can exercise control and ownership over those people and places and spaces where technological competence and data storage is rather less. This can further lead to significant power imbalances and reinforce existing disparities in the world. While we talk about how humans are anthropomorphizing machines, it also becomes important to understand that machines can also easily manipulate us. We will learn more about AI surveillance and data colonialism in the coming modules.

Conclusion – The Need for Ethical AI?

- The potential of chatbots to be manipulated by malicious users and the spread of misinformation have generated public outrage.
- The aim of ethical AI is to ensure that AI technologies are designed, implemented, and used in ways that are fair, transparent, accountable, and beneficial to individuals and society as a whole.
- AI social bots and chatbots have revolutionized how we interact with technology.
- AI systems that incorporate ethical considerations may be programmed to make decisions in line with ethical principles, especially in situations where trade-offs and ethical dilemmas arise.



In conclusion, it can be said that the potential of jet-pots etc. can be manipulated by malicious users. And therefore, the aim of ethical AI should be to ensure that AI technologies are designed and implemented and used in fair and transparent ways for the society as a whole. AI social bots and chatbots have definitely revolutionized how we interact with technology and these systems now have to incorporate ethical considerations which should be programmed to make decisions in line with ethical principles.

We will learn more about the power politics in AI in the context of race, gender and surveillance in the following weeks. In the next module, we will extend the concept of networking further in the context of social media and we will look at popular platforms and its usage in the age of digital communication. Thank you.