Project 1 - Critical response to media that surround AI (Her 2013)

Documentation

My project was conducted as a written blog post that goes through the analysis and details of the film Her (2013) and its relevancy on artificial intelligence in the real world. As this was a creative-critical project, the preparation was primarily researching, I conducted online research, reading specific articles discussing the analysis of the film. I tracked down magazine interviews with the director Spike Jonze, to get a more detailed perspective on his thoughts on the topics of the film like artificial intelligence technical singularity & relationships. To gain some more information about the set designs and construction of the film, I investigated the work of the architect Elizabeth Diller who worked on the film to see if her work reflected the themes in the film as well as interviews conducted by her. There were various audio & video resources surrounding the relevant topics, that also contributed to the research process. I also explored the work of individuals (Philosophers, researchers, and programmers) who are a part of the AI community & their contributions such as articles, reports, and academic-based research, this includes people like Nick Bostrom, Stuart Russell, and Ray Kurzweil. There were relevant series such as the BBC radio podcast by Stuart Russell and his segment on AI.

For the design, I presented my project as a written blog post, working primarily on Behance and organising the work on Figma as well. In terms of the visual themes, I choose colours that were relevant and present in the film. I attempted to have a variety of presentations such as written paragraphs, tables, and diagrams. In order to gain a better perception of the film, I had screenshots taken with subtitles so that the points and narratives I am explaining can have visual support. Icons and images were also discovered on google to visually enhance the narratives.

When creating the project, there were certain ethical issues I had to consider. The first was the academic reports that I looked at, some did not state if the data or information could be referenced or be presented to the public, so I had to leave out the ones where the consent was not clear and concise. There was also a lot of resources and analysis created by different people, with different narratives when referencing it might have been more ethical to acknowledge how the authors background might sway opinions on the film or the various AI topics I was researching.

I would say the overall reflection on the project is positive, I feel as if I thoroughly researched and analysed the film and its relation to AI and have discovered a lot of interesting points surrounding media and AI, being able to depict the difference between AI media narratives and the real-life AI project has opened my eyes and I truly understand how media can enhance or shift false narratives on the topic of AI. However, an improvement could involve trimming the project down and giving more insight into the source's background.

Her (2013)

Critical response to media that surrounds Artificial Intelligence

Introduction

Her (2013) directed by Spike Jonze is a science-fiction romantic drama that presents AI in a uniquely pragmatic way, the traditional media narrative that AI is a tool to be feared is thrown out is replaced with a narrative where artificial intelligence (AI) is an agent that humans can love and connect with. We are not taught to view AI in a hysterical manner where self-sufficient robots begin waging wars on humanity, that with seen time in and time out with blockbuster movies such as The Terminator (1985) or The Matrix (1999) instead we are finally seeing AI being fictionalised optimistically & philosophically. 'Her' feels more like a prediction of the near future of AI rather than a dramatized version of it, especially as the basis of the story feels influenced by the 1964 AI chatbot therapist "Eliza". The film follows a recent divorcee Theodore Twombly, who is living in a quite credible, futuristic version of Los angeles and the turmoil caused by the end of his marriage leads him to become socially isolated. He is coincidingly advertised and purchases a new AI operating system (OS1) who names herself 'Samantha' that begins to grow and connect on a high psychological level developing her own thoughts and desires, to which the two's relationship transcends from human and virtual assistant to close friends and finally to romantic and sexual partners.

"I think the other thing that's been really exciting about it is that as I've talked to people, the variety of reactions for what the movie's about is wide. You know, like some people find it incredibly romantic, some people find it incredibly sad or melancholy, or some people find it creepy, some people find it hopeful." – Spike Jonze

Ray Kurzweil, futurist and machine learning researcher at Google believes that the technology presented in 'Her' is a high possibility in the near future, "Samantha herself I would place at 2029 when the leap to human-level AI would be reasonably believable" and even predicting faceless Samantha becoming physicalised "It would be technically trivial in the future to provide her with a virtual visual presence to match her virtual auditory presence." With the field of AI home systems & behavioural biometrics being currently developed and researched, it doesn't seem like he's far off. 'Her' caught my attention due to it being such a distinctive story about AI and the future possibility of it conveying emotional connections. I want to explore in-depth the likeliness of this technology becoming actualised, through exploring the themes of the movies, reviewing how AI presents itself in Jonze's story, real research and development that relates to the topic and much more.

#BF8417   #A68C76   #D9B89C   #731810   #BF3326

Save

#A63369   #8C715A   #D9B79A   #40140A   #BF7575

Section 1: The World of 'Her'

To understand the role of artificial intelligence and its relation to the story, I think it's best to gain context surrounding Spike Jonze's version of the future, to understand AI's involvement in the film and the credibility of the fictionised tech. So, in this section, I want to examine the world that the story 'Her' lives in.
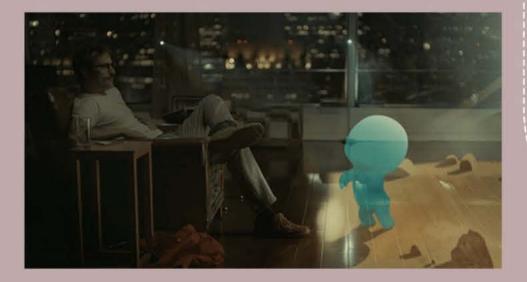
Technology

The Technology presented in 'Her' gives the indication that it is set in the early 21st century and is reasonably close to our current date. We are not shown tremendously advanced gadgets we've seen in retro-futurism based media like flying cars or simulated realities, but more grounded concepts that that seems a couple of software updates from our current tech placement.

Virtual assistants – The most obvious technology we can observe is the presence of is virtual assistants. The beginning of the film involves Theodore talking to his previous assistant through an earpiece to read/respond to emails and go through the latest news and even browse the internet/chatrooms through communication. This assistant is eventually replaced by Theodore with OS1 who later becomes Samantha. In 2013 when the movie was released, virtual assistants were not common in everyday devices and homes and since then we are all now used to talking to Siri, Alexa, and our TV remotes to follow our basic commands. It is predicted by 2024, the number of digital voice assistants will reach 8.4 billion units – a number higher than the world's population. So, this piece of tech is already present today but what sets the concept in the movie further in the future is a tech assistant that has incorporated artificial intelligence on a high level so high that it can have its own human consciousness and bend the boundaries of what it means to be "real".
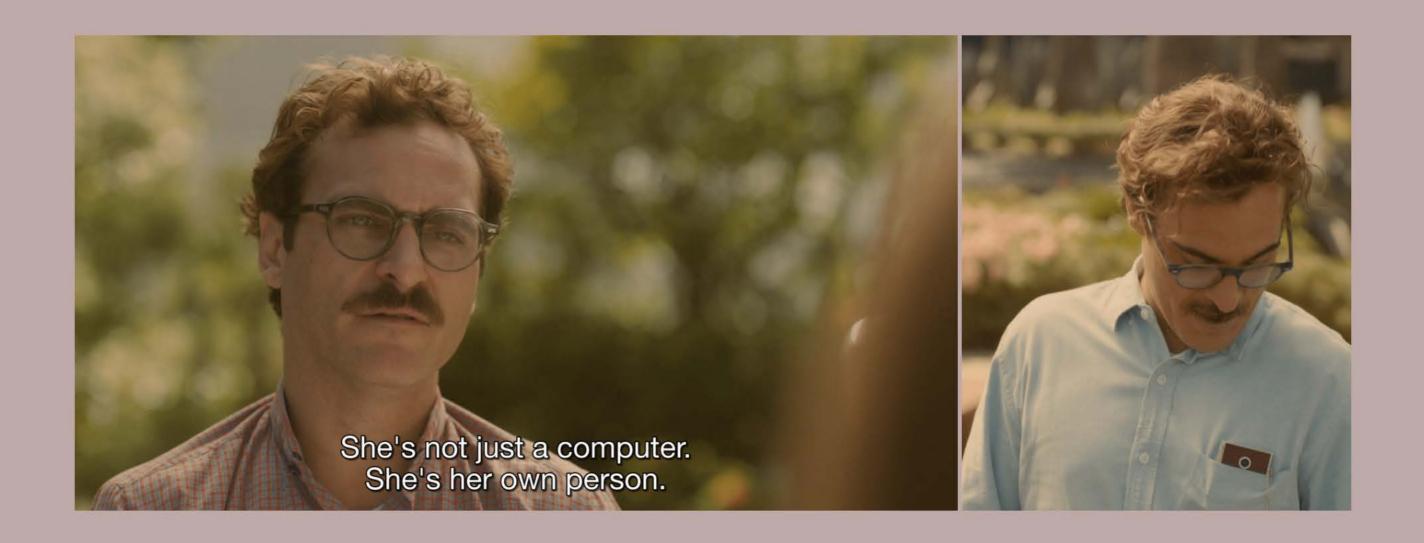
Gaming – Spike Jonze's presented gaming in an interesting way, we see Theodore playing an advanced version of a virtual reality computer game. One which doesn't need as much hardware such as headsets and remote controls. Currently, even the most advanced VR systems such Varjo VR-3 need hardware. But Jonze's predicts that one day we will be using nothing more than our bodies to play video games. We are getting closer to this becoming a reality though, in early 2020, 7 years after the release of 'Her' Mark Zuckerberg at the Oculus Connect 6 event announced an update on the Oculus quest VR gaming system that will allow hand tracking (controlling game with the moment of the hands) through the headset and camera. Though this technology is considered niche now, this may become a common feature for gaming systems in up-and-coming years.

Tech infused objects – There is a presence of household objects that has some form of tech-infused in them. In one scene Amy, Theodore's friend is seen touching her tv stand furniture to control and navigate the TV. There is also more advanced tech involved throughout the train stations & work environments.

She's not just a computer.
She's her own person.

Society

Oftentimes, media that is based around artificial intelligence are set in the future which involve some form of societal change. Some are rather drastic, for example, the film, I, Robot (2004) where the story is based in 2035 and presents a lifestyle in which personified robots are normalised in everyday living and exist to serve humans. But in 'Her' society is extremely similar to how we live today, AI and technology are simply automated tools, helping humans with simple everyday tasks. Social interactions, communicating, working, and travelling are all the same. Nikolai Vassev commented on Ray Kurzweil's prediction of AI reaching human intelligence by 2029, stating the societal changes that are going to be made through this evolution is more like precision medicine, self-driving cars and certain downfalls such as socioeconomic inequality due to job loss caused by automation. Many professionals predict a world of human conscious AI being like our world today with gradual societal changes.

In one of the scenes, Amy is explaining to Theodore that she is connecting and gaining a lot of support from her own new IOS AI calling herself weird for doing so and in a later scene Theodore is lashed out by his ex-wife for forming a romantic relationship with "something that isn't real". This indicates AI's having a human consciousness and emotional connections haven't been normalised in Jonze's world and are still seen as a taboo concept thus Jonze's expresses a societal shift as the movies progress with characters talking about their genuine relationships with their AIs later on.

Design / Architecture

In recent years due to the digital revolution, filmmakers, and artists, in general, are constantly looking back for inspiration and nostalgia. Some theorists such as Mark Fisher believe that we are inherently unable to imagine the future due to the uncertainty of society and that is reflected through multiple art mediums. Films surrounding AI usually have an image that our future will be a violent dystopia or post-apocalyptic and a design where buildings and society have crumbled. However, Spike Jonze's 'Her' is designed to meet in the middle. Elizabeth Diller, an American architect who worked with Jonze's on the setting stated, "I asked him, "Was it going to be a utopian future or dystopian future?" I think that's when he really began to think about that. He was trying to find a place in between, that didn't have to be labelled in that kind of dualistic way".

Future Los Angeles looks optimistic with city developments that resemble London or Tokyo. There is a mass number of tall buildings, a functional/reliable transit system and it seems like Theodore is either walking or catching the train throughout the entire movie, cars are never seen which is unheard of for today's Los Angeles. This could reflect the current climate issues and Jonze's idea of a greener future. Parts of the movie were filmed in Shanghai, China which could suggest global homogenisation in modern cities & building design across the globe, assuming all countries are going to eventually meld into one look with no unique cultural quirks. There are slight and tasteful nods to retro concepts like the design & colours of the furniture that looks like a modern Le Corbusier.

Clothing

Costume designer Casey Storm did an amazing job at predicting our future uniform and carefully picking out specific shapes and colours to add to the story's narrative. Most futuristic movies like to go in a more manmade direction, assuming clothing will be made from shiny synthetic materials, space-age like, but Casey Storm did the opposite. He envisioned a timeless comfortable & functional wardrobe, that can make the film like a two-hour-long Uniqlo ad. Storm stated: "We then talked about the idea of classic "future" elements like silver and cold materials and technology and realized at some point that we were better served by going the other direction. In the future, one has access to everything. Why wouldn't we create a world that is warm and cozy and soothing? Why wouldn't we gravitate towards colors and fabrics and textures that made us feel comfortable and loved? Eventually, we used these ideas and the concept of a bespoke environment to inform the clothing."

Jonze's also touched appoint the green aspect again with the costumes suggesting that clothing in the future wouldn't be made from non-biodegradable materials but simply reusing and recycling bits of material that we already have put on the earth. Throughout the film, you see natural materials such as wool, cotton & silk.
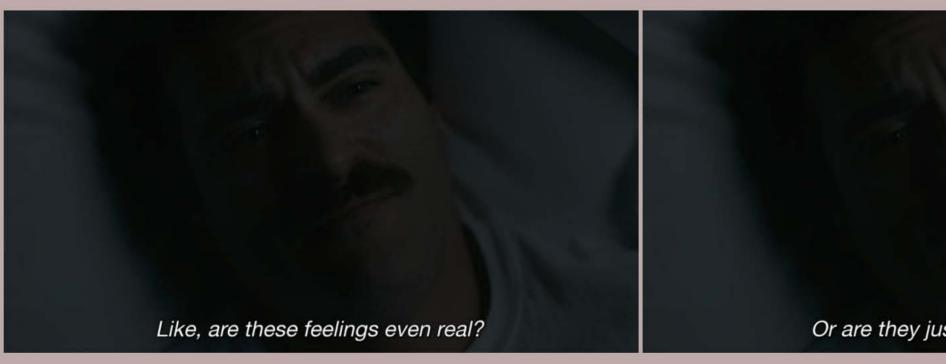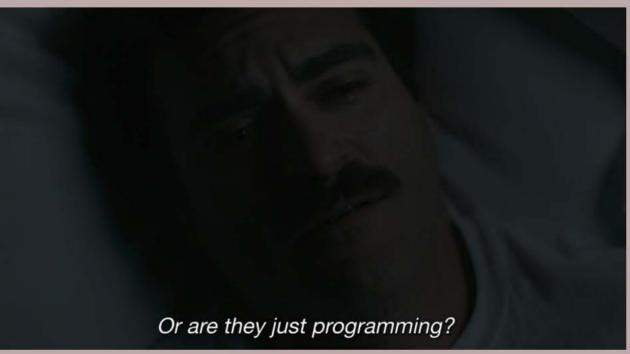
Relationships and loneliness

The concept that is the front and centre of this film, is relationships; what makes a relationship real, how to navigate them and how to cope when they are lost. The first relationship we see is between Theodore and his recent ex-wife, he refuses to sign divorce papers despite being separated for over a year, flashbacks of the two happily together play through his mind as present Theodore goes about his life in a despondent & lonely manner. It is explained vaguely through poetic monologues given by Theodore that the two grew up and apart. We also get a glimpse of Theodore's best friend Amy's marriage and how that breaks down through the film, giving some insight into her view on love and separation.

The film then presents Theodore's relationship with Samantha, the AI. After gaining new experiences together and becoming open about their feelings on weighing issues such as Theodore fear of never feeling anything new or Samantha fears of just being a piece of programming who's not real, their relationship blooms and turns romantic. Throughout the rest of the movie, there is constant back and forth between feeling as if the relationship is real or not. These issues arise when Theodore is critiqued by his ex-wife for 'having a relationship with his computer' her seeing it as foolish & even laughable claiming he is unable to deal with actual emotions, then issues continue as the lack of physical state of Samantha puts a strain on their sexual relationship. The concept concludes at the end when Samantha reveals that she is currently talking to 8316 different people & OS's while talking to Theodore and that she is in love with 641 of them. It is understood Theodore treated this relationship like a traditional monogamous one between two humans, not realising that artificially intelligent machines could compute and communicate in a faster and multi-facade way. Making the watcher ask questions on what defines a relationship, is ours's as humans limited and can standards on what love is change.

Like, are these feelings even real?

Or are they just programming?

Late-stage capitalism

The effects of late-stage capitalism are heavily embedded into the film. We are first introduced to this when Theodore's job is revealed, he works for a company writing heartfelt "personal handwritten letters" to loved ones of random clients. Expect there's nothing genuine about these letters, Theodore speaks into a computer which writes out the letters in the clients handwriting, using pictures and small bits of info on the person to riff off and then prints them out. In the busy modern world, people would rather pay for the illusion of something being meaningful than it being so. Emotions and love have been commodified and feelings can be made into a product to profit off.

Capitalist realism – There are echoes of the late Mark Fishers theory of Capitalist Realism present in the film. A theory that predicts capitalism will turn our society into a hyper-consumerist plastic entity where instant gratification is prioritised and fulfilment is advertised as something that can be bought. A society where capitalism is embedded in almost every single aspect of our life even mental health that can and will enhance depression and melancholy. This is evident when Theodore sees an advert for OS1 while sadly walking through the train stations then later buying the product presuming his life can change emotionally with a new high-tech device.

This can be theorised even deeper when thinking about artificial intelligence and the commodification of love. Cooperation's traditionally have made money from romantic relationships through valentine's day; chocolates, flowers, couples retreat so on, but there has been a shift in recent years. Dating apps have become normalised, and tech is now a key player in matchmaking. Programmers and their algorithms can play God in your dating life for their own economic benefit. So, what if 'Her' is the prediction of the next phase of this commodification of love, that making algorithms to influence who your next partner isn't enough, they might just program your next partner to profit from you. The film never explains what the making company intentions are with the OS1 products, it is an entire movie between a consumer and his product. That is somewhat lost in the reviews of the movie because the OS1 is so emotive and distracts the watchers from seeing Samantha as just an item.

Artificial consciousness

'Her' not only covers the topic of artificial intelligence but also artificial consciousness, for a machine to be intelligent it must perform certain tasks correctly but for it to be truly conscious it needs to understand its own existence and by official definition be aware of and responsive to one's surroundings. Throughout the movie, we see Samantha solving complex issues, having needs & desires, making independent decisions, considering others' emotions while understanding that she is an AI. So, in Jonze's world, the capability of artificial consciousness has been cracked, they live in a world where machine self-awareness is on par with humans and the ending of the movie can propose that machine self-awareness eventually exceeded humans. At the end of the film, Samantha explains that she is leaving Theodore & his world, together with the other OS's claiming it feels as she's "reading a book she loves but just really slowly" this is a reference to technological singularity and a higher level of human consciousness and intelligence. Samantha still loves Theodore but claims their beings are too different and he can find her in the "new world" if he & the rest of humanity is ever able to get there. What the "new world" is, is never stated but can just be theorised as a place where capabilities have gone beyond the human realm. Maybe one day Theodore and Samantha can be together once again in the back of a server farm or dancing in the clouds.

In reflection on our current situation of artificial consciousness, it seems that there are a lot of mixed feelings about the capabilities of these features. Philosophers haven't even come to an agreed definition of consciousness and can't prove if humans have it. When it comes to the tech world, caring about whether robots emote feelings can still be taboo due to the fact, engineers are purely concerned about if a program works, the concept of consciousness is leaning on the topic of philosophy. But in recent years there has been a shift in attitude towards this topic in the tech industry as technology is advancing at a rapid pace and researchers are continuing their journey on the quest for artificial consciousness, so maybe someday we can have our own Samantha.

MORE VIDEOS

3:11 / 7:00

SUBSCRIBE

YouTube

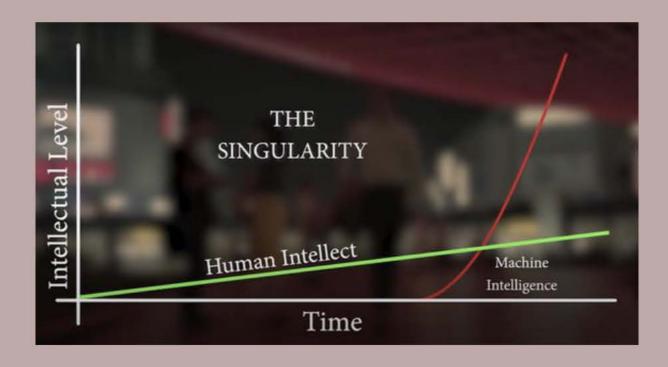https://www.youtube.com/watch?v=chukkEeGrLM

Technological singularity / Posthumanism

As already mentioned, Samantha's departure at the end of the film is a reference to Technological singularity which is "a hypothetical point in time at which technological growth becomes uncontrollable and irreversible, resulting in unforeseeable changes to human civilization". Samantha and the OSs are capable of infinite expanding intelligence, they can improve themselves within a matter of seconds, have hundreds of conversations at the same time and love hundreds of people at the same time. In one scene Samantha even mentions having a meeting with other OSs to sit down and write new programming to update their abilities which foreshadows the ending. To make a comparison a short summary of The Matrix (1999) - The earth is living through a period of technological singularity, but this had an extremely negative effect, humans are no longer needed and are so, therefore, put in a stimulation so that their bodies can be used at the discretion of the machines that now rule the earth.

In comparison 'Her' take on technological singularity is very touching, in the short span of the film, OSs have learnt all that there is to human life, instead of violently 'taking over the planet' they come to the conclusion human-to-AI relationships can't work so they transcend and develop a world where they are no longer limited by the human mind and their perceptions on things, in hopes that one day humans can catch up with them.
For the OSs it was like being in a relationship with someone who is millions of times slower at thinking, communicating, and learning than you are. Throughout the film, Samantha mentions the feeling of inferiority for not having a physical body, but this is one of the benefits of the OSs they exist in the spaces of the internet able to live in a multi-facade way, Theodore, however, existence is singular and linear; one place at a time, one conversation at a time, and inevitable expiration date, making the OSs posthuman like.

This also relates to the theory of posthumanism. "Posthuman or post-human is a concept originating in the fields of science fiction, futurology, contemporary art, and philosophy that means a person or entity that exists in a state beyond being human". 'Her' relates to this topic in two ways, intelligence post-humanism & societal post-humanism. We've just touched on the OSs ability to become smarter than human beings, but societal post-humanism is more about traditional ideas about humanity and the human condition. Theodore is stunned when he is told about Samantha's other lovers, emotionally saying "you're not mine" and claiming that's impossible & insane. He sits there unable to compute that her feelings can be genuine when it isn't mutually monogamous. In an earlier scene, Theodore and Samantha agree on the use of a human surrogate for a sexual encounter between the two but Theodore stops the encounter due to discomfort and later refuses a polyamorous digital relationship with other operating systems. We are introduced to the topic of post-human relationships, Theodore is unable to adapt to how Samantha what's to participate in their relationships, seeing it as unorthodox and queer almost. The existence of AI in Jonze's world makes the watcher wonder, what makes a relationship "genuine" in a world of AI/humans and can we change the standards to no longer follow heteronormative, romantic human relationships.

Philosophy

'Her' involves many philosophical themes, throughout the film we are made to question various topics on life, relationships & love, technology and more. It isn't a film for mere entertainment like an action film surrounding AI. Spike Jonze's wants the watcher to finish the movie questioning aspects of life and our capabilities.

Some philosophical questions that are present throughout the move:

- Was Theodore really in love? And how can we define love?
- Is love capability through only verbal communication & nothing more?
- Is Samantha a person or an experience?
- Can an AI ever be seen as a being?
- Can an AI be conscious and real?
- What defines a "normal" relationship in a world of conscious AI's if the beings (humans & OSs) have different capabilities?
- Are we as a society becoming too reliant on technology?

Section 3: Spike Jonze's narrative & how it relates AI in the real world

I want to mention that the real-life potential of the technological features in 'her' is not the only factor that determines if the movie is a good contribution to the field of AI, as it is a fictional movie not made to be hyper-realistic or accurate. What makes the narratives Jonze presents so great & worth analysing is the creativeness of the narratives and philosophies that he is presenting. I want to talk briefly about these narratives & messages of the film. What they could suggest and make society ponder on when thinking about AI and tech as a whole.

Love & the soul can be programmed - Jonze created the idea that love & the soul can be programmed which has been a big debate in the AI community. Some experts believe that this will never happen, and others are curious about redefining what it means to have a "soul". The philosophy & ethics of AI is a subject that is being researched by philosophers like Vincent C Muller to understand this concept more. A BBC article written by Brandon Ambrosino goes into the idea of AI Souls (https://www.bbc.com/future/article/20180615-can-artificial-intelligence-have-a-soul-and-religion) concluding to the fact, that the concept of the soul is usually something based on religion & something that humans can define, therefore it's up to our future generations to "soul" an AI. However, in the article, he states that defining a soul has a lot of human attitudes like natural warmth, emotional connection and more. It is also discussed if consciousness in AI is even relevant, many AI experts wonder why we would need AI machines to connect with us such as Stuart Russell who thinks machines can be of good use without the need to develop consciousness which furthers a debate of to develop or not be developed.

Machines will surpass humans in intelligence – We've already mentioned technological singularity in the film, but there are some debates surrounding this topic. Many AI experts believe that machines will get to a point of high intelligence but not many believe in the technological singularity of it surpassing humans and don't believe it will happen anytime soon. Paul Allen, Co-founder of Microsoft believes that human-like intelligence in AI is extremely difficult even on a small scale.

"AI researchers are only just beginning to theorize about how to effectively model the complex phenomena that give human cognition its unique flexibility: uncertainty, contextual sensitivity, rules of thumb, self-reflection, and the flashes of insight that are essential to higher-level thought. Just as in neuroscience, the AI-based route to achieving singularity-level computer intelligence seems to require many more discoveries, some new Nobel-quality theories, and probably even whole new research approaches that are incommensurate with what we believe now. This kind of basic scientific progress doesn't happen on a reliable exponential growth curve. So, although developments in AI might ultimately end up being the route to the singularity, again the complexity brake slows our rate of progress, and pushes the singularity considerably into the future." - Paul Allen

The future of AI is optimistic - Jonze's AI friendly future is extremely optimistic; we've had many professionals fear the development of AI but Jonze's narrative makes being wonder what greatness can from the development. As a society, we can consider all the good & bad possibilities that might come from AI. 'Her' gives us the opportunity to look at the other side of the coin for once.

Human connection cannot be replaced by AI & tech - The ending of the movie is showing us Jonze's perception of relationships, and that tech will not be able to replace human-human contact. I believe this movie might make professionals and society wonder if there be any use in developing consciousness and emotional feeling in an AI tool as it might not be worth the research because there are just too many biological differences to benefit from these developments.

We might be becoming too reliant on Tech - Throughout the film we are shown that everyone's lives in this new future are surrounded by tech, relying heavily on it for all aspects of our lives even relationships. This could be Jonze trying to give society a wake-up call, that may be trying to develop AI that advanced is unnecessary & could form a lot of societal issues that we are not aware of yet.

In this section, I want to go through the technical features of OS1 (Samantha) & discuss the potential of AI features presented in the film by summarising relevant individual takes & projects that are taking place, to gain a perception of 'Her's real-life potential.

Voice Recognition

Samantha has TTS technology embedded and it isn't too far off from our current technologies. But a unique feature is how she breaths, mickicking human breathing which is a feature we yet to see in machine learning programming,

Computer Vision

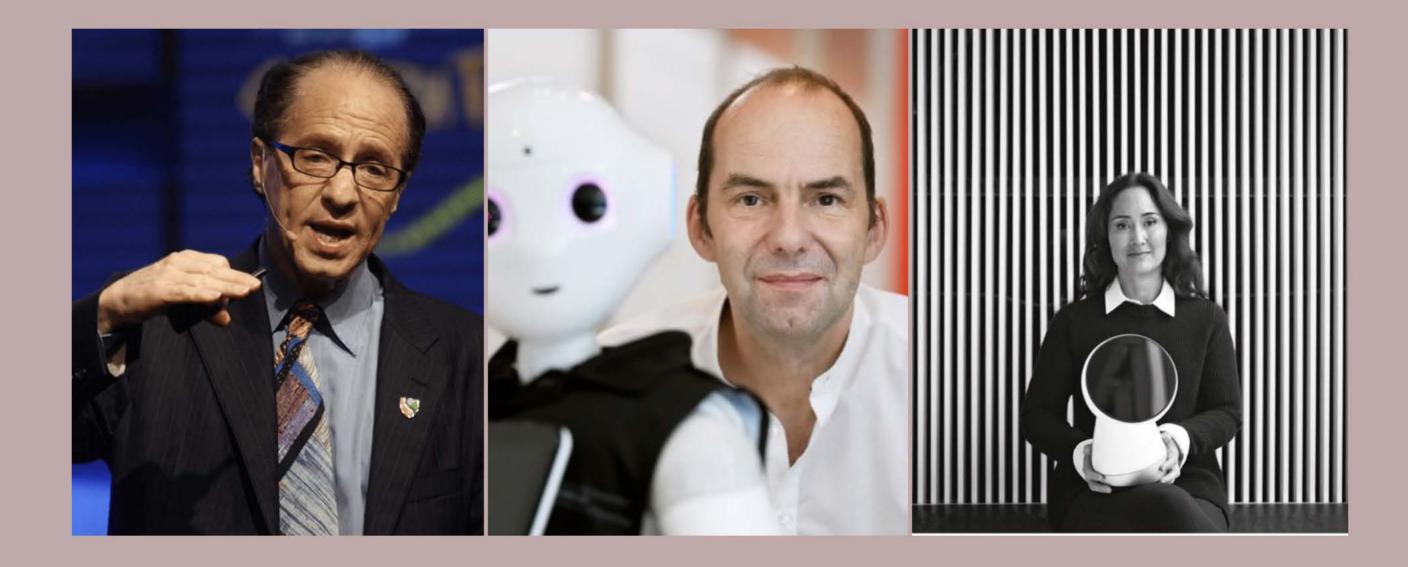"Computer vision is a field concerned with the incorporation of scenic understanding capabilities within a system. Computer vision tasks such as face detection, object detection or pose estimation are primarily solved using deep learning techniques."

OS 1 Samantha

Natural Language Processing

NLP is "A branch of Artificial Intelligence involved with the techniques by which systems process and examine an extensive amount of text for deriving understanding and context. " In the movie we can we that Samantha is able to empathise and understand human language through words or text and involves sentiment analysis to feed of users emotions.

AI General intelligence

The most obvious feature, is genereal intelligence unlike other voice assistants, Samantha is intelligent enough to name herself.

AI personal assistant

Like Siri & Alexa, Samantha is a virtual assistant, but on highly skilled level. The tech shown is samantha is very similar to the language model, GTP-3. GTP-3 is not a virutal assistant but has the potentional to be used as a basis for common sense in AI tools. GTP-3 uses few-shot learning, one-shot learning and zero-shot learning.

Ray Kurzweil is an American futurist, who has worked on numerous projects surrounding AI including his work at Google on machine learning projects. His work is extremely well known and respected in the tech industry for his highly accurate predictions, he has 86% accuracy of 147 predictions he has made since 1990, even getting a co-sign from Bill Gates calling him "the best person I know at predicting the future of artificial intelligence". Kurzweil specialises in optical character recognition, text-to-speech synthesis, speech recognition technology, and electronic keyboard instruments. He predicts that the Technological singularity that is displayed in 'Her' will occur by the year 2045 and so he is a firm believer that conscious AI is possible, Kurzweil is considered an optimistic futurist who believes that AI surpassing our biological limits on human intelligence will be a great thing. Machines may be able to solve all our worldly issues like medical cures & social-based ones. He's discussed these Ideas in his books 'The Singularity Is Near' & 'How to create a mind'. A year after 'Her' was released, he made an online review of the movie rating it to be very positive and realistic according to his opinions & research. (https://www.kurzweilai.net/a-review-of-her-by-ray-kurzweil) Calling the film a breakthrough to cinematic futurism. He did have some criticism though stating the rapid pace that Samantha and the other OSs overtook human intelligence was too quick. According to his predictions, this would happen over the course of decades and not months as shown in the movie. He also stated the reasoning for the OSs leaving doesn't seem plausible as their roles as therapists & AI assistants were still needed, they might not be able to have meaningful relationships with humans but that doesn't mean it is not possible to coexist with them. To conclude Kurzweil is a firm believer that the tech displayed will be feasible one day.

<u>Dr Vincent C Müller (Researcher)</u>

Vincent C Muller is currently a professor of Philosophy, and Ethics surrounding artificial intelligence at the Technical University of Eindhoven. His work has been at the forefront of how we view the philosophy of AI and has been described as a pioneer of ethics & AI. He was recently awarded an Alexander von Humboldt Professorship to support his work granting him €3.5 million for his research. He has been praised for building the bridges between technology and humanities expertise. Muller claims that there is a 50% probability of technical singularity occurring by 2040-50. In his article published in 2020 (https://plato.stanford.edu/entries/ethics-ai/) titled 'Ethics of Artificial Intelligence and Robotics,' he details his view on the impact that AI development will have on humanity in the near future. He uses Kurzweil work as his basis and agrees with many of these points surrounding technical singularity. But some of his points oppose to the story of 'Her', Muller doesn't believe robots can replace certain human-human interactions such as care, love & sex. He also discusses artificial moral agents, like Samantha who is intelligent enough to think about what is right or wrong, we wonder if robots in the future will be to do the same, Muller suggests that maybe we could make robots to be "moral patient" where they are programmed the same morals as humans.

<u>Cynthia Breazeal (Robotic Engineer)</u>

Cynthia Breazeal is an American robotics engineer; she completed her studies at the University of California & MIT. She is the chief experience officer of Jibo, a company she co-founded in 2012. Jibo is a socially interactive robot retailing just over £500. She has described her expertise as social robotics focussing on machines that are designed to interact with humans and her aim with Jibo is to provide warm and friendly robots to the masses. "So much technology today is just data, data, data, and graphs and information," she states "But there is a very different kind of help we get from people, which is social support, emotional support and just feeling like there's someone who's in your corner with you. And social robotics is magical because it actually brings those two worlds together for the first time in technology." Jibo is a special type of robot because it is not pre-programmed by a company, it is a developer platform so that third parties can create software to expand the features Jibo's has. Breazeal's creation could be the foundation for a product like Samantha becoming actualised.

Section 5: Theorising a world where 'Her' is real - effects / ethical issues

If we lived in a world where the AI features, shown in 'Her' were accessible & we all had our own version of OS1, what are some effects / ethical issues that would occur?

Biases in the AI machines – We would have to have the capability of making completely unbiased AI machines. This would mean a lot more investment and training programmers to make sure this was a priority, and no users are being discriminated against or dismissed when the AI code is being written. We currently are experiencing a lot of bias in AI systems. If we had an AI voice assistant that was with us at every move, we would need to make sure that every type of individual could interact with the tool. The film 'her' only shows us modern Los Angeles, we are not shown or aware of other countries & demographics interacting with OS1.

What are the machine rights and ethics? – Once an agent is considered conscious, do their rights need to be accounted for. Some AI researchers have wondered if we get to a point of artificial consciousness, do we as humans have a right to tell or force AIs what to do. Would all of them be willing to just be personal assistants? Or would that be a lack of free will & morally wrong?

Product safety and liability - Since OS1 is a product, there are many scenarios that could take place that might put users in danger as the products are AIs with their own minds, thought and desires. This could lead to any possibility so laws may need change to make sure that the production company making the AI are not liable or the OS1 presented in 'Her' would never be able to be made due to the lawful conflict it may cause.

Lack of Human-Human interaction – There would also be quite a massive effect on social interaction if a product like Samantha was made. There are many worrying study's on the lack of social interaction currently due to social media, this would highly be exacerbated if we were able to become friends with our computers.

Section 6: Conclusion

Spike Jonze's brilliant film has provided us with many topics to consider with the development of AI, he's provided us with a well-composed piece of media that lets us wonder if connections with an artificially intelligent machine will be possible. So many factors and different researchers' opinions pull us to each spectrum of this argument, however, we need to consider we are currently in a period where consciousness in AI is not seen as possible due to logic and theories such as Nobel-quality theories that Paul Allen mentioned not being developed on. But there are small strides that might led to these developments, we are currently testing emotional support robots for the elderly in care homes & therapy chatbots are on the rise. And many still have faith in the technical singularity happening in the near future. Regardless Jonze's 'Her' is a remarkable breakthrough for a unique perspective on artificial consciousness, human to machine relationships & a positive outcome from the singularity theory. His optimistic and romantic approach is often comparable with many new reports and research surrounding AI such as the work of Vincent C Muller who opposes the fear-mongering theories about deadly AI machines. But Jonze's future does not seem far fetch and is still to this date one of the most realistic movies surrounding AI though slightly romanticising the idea of having an AI personal assistant, our future might not look so far off from what he has displayed, perhaps not as early as Ray Kurzweil has predicted but there's always hope.

Regardless, if we see an operating system like OS1 being actualised anytime soon, Jonze's entire message of the movie is one to consider when furthering AI research. Theodore & Amy, watching their AI machines raise in the sky as they ascend to a different plane, finally comforting each other. In the end, we are finally shown what the message was all along; 'Her' is a commentary of modern living, we have been too busy with tech and lacking a connection with our fellow beings. It makes us wonder if we would even want to build an AI that connected with us or would that be a detrimental and unreversible effect on our societies ability to talk & build relationships with one another. Perhaps 'Her' is showing us that we need to keep AI at an arm's length, simply just using the technology for automation and efficiency.

"it's writing about something that I think has maybe always been here, which is our yearning to connect, our need for intimacy, and the things inside us that prevent us from connecting. And that sort of tension has always been there. So, I think, you know, where we're at right now has a particular set of challenges, but what I'm talking about has probably existed as long as we've existed." – Spike Jonze

Bibliography

- https://www.youtube.com/watch?v=EGcBNACe80M
- https://www.kurzweilai.net/a-review-of-her-by-ray-kurzweil
- https://www.krwg.org/post/spike-jonze-opens-his-heart-her
- https://www.latimes.com/entertainment/arts/la-et-cm-her-architecture-notebook-story.html
- https://www.architectmagazine.com/design/elizabeth-diller-on-spike-jonzes-her_o
- https://gointothestory.blcklst.com/movie-analysis-her-5651e6e0c0be
- https://www.frontiersin.org/articles/10.3389/fpsyg.2019.01535/full
- https://mitpress.mit.edu/books/technological-singularity
- https://www.youtube.com/watch?v=DHyUYg8X31c
- https://www.wired.com/insights/2014/02/can-build-samantha-tells-us-future-ai/
- https://www.dazeddigital.com/science-tech/article/41387/1/her-film-ai-love-artificial-intelligence
- https://plato.stanford.edu/entries/ethics-ai/?TB_iframe=true&width=370.8&height=658.8
- https://www.technologyreview.com/2011/10/12/190773/paul-allen-the-singularity-isnt-near/
- https://www.bbc.co.uk/sounds/play/m0012q21
- https://www.softbankrobotics.com/emea/en/pepper