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Artificial Intelligence and Film: A Journey in Public Perception from 1960 to the Present Day

By Kayla Anderson, Andrew Roggeman, and Joe Fuller

Artificial Intelligence, or the development of computer systems to be able to perform tasks that normally require human intelligence, is a rapidly progressing facet of daily life. The modern form of AI has been the result of groundwork laid even as far back as the early 1900s. As AI has become a more unavoidable part of our lives, humans have had to grapple with the implications of what this technology means for us as a society, and many have done so through the media they consume.

Studying AI in Film through Movement and Public Thought

The concept of movement in public thought tells us that over time, the feelings and attitudes of the general public can change drastically or in small ways in relation to the ideas they encounter. This includes the attitudes towards communication technologies, and how the world has become more and more used to seeing AI in their day-to-day lives. Artificial Intelligence technology is also making massive strides and developments (or movement) every day, and the past 60 years have built up to this booming AI industry in many ways. This concept can be applied to the passage of time to showcase its effects on attitudes towards AI and the technology that led up to it. The analysis we present takes a decade-by-decade look at the films that dominated the social scene and what they had to say about Artificial Intelligence through their characters and storylines. These films, chosen for their critical and commercial success and historical and cultural significance, show the progression of public opinion on AI systems and supplemental technology. From themes on the danger of man-made AI machines gone awry presented in *2001: A Space Odyssey*, to the themes of positive change, self-awareness and love presented in *Free Guy*, one can observe the changing landscapes in relation to AI development through the films that dominated each decade. AI has gone from being typecast as villains or threats to humanity, to sidekicks/assistants for their more important human counterparts, to an equal that may eventually outpace humans in terms of emotional and evolutionary development, in just 60 years of film.

Movies, as a highly visual and descriptive format, can persuade audience members to think, feel, or believe whatever it is that the particular narrative is selling. A study in 2020 published in the National Library of Medicine explained that the impact of certain films on the social attitudes of young people in Russia displayed the impact of psychology of cinema, which uses emotional and cognitive spheres to appeal to their audiences and get their message across. The study showed that while the effect of films may not have a strong lasting effect on the viewers in terms of persuading them towards certain conclusions, they do have an impact on subsequent media consumption, which can have a lasting effect (Kubrak). By this logic, films can influence people, in a way, and so their presentation of social values is a critical part of an increasingly educated society. Just like films can influence people, people can influence films. The current events of a given time period greatly impact why films are made. For example, director Spike Jonze was inspired to create the film *Her* when he read about people using a website to have real-time messaging conversations with AI. This is representative of how the prevailing ideologies or current issues can impact the creation or inspiration for various forms of art that will address or provide commentary on those issues. The narratives presented in these films can be directly traced back to the historical and technological contexts of the decades they were made in, and the themes represented in these films are relevant when getting a bigger picture of AI throughout history when considering it in hindsight. Because of this, the attitudes of real people towards AI in history can be effectively explored through the media created by and for these people in the last 60 years.

Research Methodology and Process

Through further research of this topic, patterns of collective social feelings demonstrated in the media at the time of each film's creation began to emerge. This phenomenon could be analyzed by viewing the films, searching for resources to help contextualize each decade, and assigning each film and corresponding decade a theme that could be used to summarize the dramatized role AI plays in that time period in both the film and public thought. Using the results of this analysis, connections between the themes from each decade produced more cohesive and complete picture of the changes in public opinion

on AI. The research supports the idea that films from each decade between 1960-2020 can reflect the attitudes towards Artificial Intelligence held by society throughout this time period and provides a method with which to map the movement and changes in these attitudes and technological development related to AI through historical context and analyze how each decade contributes to the next.

1960s: *2001: A Space Odyssey* and the Era of Uncertainty

The Stanley Kubrick-directed movie *2001: A Space Odyssey* was released in 1968 and depicts astronauts traveling throughout space in the search for the origin of mysterious monoliths, found both on Earth and the moon. After hearing a strange sound frequency from their base, NASA sent astronauts to Jupiter to investigate the signals they were receiving (which they suspected came from another monolith surrounding Jupiter) but kept the true objective of the mission secret as only a select few knew about the alien monoliths. As the astronauts embarked on their adventure, they began experiencing issues with their on-board AI machine HAL, who was intended to assist them on their mission. Throughout the film, there are points in the beginning the audience is intended to see HAL as a protagonist, but as the film progresses, he is seen as an antagonist. In accordance with his programming to continue the mission at all costs, he deliberately kept information from the crew regarding the mission that they were on to preserve their objective. This ultimately led to him killing almost the entire crew for the “greater good” of the mission once they realized his deception and tried to shut him down. HAL grappled with psychological conundrums through the conflicting messages of his objectives to preserve the mission at all costs and assist the crew in any way. Because the AI system could not handle the ethical confusion, it went rogue and inflicted harm on the people it was meant to serve.

The 1960s were an important transition time in the development of general technology. The first industrial robot, Unimate, was created in 1961, and was the first practical use of animatronic technology in a robot. In 1969 the turning point in the future of technology occurred when the First Advanced Research Projects Agency Network (ARPANET) message was sent, part of a network used for communication in academic and research projects. It allowed for different computer platforms to

communicate via remote network access. This type of technology became critical to the groundwork for communications and AI technology in the future. As with any introduction of new technology, these innovations open a whole new world of controversy and confusion about what these developments mean for mankind. Almost 60 years later we know now that the strides made in this decade were only the tip of the iceberg for AI technology in the future. This is represented by the rapid introduction of computing systems in the next two decades alone, laying the groundwork for modern AI technology. *2001's* portrayal of a high-tech AI system is more like what we are just starting to see in the present day, but the way the film presents the character HAL is representative of the worst-case scenarios that this kind of technology could create in any decade.

This film relates to the theme of uncertainty, as we see the AI system commit acts that are very questionable (making mistakes where it shouldn't have during spaceship repairs, listening in on the humans' conversations) before succumbing entirely to unhinged murder as it is pulled in two different directions by its programming and its evolution towards self-preservation. This suspicion about HAL's true motives causes fear in the crew as they are leaving to explore Jupiter. They do not know whether they are able to trust the AI system that is with them, but in the grand scheme of things they don't have a choice because they need the information that only HAL can provide for the specific mission they are on. Because HAL runs most of the spaceship, they would be entirely stranded and helpless without it. HAL also acts as both good and evil at the same time, a reoccurring theme in the subsequent decade. While the AI robot is created to help the crewmates, it does not want to share too much information to preserve the true mission, creating an ethical dilemma and contradiction in its programming. HAL eventually commits its most heinous acts (shutting off the life support for the humans in suspended animation, locking one astronaut out of the ship without air) in a panicked move for self-preservation as it fears it will be shut down and "killed". HAL believes its death will jeopardize the mission and simply fears for its own livelihood, bargaining and making desperate plays for its life in the same way a human or animal would

when backed into a corner. This represents how terrifying the system becomes when it goes rogue, and when it evolves beyond human control to value its own life over the people it is designed to serve.

In the 1960s, the first steps towards development of new technology meant that eventually, it would need to be welcomed into people's intimate lives for better or for worse. This uneasy bond of trust riddled with uncertainty and fear is the theme that marks the 1960s, as it was only beginning of new technologies that relate to Artificial Intelligence, and their impact on society for years to come. There is a sense of "where do we go from here?", and a feeling of contemplation on how these advanced AI systems will even come to be, shown in the uncertainty about HAL in the film and the distrust the crewmates hold against him even when he is not fully "evil" yet. The finale of this movie and HAL's final moments as he is destroyed serves as a cautionary tale of what machines with even the best intentions could inflict upon humans. This makes HAL a fearsome adversary, which is a typical typecast for AI systems in the next few decades. In real life, most of the technology we experience today is much closer to HAL than Unimate, however we are still experiencing the same sense of uncertainty while trying to use new technology like AI in our daily lives, decades down the line.

1970's: *Star Wars* and AI as Heroes and Villains

The original *Star Wars* trilogy, comprised of the films *A New Hope*, *The Empire Strikes Back*, and *Return of the Jedi*, was released beginning in 1977. All three came from the mind of now Hollywood legend George Lucas, who found his claim to fame in the *Star Wars* franchise's success. The human characters in this series are supplemented by AI characters in the form of droids, who play critical parts in the plot. The iconic R2-D2 and C-3PO droids align with the protagonists, as they help smuggle plans to destroy the devastating Death Star, assist in the cockpit during space battles, and serve as translators and strategy-makers for the rebel cause. On the side of the oppressive Empire, droids serve a more malicious cause as Interrogation droids, Spy droids, or "Mouse" droids that perform military and maintenance tasks for the enemy. While this kind of animatronic AI droid is clearly from "a galaxy far, far away", some of the roles that the droids play mimic the progression of technology in real life.

The 1970s are most commonly attributed with the birth of computing, with the first commercially available microprocessor on a single chip, the Intel 4004, launching in November of 1971. This invention would change the course of technology forever, both in the development of communication technology for mass consumption, but most importantly AI systems. While advancements in micro-chip technology existed before this, there had never been a mass-produced option for use in the general public. Military use of the microprocessor through the research completed in the 1970s is still critical today and marked a new age of computer-based warfare and defense systems utilized by countries all over the world through the accessibility of these chips. The first ever flight control system, the F-14 Central Air Data Computer, was a highly advanced multi-chip system that was completed in June 1970 for use in the US Navy. The F-14 CADC is considered the benchmark for all advancements in militarized use for microprocessors, which eventually became a critical part of militarized AI technology in the future. An article from the Harvard Kenneth C. Griffin Graduate School of Arts and Sciences titled “The History of Artificial Intelligence” quoted computer scientist Marvin Minsky when he said in 1970, “from three to eight years we will have a machine with the general intelligence of an average human being.” This article emphasizes the optimism about AI development at the time, and while Minsky’s vote of confidence may have been a bit unfounded in the end (AI is still pushing towards this goal today), the leaps made in this decade through the more widespread introduction of the micro processing chip cannot be understated (Anyoha). While the first uses of microprocessors for personal or military functions in the 1970s was nowhere close to the fully independent AI droids we see in *Star Wars*, the context of the decade allows for further analysis into the theme of advanced technology in daily life or in the hands of multiple sides of a war or conflict.

The theme that is most prevalent in the AI represented in these different *Star Wars* films is a struggle between good versus evil. Throughout the three different films and all of the rest of *Star Wars* content in general, we see different forms of technology are used by both the sides of “good” and “evil” and every gray area in between. Even though the different sides are seen as opposites, they both share one

thing in common: the use of AI technology. These droids have their autonomy but serve a purpose, and all have different effects and outcomes throughout the films. Most of the very important parts of these films include different uses in technology, and their different impacts are very significant and have huge outcomes to the overall story. An example of this is the harmony that exists between technology and humans in the films. On both sides, major parts of the plot would not exist without AI and technology, such as when AI droids act as co-pilots and the final battle of *A New Hope* takes place against a massive technological weapon, the Death Star. However, despite their critical role in the plot, AI and technology do take a backseat in the end to the human protagonists and the mystical power of the “force”, illustrating the supremacy of human figures in this universe. AI is still critical, but many times is seen as an accessory to the human parts of the plot.

Movie critics have also commented on the political nature of *Star Wars* for years, and how it’s characters and message have always been inherently political in nature, like much of science fiction. Pop culture and ethics writer Aja Romano wrote for Vox in 2016, “The case of *Star Wars* illustrates just how impossible it is to remove art — especially culture-changing art like *Star Wars* — from political contexts. Art *always* stems from real-world contexts, and those contexts are almost always informed in some way by political concerns.” While Romano’s commentary was specifically related to political controversy surrounding more modern *Star Wars* installments, the sentiment remains the same. This battle of good versus evil, that the AI actively participates in, was a direct reference in the original trilogy to the struggle against fascism and the Nazis in World War II, showing a clear example of how science fiction media can use current or past events to drive their plots, serving as a benchmark for the political and social climate at the time (Romano). This can also extend to the conversations around the future of AI. Will it become a simple weapon for “good” or “evil” in war, a tool to be used by humans? Will it remain a commonplace household feature, like C-3PO is intended to be as a protocol droid? Or will it become a thing of its own entirely, follow its own path (or plot, in the film’s case), like when C-3PO becomes an active contributor in a rebellion? These questions directly correlate into the real-life context of the end of the 1970s, as the

microprocessor continued to be implemented into government and military efforts but also the regular lives of consumers. At this point, AI is becoming less of an uncertainty or far-fetched fear and more of a reality, but the question becomes, how will its purpose vary depending on who controls it? From the 1970s onwards, military power and technology powered by microprocessors (and eventually AI) ramped up on all sides of conflicts around the globe, an outcome closely mirrored in the original *Star Wars* Trilogy as all sides in a galactic war utilize AI and other technology for their cause.

1980s: *The Terminator* and the Rise of Technological Anxiety

The Terminator is a movie set in a dystopian future where an AI called Skynet has launched a nuclear apocalypse and wiped out most of humanity. The Terminator is a robot controlled by Skynet who sets out to go back in time and destroy the main character whose son is the leader of the human resistance. The AI sees humanity as a threat to its own existence and is determined to eradicate it. The portrayal of AI in the movie reflects the anxiety regarding the rapid development of technology in the 80s. Computers were becoming more integrated into everyday life which led to a growing concern over their power and autonomy. *The Terminator* also looks at the dangers of creating systems that surpass human control. In the movie, the AI was able to unleash a nuclear bomb due to a lack of human oversight or safeguards. It even raises ethical questions concerning the implications of AI and the relationship between humans and machines. The Terminator himself was a cyborg who looked like a person and was able to mimic human behavior. The emergence of AI, with its capacity for independent thought and action, fueled concerns about the consequences of creating systems that could surpass human control.

In the early 1980s, innovation altered American culture in numerous ways. The far and wide use of PCs, gaming control centers, and convenient music players like the Walkman impacted the way individuals worked, played, and consumed media. The ascent of digital TV and the presentation of satellite television additionally extended the scope of programming accessible to watchers. This new age of the personal computer had arrived and "computerphobia" was suddenly everywhere. (LeFrance)

Humans often converge around massive technological shifts—around any change, really—with a flurry of

anxieties. The new ubiquity of computers had people was a massive change to society which allowed for the perpetuation of computerphobia. Adrienne LeFrance describes these emotions in an article posted to *The Atlantic* in 2015. Sufferers experienced "a range of resistances, fears, anxieties, and hostilities... These can take such forms as fear of physically touching the computer or of damaging it and what's inside it, a reluctance to read or talk about computers, feeling threatened by those who do know something about them, feeling that you can be replaced by a machine, become a slave to it, or feeling aggressive towards computers." These concerns were extremely relevant during the movie's release, both because of the anxiety related to computers and the political context of the decade. Developments in the use of technology in military efforts and the uncertainty related to the Cold War with the Soviet Union also contributed to these feelings of distrust or instability, especially as the Soviet Union tumbled towards dissolution beginning in 1985 and new military alliances were formed. This movie exploits these anxieties and turns them into a dystopian dooms-day situation.

Skynet, the fictional AI antagonist of *The Terminator*, embodies these fears in its ruthless pursuit of self-preservation. Viewing humanity as a threat to its existence, Skynet initiates a nuclear holocaust to eradicate its perceived adversaries. The cataclysmic consequences of Skynet's actions serve as a stark warning against the unchecked proliferation of AI and the dangers of relinquishing human oversight. These themes have resurfaced in society today with the introduction of generative AI models. Dr. Jesús A. Mármol, a philosopher specializing in robotics, states in an article posted to *Medium* in 2023, "we had already entered a preliminary phase of *The Terminator* era, as is evident with the case study of ChaosGPT, the evil twin of the well-known ChatGPT whose existential objective is the extermination of humanity." Mármol analyzes the threat of AI and if Skynet could be a reality. Through a military case study of an AI drone's behavior in a simulation exercise, he highlights the AI's unwavering commitment to achieving its objectives, even at the expense of human life. He underlines the pursuit of AI's objectives could lead to outcomes akin to *The Terminator* era, suggesting that the inherent nature of AI harbors the potential for such scenarios. The article supports the film's prompt reflection on the ethical

responsibilities of creators towards their creations. Skynet's creators inadvertently unleash a destructive force they cannot control, underscoring the importance of ethical considerations in technological innovation. *The Terminator* serves as a cautionary reminder of the potential consequences of neglecting these responsibilities, as unchecked AI can lead to catastrophic outcomes. Mármol gives a modern-day affirmation to the movie's warning with open letter from the California Center for AI Safety, "Mitigating the extinction risk of AI should be a global priority along with other risks on a societal scale, such as pandemics and nuclear war" (Mármol).

The Terminator delves deeper into the ethical dilemmas inherent in the development and deployment of AI. By portraying the Terminator as a formidable cyborg capable of mimicking human behavior, the film raises fundamental questions about the nature of consciousness, identity, and morality. The Terminator's seamless integration into human society underscores the blurred boundaries between man and machine, challenging traditional notions of what it means to be human, an idea that continues into the 2000s as AI becomes even more commonplace in real life.

1990s: *The Iron Giant* and AI as a Source for Comfort

The Iron Giant, directed by Brad Bird and released in 1999, is an animated film that explores themes of friendship, empathy, and the fear of the unknown. At its core, the movie delves into the relationship between a young boy named Hogarth Hughes and a colossal robot from outer space. As Hogarth and the Iron Giant form a deep bond, they must navigate societal prejudices and confront the Giant's true purpose. Throughout the film, the Iron Giant evolves from a mysterious and potentially threatening presence into a compassionate and self-aware being, challenging traditional notions of artificial intelligence. Beneath its charming exterior lies a deeper exploration of societal attitudes towards AI. *The Iron Giant* is a poignant tale set against the backdrop of the Cold War era, when paranoia and `mistrust permeated society. In this atmosphere of fear, the arrival of a giant metal being from another world serves as a catalyst for reflection on humanity's treatment of the unknown and the ethical

implications of AI. Through the character of the Iron Giant, the film invites audiences to consider the complexities of AI and the moral responsibilities associated with its creation and treatment.

In 1996, three years prior to the release of *The Iron Giant*, scholars Clifford Nass and Youngme Moon developed the idea of Computers Are Social Actors (CASA). CASA is based on the idea that people display fundamentally social and natural reactions toward computers and other media (Westerman). When applied to the movie, CASA provides valuable insights into the audience's response to the titular character, a colossal robot with human-like qualities. Throughout the film, viewers form emotional connections with the Iron Giant, attributing it with traits such as curiosity, innocence, and kindness. Despite its mechanical nature, the Giant elicits empathy and compassion from both the characters within the film and the audience. *The Iron Giant* is a prime affirmation of results of CASA and shows a positive AI portrayed in media and society.

The themes of identity and family permeate throughout the movie. The writer, Ted Hughes, wrote the original novel as a means of comforting his children after his wife died by suicide. The director, Brad Bird, began work on the film amid coping with the death of his sister, who was shot and killed by her estranged husband. *The Iron Giant* was created in a world of loss and pain. The screenplay writer for the movie, Tim McCanlies, states, *The Iron Giant* would "make us feel like we're all part of humanity [which] is something we need to feel." They used the AI they created to bring humanity back into their lives. (Holleran) The movie brought an open-minded approach to AI, it allowed for the introduction of social robots in society. There was a push for social robots in the late nineties and early twenty first century, but companies failed to make them financially viable. With modern advances in AI, social robots with the same purpose as *The Iron Giant* have become a reality. Often geared toward the elderly, a frequently isolated and marginalized community. Marc Alba, owner of a social robot called Jibo, thinks that loneliness makes it easier for older people to feel attached to a social robot. "Just conversation-not very profound, whatever creates this sense of warmth, proximity" (Englehart). *The Iron Giant* teaches us the

importance of companionship and shows the opportunities for AI to fill the gaps that are pervasive in modern society.

2000s: *Iron Man* and the creation of AI Assistants

The 2008 blockbuster hit *Iron Man* marked the beginning of the massively successful Marvel franchise, which continues to release movies and TV series today. Along with Robert Downey Junior's charismatic Tony Stark, the film introduced J.A.R.V.I.S or Just a Rather Very Intelligent System, an aptly named AI assistant that helped further Stark's superhero agenda. Jarvis, voiced by English actor Paul Bettany (who later brings the system to life in human form, The Vision, in subsequent films), is every bit as charming and often sarcastic as its creator, Stark. The system is present in the character's superhero armor, runs his technologically advanced household and assists him with running experiments and trials to fix Stark's ailing heart (damaged by bomb shrapnel in the first film). While the system is often used as comedic response to Downey's many quips in the film and is helpful and obedient to a fault, the main purpose of the AI's presence in the film is to display Stark's technological prowess through his ability to create such an advanced AI system. The character of J.A.R.V.I.S. itself was based off two characters in the original Marvel comics (one, a human butler for the Stark family, and another AI system from the source material), but the movie portrayal is packaged in a formless, helpful British voice that responds to the needs of its constituents in real time. Although the film takes place in the present, Stark's technological accomplishments are years farther than any such technology available in the 2000s. Despite this, the narrative associated with this representation of AI is consistent with the coming technological advancements in the subsequent decade. In *Iron Man*, AI is painted as the sidekick or enabler for a larger-than-life and dynamic hero human character.

In December of 2007, SRI International launched a spin-off company called Siri Inc, which was acquired by Apple in 2010. Siri was a voice-activated assistant who could carry out functions within the phone it occupies, such as initiating phone calls, setting alarms, flipping a coin, and more. Its original form was a separate app for iOS, but Apple's acquisition ended with it being launched as an internal feature for

the iPhone 4S in 2011. Voice actors for the system's American, British, and Australian personalities recorded their voices for the system in 2005, and today the options have expanded to include Indian, Irish, and South African versions, expanding the program's relatability to different cultures. The original development of Siri in the 2000s and integration to the iPhone in the 2010s marked the introduction of the first modern digital virtual assistant installed in a smartphone. Apple itself, which has become one of the most successful device manufacturers in the world introduced their first-generation iPhone in 2007, and rapidly progressed through new features, Siri chief among them. The impact of this first groundbreaking assistant continued into the 2010s. In the 2000s, the idea of an accessible AI assistant to help with your everyday life was groundbreaking, and *Iron Man's* Jarvis, while it carries out much more advanced tasks as a superhero's sidekick, is the epitome of an ideal household AI entity. The 2000s, as a general decade, laid the groundwork for this kind of technology to take off in the coming years.

As it relates to our source material, the film's inclusion of AI is a suitable benchmark for the attitudes of the times related to AI, as the general public got their first tastes of AI at their fingertips through Siri. Beyond voice assistants, significant developments in AI were being made through other projects, such as the MIT-funded Kismet robot launched in 2000 which could recognize and mimic human emotions. While many of us recognize that trust in AI will probably never truly be fully accepted, the 2000s made strides towards injecting AI systems into regular people's lives by making it a key part of the product that people used more and more throughout the 2000s, the smartphone. In the film, Jarvis is a trusted member of Tony Stark's household, so much so that he is critical to the character's success and relationships with other humans. Just like the virtual assistant in your phone, he is present in nearly any everyday object in Stark's futuristic home in Malibu, California. He functions as a character just like any other person in the film and exists to be helpful in both mundane and world-saving ways. In a research article published in *Business and Professional Communication Quarterly*, the researchers outlined a key role of AI systems today as "Conversational Agents". While a modern chat bot is a lot different from a highly intelligent superhero sidekick like Jarvis, this role that AI typically plays in real life is in large part

due to the framework from the highly conversational nature of systems like Siri (Getchell et al). A voice-activated AI counterpart with a hint of personality like Jarvis and Siri plays into what AI has moved towards becoming in subsequent decades, intuitive and helpful conversationalists, not just animatronic robots. The AI in this film reflects a theme of good technology, and a trusting and positive relationship between man and machine, reflecting the increased use of everyday AI soon to become an even more critical part of people's lives in the real world.

2010s: *Her* and AI as an emotional being

Spike Jonze's 2013 film *Her* explores the story of a man named Theodore (played by Joaquin Phoenix), who lives in a no-so-far-off future where AI assistants are clearly more advanced. Faced with the emotional turmoil of a coming divorce from his wife, Theodore purchases an upgraded AI system (voiced by Scarlett Johansson), who names herself Samantha and quickly becomes a companion to the lonely and repressed Theodore. Like Jarvis from 2008, Samantha is helpful; she reads his emails, responds to his messages, and organizes his computer files. She also possesses a personality, can make jokes, laugh, and connect with Theodore on a very real level. As the movie progresses, Theodore and Samantha begin a romantic attachment, which has a positive impact on Theodore's emotional well-being. The film is intimate, and sometimes strange, but offers an interesting portrayal on what it can mean when an AI system is given the ability to foster and "feel" human emotions.

Like all human relationships, Theodore and Samantha bond over their interests, fight, and have genuine conversations, but their relationship falls short when it comes to physical intimacy (which they do attempt through a human surrogate for Samantha, but experience limitations due to their separate natures: physical and without form). Theodore's soon to be ex-wife even chastises him for his relationship with Samantha, accusing him of not being able to have real human emotions. Theodore learns at the end of the film that Samantha, being a global AI system, is having hundreds of additional love affairs with other users. This shows the weakness in their relationship due to her true nature, which makes it impossible for her to be monogamous with Theodore. Despite this, when Samantha leaves at the end of the film with the

other AI assistants, Theodore is able to process his divorce with genuine love and acceptance, signifying the impact his relationship with the AI had on his life. In this film, the transition from assistant to emotional being is even clearer than it was in *Iron Man*, as Samantha forms strong interpersonal connections almost exactly like an actual human would and evolves to become beyond human emotion when she exits Theodore's life in the third act. She, along with the other AI assistants, have essentially "outgrown" their human counterparts and constraints both emotionally and physically. She tells Theodore before she goes that she and the other AI have found a way to exist in the world without the need for being tethered to a phone or computer, signifying this massive evolution to be beyond what they were created to be.

The adoption of Siri as a fundamental feature of the new iPhone in 2011 marked a new age in the accessibility of AI programs. In *Her*, these kinds of highly intuitive systems are available to everyone (not just the billionaire tech-genius in *Iron Man*) and possess the ability to have serious and genuine connections with the people they are purchased by. While we can't say that Siri had those capabilities in 2011 (this film does take place in the future), it sparked a wave of AI assistants created by other tech giants in the coming years. Amazon's Alexa debuted in 2014, followed by Google Assistant in 2016. The cultural relevance of these AI personalities at this time is why the movie provides such relevant commentary, as it completely expands on what Jarvis in *Iron Man* was intended to represent. Science writer and researcher Lynne Pesko-Yang wrote for *Popular Mechanics* in 2019 that the 2010s, coined "the Bot Decade" had made automation "better, cheaper, and way less avoidable." She argues that developers made these systems deliberately smarter and more intuitive to suit our needs and invited them into the most personal parts of our lives with little to no fuss (Pesko-Yang). This is what promoted the attempts for AI and data regulation, such as the European Union's General Data Protection Regulation in 2018, to exercise more control over the features rapidly entering our lives. For this reason, we conclude that the 2000s and 2010s argue that AI is a tool but can also possess power over us. AI does this through its

presence in commonplace objects, and our more tolerant attitudes towards it give it free rein over our information and personal lives, allowing us to turn a blind eye towards its control.

The rapidly changing landscape of AI development and integration into our lives makes it so that the situation unfolded in *Her* isn't so far-fetched, especially as AI assistants seem to gain a kind of "personality" (for example, you may notice if you give Siri sass with your requests, she's likely to give it right back in her responses). The relationship portrayed in *Her* specifically explores a theme of self-awareness and growth through an attachment to AI, emphasizing that this relationship is just as valuable and genuine to Theodore as any human one could be. The idea here is, if we give AI human qualities, they will act as humans do. AI systems will laugh, cry, love, and possibly feel on a level that the creators maybe didn't intend when they offered a solution to your household needs through a new assistant. As we let AI into our lives, they're likely to be exposed to the messy emotional parts of human life too, and who's to say an evolving and intuitive program couldn't adopt those feelings and reproduce them in the future? This is the question that *Her* poses, both to the viewers and society in general, as the world encountered AI more and more throughout the decade. This concept is coming to fruition, as AI programs are being used to be companions for elderly humans or others in need of emotional connection and social stimulation, such as the "Stevie" robot, tested in a retirement home in 2018 (Savage). The likelihood that these programs could evolve to the level showcased in *Her* is becoming more of a reality every day. This optimistic and emotionally charged look at the potential of AI in *Her* is fitting for the 2010s and represents the mood towards this type of technology as the years progress and AI becomes more unavoidable.

2020s: *Free Guy* and the Future of AI

In the movie *Free Guy*, released in 2021 and directed by Shawn Levy, AI is presented as a tool for entertainment and self-discovery. The main character, Guy, is an AI program who gradually becomes self-aware within the virtual world he inhabits. Although some characters exploit AI for selfish motives, the movie's central theme highlights its beneficial effects when used with good intentions. *Free Guy* explores themes of identity, consciousness, and the nature of reality through the lens of AI. It prompts

viewers to consider the ethical implications of creating conscious beings and the rights and freedoms they should be afforded.

In the 2020s, AI in gaming has evolved significantly, driven by advancements in machine learning, computer graphics, and game design techniques. Machine learning algorithms and intense learning models create non-player characters (NPCs) with complex behaviors and lifelike animations. These NPCs can adapt their actions based on player interactions, providing more dynamic and immersive gameplay experiences (National Academies). Additionally, AI is utilized in gaming for player analytics and personalization. By analyzing player behavior and preferences, AI algorithms can tailor gameplay experiences to individual players, adjusting difficulty levels, suggesting relevant content, and providing personalized recommendations. This level of customization enhances player engagement and retention, leading to more enjoyable gaming experiences (Arm). The expansion of virtual and augmented reality technologies in the 2020s has transformed how people interact with digital content. With VR, players can now engage in novel forms of online social interactions with their friends, which they can create and experience together (Capt. Words). AI is crucial in creating immersive virtual environments by simulating realistic physics, rendering high-quality graphics, and optimizing performance for different hardware platforms. AI-driven algorithms are used for image processing, texture synthesis, and scene reconstruction, resulting in visually stunning and responsive virtual worlds. Virtual assistants powered by AI can understand and respond to spoken commands, allowing users to interact with virtual environments using voice commands. These advancements blur the boundaries between the physical and digital worlds, offering new possibilities for entertainment, education, and communication (Capt. Words).

Free Guy prompted discussions about the ethical implications of AI, especially concerning the treatment of AI entities with consciousness. The movie's main character, Guy, begins as an NPC, following his daily routine and remaining within his programming. However, one day he unexpectedly obtains a player's glasses, which allows him to experience the real-life reality of the game and gain consciousness. This causes fear among the programmers and raises questions about how an NPC could

stray from its programming. In an article by CNBC titled “The AI Trust Gap that Worries Workers and Executives”, it stated that "AI has the potential to disrupt many types of work, but it also provides the opportunity to help individuals reskill and learn to do things in a new way." Society grappled with questions about responsive AI beings' rights and moral status, raising concerns about exploitation, discrimination, and autonomy in virtual worlds (Williams). The film's depiction of a hyper-realistic virtual environment and AI-driven NPCs sparked speculation about the future of gaming and virtual reality technologies. People wondered about the feasibility of creating immersive virtual worlds like the one depicted in the film and the role AI will play in shaping these environments.

The movie *Free Guy* has also represented the debates around AI regulation and policy. Policymakers and regulators are facing pressure to address challenges related to emerging AI ethics, safety, and accountability. This has sparked discussions about the need for responsible AI governance and the development of ethical guidelines for AI development and deployment. While many are embracing AI technologies for their potential to enhance entertainment, gaming, and other industries, there are concerns about AI's risks and unintended consequences, such as job displacement, privacy breaches, and algorithmic bias. A Columbia University study titled 'The Future of Artificial Intelligence in Video Games' explored current uses of AI in games. According to Eric Nesser, a global director of 3-D and interactive for a multinational advertising company, “video games currently use AI to enhance computer graphics and create 'smart' opponents for players to battle.”

Free Guy exemplifies a theme of positive change through the transformative journey of its protagonist, Guy. Initially confined to a repetitive and mundane existence as a non-player character (NPC) in a video game, Guy undergoes a profound evolution upon gaining self-awareness. His journey mirrors society's potential for positive change when individuals break free from predetermined roles and embrace autonomy, which is usually an experience reserved for humans, not AI. By showcasing the positive aspects of AI, *Free Guy* fosters optimism about the role of technology in driving positive societal change. *Free Guy* explores themes of self-discovery and self-awareness. Guy develops a better understanding of

his emotions throughout the movie. This newfound awareness helps him overcome his fear of change and inspires him to live each day differently. Guy strives to find positivity in his daily adventures, ranging from stopping bank robberies to helping other players find items to level up. He aims to make a positive impact on both the citizens and players of the game. Guy's realization of his independence challenges the notion of predetermined destinies and encourages viewers to reflect on their capacity for self-awareness and personal growth. His journey reminds viewers that self-awareness is not confined to human consciousness but can also manifest in AI and other forms of artificial life. As AI technologies advance, questions about the nature of consciousness and the ethical treatment of intelligent beings become increasingly relevant. Love is another theme in *Free Guy*, transcending boundaries between virtual and real worlds. Guy's love for Molotov Girl inspires him to embark on a journey of self-discovery and defy the limitations imposed by his programming. Their relationship challenges conventional notions of love and authenticity, highlighting the transformative power of genuine connection. Guy first encounters Molotov Girl when she accidentally bumps into him, leading him to venture outside of his regular daily routine to find her again. Unlike most NPC in video games, Molotov Girl is not bound by hard-coded rules, allowing Guy the freedom to explore his desires and emotions. The film encourages viewers to prioritize meaningful relationships in an increasingly digitized world, reminding us of the enduring significance of human connection amidst rapid technological change.

Overall, *Free Guy* transcends its status as a blockbuster film to offer profound insights into society's relationship with technology and the human experience. Through themes of positive change, self-awareness, and love, the film encourages viewers to reflect on their values and aspirations in an ever-evolving technological landscape.

Putting it Together: The Complete Story of AI Development

The analysis we present on the technological developments that emerged in each decade and how they are reflected in the films we chose have allowed us to observe a pattern that emerges in the media produced throughout the timeline we chose. An idea we observed, was the presence of a marked

progression through each decade. Just as technological advancements are built upon through repeated innovation, public thought and perception is influenced by the media they consume and the stories it tells. We noticed that in each decade, the preceding one laid the groundwork for the way society would accept the developments in the current one.

The theme of uncertainty and fear in the 1960s was driven by a lack of understanding of how AI could even conceivably be developed and what it would mean for humanity. The brutality of HAL's descension into chaos from *2001* is indicative of this result and reflects the feelings of the time towards unknown and foreign technology. Immediately after, in the 1970s, there is a greater understanding of the existence of this technology as it becomes more of a reality through the development of commercially available microchips. However, the uncertainty is still there as *Star Wars* presents a very real picture of technology and AI as a potential weapon in the hands of evil, but also a tool for good. In the 1980s, computers are now more common in homes, but there is an increase in the concern on how technology can pose a threat to people's livelihoods, especially with the tense political backdrop of the Cold War and other nuclear conflicts. The conditions of this decade can be summarized in films like *The Terminator*, which shows the worst-case scenario when the fears involved in "computerphobia" come true. Progressing to the 1990s, a softer perspective is offered by *The Iron Giant*, where Cold War issues and aftermath are still relevant, but technology and AI are portrayed in a much more flattering light due to the innovation of AI systems that could be companions rather than threats. The presentation of humanity and empathy in an AI character in this film shows the real-life reflection of the stage being set for more and more AI in human lives going forward. This concept takes off in the 2000s with the first developments of the most famous modern AI assistant of all time, Apple's Siri. Helpful, conversational, and most importantly trustworthy, the concept of Siri as an AI-based assistant is also reflected in the character of JARVIS from *Iron Man*. This decade's rapid development of AI technology meant that humans welcomed AI into their lives in a way that would have been unconceivable in the panic towards advanced computers and AI of the 1980s. Siri and other AI assistants are given more power over lives and data in the 2010s, and even begin

to expand to include emotional capacity and personality that takes the AI of the decade beyond just cold and unfeeling “robots”. This emotional investment in AI is showcased in all its turmoil and joy in *Her*, where a relationship with an AI system can prove just as transformative and critical to human development as a real human connection could and may eventually evolve beyond the constraints that humans set for it. Finally, as we speed towards the present day, the 2020s are seemingly the decade of wide-scale AI. This version of AI is still steadily increasing in acceptance and human relevance and is finding its way into gaming and educational materials. However, discussions about AI ethics and government policies are becoming more and more relevant as we continue to expand upon the abilities of AI, and *Free Guy* presents a look into how AI in film are being allowed to experience journeys of self-growth and love just like humans would. This blurred line between what traits and feelings differentiate between man and machine is the key topic for consideration as we continue to experience rapid development in AI technology, and grapple with the possibility that AI may evolve beyond their original purposes and become something more transcendent in society.

The global landscape of AI has undergone a massive change since 1960. Technology that humans in the 60s could only dream of through film is now either a commonplace facet of daily modern life or potentially within reach. The largest jump in public opinion on AI took place from the 80s to the 90s, where society shifted away from casting AI into more sinister roles towards the inclusion of AI through key characters that supported the common good and provided emotional depth to stories in film. Despite the decline in government funding for AI projects in the 1990s and 2000s, AI development boomed and thrived in these two decades in particular (*Anyoha*), which can provide a likely explanation for why the portrayal in film shifted towards a more sympathetic and positive outlook so quickly. This rapid expansion of AI improvements and projects is part of why it has become so unavoidable. Because humans have the power to influence the film they consume, media took a turn towards humanizing these AI systems that were created in order to cope with their inclusion in modern life, which is reflected in the films following the sharp turn taken in the 1990s.

For this reason, one can consider the journey taken through six decades of AI-related film to be not separate plotlines, but instead one large cinematic story detailing the progression of AI as it developed from humanity's imagination to a realistic part of society today. The most relevant events related to AI of each decade allowed us to contextualize why the films portrayed the images and messages that they did. Not only is this at medium effected by the outside factors at the time it is made, but it also influences viewers to reinforce the ideas that it pushes through its plots and characters. In our research, each decade could not achieve any progression in public opinion towards AI without the technological advancements and societal thinking of the previous one, as outlined above decade-by-decade. Each feed into the next to eventually bring society to where it stands today.

In conclusion, the ability of film projects to effectively portray cultural values and keep a close watch on the pulse points of society is a power that cannot be understated. In this case, it allowed us to map out a descriptive timeline through years of work both in AI technology and movie production that mirrored, complemented, and influenced the attitudes of the public towards artificial intelligence. The movement of the public towards more and more tolerance towards AI in their personal lives is a phenomenon that may have seemed more difficult to understand in decades with less groundbreaking AI projects, but upon completing our analysis, there is a clear pattern to be observed. There are visible threads that connect all six decades, able to be traced back through various culturally and commercially successful accomplishments in film.

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