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AI and Video Games: Shifting Discourses

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ABSTRACT

AI has become the topic du jour that has captured the popular imagination of the world. With the availability of increasingly competent AI tools to the public, the use of AI has taken off into new and uncharted spaces. However, this is also a cause for concern as many believe that AI may have transgressed into a domain which until previously has been under the dominion of humanity, the arts. This article attempts to look at how AI has been developed and used in the field of video games. It also attempts to bring out the various issues and discussions which the introduction of such a technology has created in these spaces.

Keywords: Video games, AI, Art, Ethics, Culture, Technology

AI has captured the collective imagination of the world, with machine learning AI models such as Open AI's GPT-4, Google's Bard, and Meta's LlaMA 2 being easily available for the general public to use. The discourse surrounding AI is a polarizing one which are fraught with many complex issues such as progress, ethics, consciousness, creativity, labour, and the meaning of art itself. Irrespective of the directions which these discussions will take, it is not a matter of dispute that AI will have a tremendous impact on our daily lives. Considering the gravitas of the topics at stake, video games may seem to be far too trivial a field when discussing something with as far-reaching consequences as AI. To the contrary, video games have always been integral to the field of AI and its development.

Some of the pioneering works of AI involved training it to play games and beat human players. In 1951, Christopher Strachey (Checkers), and Dietrich Prinz (Chess) from the University of Manchester created two functional game playing AI's (Santa Fe Institute, 2024). Arthur Samuel (1959) wrote a checkers algorithm which was competent enough to beat a novice human. The first crowning achievement of AI was when IBM's Deep Blue supercomputer defeated the then reigning world chess champion Gary Kasparov in 1997. Another pivotal achievement in the field was when Google Deep Mind's AlphaGo AI defeated a professional 9th Dan[1] player of 'Go' in 2016. The AlphaGo AI was subsequently awarded the Professional 9th Dan ranking by the Chinese Weiqi (Go) Association in 2017.

The history of the progression of AI and games are so interlinked that when talking about the future of AI, computer scientist Julian Togelius (2018) makes the following three claims:

- **Games are the future of AI:** Games offer the best way to benchmark AI. Games are specifically designed to challenge human cognitive abilities and is thus provide AI models with both, a comprehensive range of human behaviour, and a voluminous quantity of it.
- **AI is the future of games:** As AI becomes more capable, many new ways of implementing

1. Professional 9th Dan is the highest rank level a player can achieve in the game of Go. There are only just above 100 professional 9th Dan players in the world.

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them in video games beyond acting as an opponent for the player, are emerging. AI is now being used in the production side of things, with roles in both the writing, as well as art of video games.

– **Games and AI for games help us understand intelligence:** By understanding how we play and design games, we can gain an understanding of how we think and thus we can use this to replicate the same within AI.

These reasons make the interface between video games and AI is an especially important area of study to understand the direction which AI may take in the future.

Objectives:

This work attempts to understand the changing landscape of AI within the video games industry today. It also tries to trace the path of its evolution and see the way it has changed the industry and the games themselves. Lastly, how these changes affect both the people playing games and the people making them.

Types of AI:

When broadly classifying into types, AI can be divided into two types:

– Weak AI, or as IBM (2024) calls it 'narrow AI' or 'Artificial Narrow Intelligence' (ANI) is AI which is trained and focussed to perform very specific tasks. This is the type of AI that forms the basis of Apple's SIRI, Amazon's Alexa and many other digital assistants and chatbots.

– The second type of AI, 'strong AI' is comprised of Artificial General Intelligence (AGI). AGI is where AI has the intelligence and capacities as that of an average human. This involves the ability to learn and create new things rather than just retrieving and manipulating pre-fed data. AGI is what large language models (LLMs) such as ChatGPT and generative AI programs such as Midjourney are trying to achieve. These models are taught by using machine learning technologies.

Machine Learning: What is it and how it works

The term machine learning was coined by Arthur Samuel (1959) who defined it as *"the computer's ability to learn without being explicitly programmed"*. The process of machine learning involves the following three processes (UC Berkeley, 2022):

– **A decision process:** The algorithms are generally used to make a prediction based on input data. This step involves programming how the data is interacted with in order to discern patterns in the data. These patterns are then utilised to make a prediction.

– **An error function:** The error function is a way to find out how good/accurate the prediction made by the algorithm was compared to known quantities (when present).

– **An updating or optimization process:** In this part, the algorithm looks at the incorrect predictions and then recalibrates the decision process so that the next prediction hits closer to the mark.

This process iterates itself until the algorithm becomes progressively more accurate with its responses, thus it 'learns' from previous mistakes in order to get better results.

Beginnings of Artificial Intelligence Research:

The term artificial intelligence is attributed to American computer scientist John McCarthy, who in 1956 organised a workshop in Dartmouth college for the same. This was the first time the term was ever used in an academic setting and workshop can be said to have founded the field of AI research, as the attendees later went on to become leaders of AI research in the 60s. The building blocks of AI were already in place before the workshop and they would go on to inform the direction which future AI research was going to take. The more notable of these works are Norbert Weiner's work on cybernetics (1948), Claude Shannon's work on Information Theory (1948), and Alan Turing's work 'Computing Machinery and Intelligence' (1950) in which he proposed his famous 'Turing Test'.

AI in video games: A brief history

The application of AI in video games was always limited by the hardware it ran on. Therefore, its progression went hand in hand with the evolution of the hardware. Some of the first applications of AI in games were as opponents for players to play against when another human player was not available. However, over the years with the progress of computer technology and hardware, things began to change and AI started to be used in other areas of game development.

Most of the interaction between AI and games in the 1950s was in the realm of computer and AI research. This could be said to be an era of logic-based approaches. The computer hardware at the time was based on vacuum tubes (compared to the present which is based on the integrated circuit). This era was characterised by the prevalence of discrete logic, and logic gates. These logic gates are based on binary logic, which can only have two states, on or off. These logic gates are arranged in a cascading fashion in order to make a multistep, multilayered circuit which can make decisions based on sequential binary switching.

The 1960s saw algorithmic logic changing from those based on discrete logic to ones based on search trees. These worked especially well on games that had a finite number of game states such as chess, and checkers. The search tree algorithms were called so because all possible board states were stored on data trees which the program would search through for the most optimal move for the current board state. The problem with this method was that as the number of board states increased the time taken to search within these states also increased. Games such as chess, and Go had board states that the numbered into the millions. These algorithms utilised brute force methods, *i.e.,* they try every possible answer until they find the correct one. This is both time consuming, in efficient and puts a greater computing load on the hardware than required.

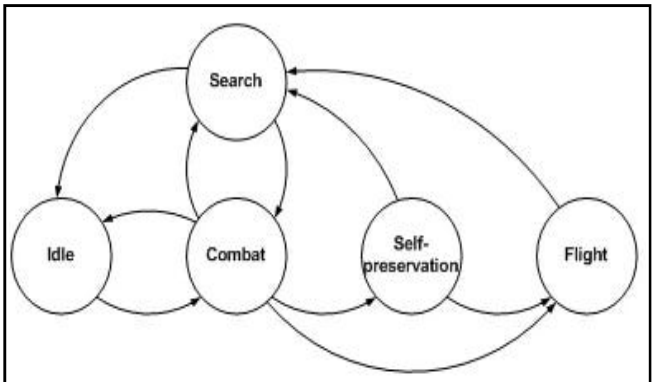
The popularity of video game arcades skyrocketed in the 1970s. Games before this were mostly technical demos which ran on mainframe computers and were mostly restricted to research labs. The hardware required to run them was far beyond the reach of the average person. Integrated circuits and microprocessors also began to be introduced into gaming which greatly increased the processing power of the machines. Released in 1976, Colossal Cave Adventure (also known as ADVENT/Adventure) is regarded as the first text-based game. This was written for the PDP-10 mainframe computer. ADVENT could also be said to be the first game to have some level of natural language processing (NLP). The language processing engine which was rudimentary had a limited vocabulary of 193 words.

In 1978, 'Space Invaders' was launched which introduced the concept of enemy movement patterns in games. The enemies also took notice of the player's bullets and attempted to dodge them. Space Invaders ushered in the 'Golden Age of arcade video games' from 1977 to 1983 (Kent, 2001). The game Galaxian (1979) popularised colour graphics while improving upon the game play of Space Invaders. Galaxian allowed the enemy units to move much more freely as compared to Space Invaders and was seen as an improvement of the latter's formula. The late 70s were also associated with the introduction of home consoles such as the Magnavox Odyssey, Atari 2600, etc.

The 1980s continued with the innovation of the late 70s and brought new genres and technologies to video gaming. One of the new innovations in AI technology was the introduction of intersection grids. Intersection grids were important for the new genre of game that had come up at the time which was the 'maze' genre. These games required the enemy AI to be able to navigate mazes while tracking the player's position. This was where intersection grids came into play, the AI used these grids to navigate the maze and apprehend the player. The best example of this is 'Pac-Man' (1980) which, in addition to using intersection grids, also had different AI enemies with specific behaviours associated with each of them.

Another innovation of the 80s was the introduction of friendly non player characters (NPCs) who participated in combat along with the player and could be given simple commands. The first game to introduce this was 'First Queen' (1988) which was a tactical action RPG with real-time combat.This was a huge deal in video games as before this NPCs were only characters which the player could interact with in either as an enemy, or as vendors, service providers, and quest givers. To control an NPC squad without physically taking control of them was unheard of before this. This system, although still in its infancy foreshadowed the development of AI for NPCs. This advancement is games technology was stopped right in its tracks by what was known as the 'Video games crash of 1983' which was mainly blamed on the saturation of the home console market.

During the late 80s and early 90s,the Finite State Machine (FSM) was developed. A finite state machine is defined as *"a model of a computational system, consisting of a set of states, a set of possible inputs, and a rule to map each state to another state, or to itself, for any of the possible inputs"* (Apperson, 2023). To put it more simply, a finite state machine allows us to define a complex behaviour by breaking it down into smaller states. The machine can only be in one state at a time and has the ability to transition into another state according to either player input or response to a



FSM representing the Halo 2's (2004) combat cycle (Martinez, 2023)

programmed stimulus such as a hostile encounter, terrain, etc. The more states there are, the more complex the simulation of character behaviour is going to be. The FSM became very popular in the real time strategy (RTS) genre of games in which the player controls armies in order to wage war against the opponent. Instead of controlling a single character, the player controls an entire platoon from a top-down perspective. The first ever RTS game to be released 'Herzog Zwei' (1989) utilised FSMs for enemy AI. The drawback of having FSMs for enemy AI is that it is possible to exploit and manipulate the triggers to make the enemy behave in ways that are predictable. Even though FSMs can be exploited easily, its versatility and ease of use ensures that it is still in use as a common method of AI implementation in games.

AI winters:

An AI winter is defined as a period when the funding and interest in AI research is at an all-time low. There have been two AI winters so far, the first from 1974-1980, and the second from 1987-2000. They serve as an explanation as to why there was relatively negligible advancement in gaming AI development until the early to mid-2000s. This lull finally broke in the 2000s when new innovations began to happen in the field of game AI.

A New Boom:

The 2000s are considered the start of the new AI boom after the end of the second AI winter. The research in AI started gaining traction with the influx of new money into the sector, and the almost exponential advancement in computer hardware. The magnitude of this advancement can be illustrated by the fact that the average mobile phone today has about 100,000 times more computing power than the computer which was used during the Apollo 11 program in 1969 (Kendall, 2019). Research in Artificial Neural Networks (ANN) gained a lot of ground along with the development on the 'Transformer'(Vaswani *et al.*, 2017), which now forms the backbone of the AI industry today

In 2001, the game 'Creatures' was released on PlayStation which was the first video game to successfully apply ANN to gaming. It was an artificial life simulator in which the player hatches small animals called 'Norns' from eggs and had to take care of its upbringing. This game differed from other games in its genre by utilising sophisticated biochemistry data and an ANN brain to simulate the biological processes of the creature. Its behaviour was not explicitly coded, rather it was a result of response to stimuli and learned behaviour from experience. This sort of behaviour which comes out of the interactions between various elements of the game's system is called 'emergent' behaviour.

Gaming technologies based on fixed algorithmic logic began to be shifted into AI based ones. Previously path finding utilised the Djikstra's algorithm to find the shortest path from point A to B on a complex terrain. This algorithm is what made the intersection grids of the 1980s possible. This system had some shortcomings while navigating terrain with complex shapes. This system has now been replaced by what is known as a 'navigation mesh' (navmesh). Instead of using waypoints and plotting the course from one waypoint to another, navmeshes utilise the concept of walkable spaces and charts the shortest route by considering the entirety of the walkable space and not just waypoints. This made AI path finding much more efficient and able to navigate much more complex geometries.

In 2005, 'Façade' was released which was the first time when modern natural language processing (NLP), and behavioural agents were used successfully in video games. We have already seen previous attempts in implementing language processing technologies (ADVENT in 1976) but the inputs in them were only limited to specific keywords and word combinations only. Façade enabled interaction with the non-player characters in a conversational manner using entire sentences rather than keywords. The behavioural AI analysed the player's input in the context of the narrative and moved the story forward. The story could resolve itself in different ways

depending upon the actions of the player. This is an example of the emergent game play that we were discussing previously, as each play through can yield a different result.

In 2008, the game Spore was single handedly responsible for the popularity of 'Procedural Generation' and 'Behaviour Trees' in the games industry. Procedural generation is a process which allows the creation of data algorithmically and not manually. This involves generating a character or a level out of a set of prefabricated building blocks which can be combined together in various combinations so that no two instances of the resulting character are the same. This was done by generating a character which was drawn randomly from a pool of parts. Each body part will have multiple versions of itself which can be used interchangeably, so that there is a large number of possible variations that the completed character can have.

Similar results can also be achieved in level design by tiling a number of rooms together randomly so that each time you traverse the level, the route is different. Rim World (2018) takes this concept to the absolute limit. The procedural generation is so granular in the game that it generates not only the terrain of the world, but also the subterranean layers of the world. It also procedurally generates the world history and events such as wars and alliances between nations, the personal history of each of the characters, their family lineages, etc. All of these elements together fashion the way the game plays out for the player.

Another technology which Spore popularised was 'behaviour trees' which can be described as modular FSMs. A behaviour tree is a hierarchically arranged set of FSMs which flow dynamically into one another, in which each FSM controls a part of one particular behaviour. In this way more complex behaviours can be simulated by adding or subtracting individual behaviours so that each character has a unique configuration of behaviour associated with it.

2017 was a revolution in the field of AI with the development of the 'Transformer'. The concept, introduced by Vaswani *et al.* (2017) is *"a type of neural network architecture that transforms or changes an input sequence into an output sequence. They do this by learning context and tracking relationships between sequence components"* (Amazon Web Services, 2024). The transformer is the technology that makes the current generation of generative AI possible.

With the release of tools such as Chat GPT to the public, the features of generative AI were now available to developers of all backgrounds to use in their games. One such example was the game AI Roguelite (2023) which claimed to be 100% AI generated. The art, story, and mechanics of the game was completely procedurally generated by AI based on the game play decisions of the player. While AI Roguelite tried to replicate the experience of a pen and paper RPG with a human dungeon master, other AI experiments such as Mario GPT (Sudhakaran *et al.*, 2023) are trying to create game levels by procedurally generating them according to user inputs.

The application of AI has shifted into new areas that were not possible before. Companies such as Sony, Riot Games, Ubisoft, Blizzard Entertainment, etc. are already utilising AI for the regional localisation of games. Ubisoft is utilising AI tools for creating side missions, NPC dialogue, etc. (Barth, 2023). Deep learning is now being used to improve the playability of video games on low-end hardware. Nvidia's 'Deep Learning Super Sampling' (DLSS) technology, and AMD's FidelityFX Super Resolution (FSR) leverage AI technology to upscale low-resolution images to high-resolution ones. This enables low end hardware to be able to play games at a level of graphical fidelity much beyond its capabilities. With this, we have now reached the current (at least at the time of writing) state of the use of AI in video games.

When looking at the history of gaming and AI we see a paradox. As mentioned before, the earliest application of AI in games was as an opponent for players in lieu of a human opponent while its involvement in the production of games ranged from negligible to zero. As AI technologies develop, one would assume that enemy AI would develop in its complexity but sadly this has not been the case. One can even say that enemy AI has not undergone any revolutionary change since the development of the behaviour tree, while the involvement of AI in the production side of things have grown by leaps and bounds. This can be attributed to two factors.

- **Cost vs Return on investment:** Due to extreme cost, and time-consuming nature of AI development. Companies decided to move the focus away from AI development due to them being unable to balance the cost of AI development and returns from game sales. Investment in other aspects of the game such as graphics, sound, mechanics, etc. have a greater and quicker return on investment thus studios

decide to focus on these rather than enemy AI.

– **Focus on Multiplayer:** The focus of modern gaming has shifted to multiplayer games rather than single player games. This is due to the fact that multiplayer games offer a longer and more frequent monetisation cycle than single player games. Thus, the industry has moved to the games as a service model compared to the games as a finished product model.

Gaming communities' reaction to AI:

The introduction of AI into other areas of video gaming has been met with a measured response among gamers. Some AI technologies have been received positively by the gaming audience while others have not. The AI enabled graphical enhancement technologies have been received positively almost unanimously as it enables them to play games with much better visual fidelity than their system would allow them to. However, some of these technologies are pay walled behind the latest graphics cards (Frame generation is only available in Nvidia's 4000 series and newer graphics cards) which is a pain point for those gaming on a budget.

The increased focus of the semiconductor industry on the AI sector is another issue that is affecting the gaming community adversely. To understand this problem, we need to look into how the semiconductor industry works. The semiconductor industry works on a 'foundry' model, *i.e.* with a few companies handling the manufacturing duties for the entire world while other companies deal with the design aspect of production. Taiwan handles 90% of the manufacture of semiconductors in the world with TSMC[2] handling almost all of the production along with one or two more companies (Davidson and Lin, 2024). This leads to a production bottleneck as these companies have a limited production bandwidth and this bandwidth is being increasingly taken up by AI focussed products. This is taking away from the production of gaming focussed hardware such as graphics cards and processors, leading to a scarcity in the market which then results in a precipitous rise in the price of gaming hardware. With these companies focussing on creating products for enterprise AI applications, and many new features being walled behind the latest models of hardware the gaming audiences feel that the industry has abandoned the gamer demographic in favour of the emerging AI field.

Use of AI technologies in the games themselves is a mixed bag. Systems such as procedural generation has been used in games for a long time now but their implementation is not always met with a positive response. Procedural generation works when it is accounted for within the gameplay loop of the game. The Rogue-Like genre of video games have had a very successful track record of implementing procedural generation. While other genres do not lend themselves to procedural generation very well. Racing games do not lend themselves well to this technology as the gameplay loop requires the track to stay the same every time a player plays the game. Competitive first-person shooter games also require the map to be constant so they also do not utilise these technologies.

Gamers in general prefer their games to have as little randomness as possible as it is only possible to learn a game when it has a consistent set of rules and the result of player actions can be predicted. This falls within the model learning strategies which are rooted in cognitive maps and latent learning (Blodgett, 1929; Tolman, 1948; Lee and Seo, 2016). The introduction of AI into such an environment disrupts its predictability as the system can adapt to player behaviour and can change outcomes.

However, the introduction of AI in game localisation has been welcomed by the players as it essentially bypasses the injection of the personal politics/morality of the translator and results in a more faithful rendition of the source material. A very prominent example of this was the English localisation of the Japanese game "Fire Emblem Fates" (2015) which was altered to such an extent that it was almost unrecognisable from the source material. Entire characters' personalities and relationships were changed, scenes were removed as they were 'deemed' offensive to western audiences, multiple dialogues were removed and translated to just ellipses. This, of course has resulted in friction between the voice acting/localisation artists and the gamers, as the use of AI is costing one side their employment while the other side is welcoming its use.

The use of AI in journalism and the economic downturn in recent years has led to many video game journalism outlets downsizing their staff (Chan, 2023) which was met by a positive reaction by the gaming audience. This was due to the already hostile relationship

2. Taiwan Semiconductor Manufacturing Co. Ltd.

between gamers and the journalists in the aftermath of Gamer Gate in 2014 and the "learn to code"[3] fiasco on Twitter (now X) in 2019. The issue of implementation of AI within gaming is a multifaced issued with its own pros and cons depending upon which side of the argument one is on.

The Pushback against AI by the Entertainment Workers Community:

If we look at the popular discussions of the use of AI within games, we would have a perception that the use of AI has mostly been received positively by both the industry and the player base. But this is furthest from the truth. The adoption and implementation of AI in video games has been a source of friction especially among the artists in the industry. The topic itself is polarising one, eliciting strong reactions from people. There are people who view AI favourably as it provides them an easy set of tools which allows them to create artistic works which they could not earlier, on the other end of the spectrum are people who believe that using AI for creative pursuits is akin to plagiarism and actively oppresses and minimises the artistic process. This is a very complex issue and the arguments made by both sides have their merits.

To understand where these issues stem from, we first need to look at the process through which these AI models are 'taught'. Most AI models these days are taught by a method that is called supervised learning. In supervised learning, sample data is gathered by the developers and is carefully sorted and labelled with keywords which best represent the sample data. The AI algorithm then goes through the data set to find a common pattern within the data and tries to form a relationship between the keywords and the individual pieces of data. Data for these AI models is mostly collected by the use of crawlers, which are autonomous pieces of code which 'crawl' through the internet and collect as much publicly available data of a particular type which it is programmed to collect. This data can be collected from any and all publicly accessible pages on the internet such as social media, cloud storage data, websites, etc. If the page is publicly accessible, the crawler will eventually collect its contents.

Supervised learning itself was developed to fix the problem which became quickly apparent when the AI itself was allowed to crawl the web without supervision. The chatbot 'Tay' is a great example of the problems of unsupervised learning. Microsoft in March, 2016 released a twitter chatbot called Tay to the public. The chatbot could learn about the world by interacting with other users and conversing with them. As is common with the internet, the trolls got to it first and Tay started voicing opinions that were racist, sexist, and homophobic within the span of a single day (Schwartz, 2019; Vincent, 2016). This made apparent one of the biggest problems of unsupervised learning. There was no way to guarantee whether the data which was being fed was legitimate or not.

The introduction of supervised learning eliminated some problems but create new ones. They mainly fell under two categories:

1. How the data was collected
2. How the data was coded and categorised

As discussed earlier, the collection of data is done through crawlers which indiscriminately gathers everything which fulfils its parameters. The problem with this method is that since it is indiscriminate, it also gathers data which may be copyrighted, such as promotional art of copyrighted works, social media posts of artists who post pictures of their works, etc. These images get gathered along with the freely available images of works of famous artists and are fed into the AI model. The AI uses this information to replicate the style of the artist. This violates the consent of the artist who did not ask for their work to be used in training AI which is being used to replace them and devalue their work. With the introduction of generative AI, it became possible to replicate the style of artists and generate new art in their style. The AI has become so good at replicating people's art style that sometimes they are indistinguishable from the real thing.

Polish artist, Greg Rutkowski has gone on record saying that his work was being used to train multiple AI

3. This refers to the various media articles published in 2014 advising laid off coal workers in the US to learn to code as a way to regain employment after the government's clean energy policy rendered them unemployed. This comment was redirected towards journalists after a massive round of layoff in major US media houses in 2019. The statement was meant as a caustic remark towards the journalist class who had unsympathetically offered the blue-collar workers such an advice instead of advocating on their behalf. The journalists lobbied and got the statement classified as a harassment campaign by Twitter leading to a large number of suspensions and permanent bans for people utilizing the hash tag towards journalists.

models and now his style is one of the top prompts used to generate art (Heikkilä, 2022). He was offered no chance to opt out of this exercise and he was not even informed that his work was being used in this way. The AI companies also offer their users paid access to their AI models which has a few extra features which free users do not enjoy. The artists do not receive any compensation from this revenue. Rutkowski says that these AI images were starting to replace his own work in search results. This was a cause of great concern for him as people/companies would rather use AI to generate art in various artists' styles rather than actually commissioning new art from them. This is one of the more prominent examples of what I would call the AI's 'colonisation of the arts.' The spectre of plagiarism is also common when it comes to AI, as most of the world's educators have come to know intimately (Hoover, 2024). It is getting increasing hard to distinguish between an AI generated post and genuine human creativity.

The issue of fakes has moved from the realm of visual arts to other artistic fields. The performance arts are now having to deal with new ethical issues which have come to the fore because of AI. These issues majorly fall under the category of synthetic performances. They are commonly called 'deepfakes' but the scope of synthetic performances goes beyond just the production of deep fakes. AI models can now be trained to replicate voices by feeding them a sufficiently large enough or varied enough sample of someone's voice. This has been utilised to make meme songs in which famous singers such as Frank Sinatra, or Michael Jackson are made to sing parody lyrics or sing modern songs in their own style. Deep fakes have also been used for nefarious purposes to create fake audio, photos, and video clips of people in compromising positions in order to harass and/or blackmail them.

Within the games industry, the actors who voice characters in video games have been hit especially hard by the advent of AI voice generation. These actors are ironically, the perfect candidates for the creation of an AI voice profile as they have a large public body of work which can act as vocal samples to train the AI. As the voice samples were created in the process of a contracted job, the company has ownership of them and can manipulate it in any way they deem fit. This leaves the voice artiste powerless to object to the manipulation of those recordings.

However, there are positives to this technology also. Firstly, it is a boon for Indie game creators who do not have budgets large enough to afford voice actors (VA). Secondly, the company can push out new game content much more quickly with AI as they do not have to rely on the availability of the VA to add new voice lines into the game. This became painfully obvious to the video game industry when the entire voice actors' union which falls under the SAG-AFTRA[4] went on strike in 2017 and many games were affected by this strike. The union members refused to work until their demands were met and they created a hostile environment in which non-union actors were pressured into not accepting jobs for fear of ostracism in the voice acting community.

These non-union workers were called 'scabs' by the unions, which is a derogatory term for those who go against the union and work while the strike is on. A deal was struck with the union by large game publishers but many small studios suffered financially due to the strike as such events delayed various time sensitive schedules which could have either led to the postponement and even shutdown of some small studios. The guild went on another strike in 2023 in which artists demanded a special clause in their contracts which guarantees them that their recordings could not be used to train AI (Pulliam-Moore, 2023). At the time of writing (August, 2024) there is another strike which is being conducted by SAG-AFTRA on the behalf of video game voice actors on the issue of AI and synthetic performances (Parrish, 2024).

The second aspect of the pushback is more about the human element behind the AI. As we all know, the AI is taught by human coders who determine its 'worldview'. The categories which it utilises to order the data it is fed, is determined by its programmers. The patterns which it perceives are then wholly dependent on these categories and the judgement of the researcher deciding what content goes in which category. The researcher can also limit what kind of queries which the AI responds to and the outputs it produces according to their discretions. The Google Gemini debacle provides us with a cautionary example of this. The AI model's filters were so influenced by the developers' ideas of diversity that it started producing images of German Nazi soldiers as being of black, and of Asian descent. It also started depicting historic figures such as the founding

4. Screen Actors Guild - American Federation of Television and Radio Artists

fathers of the United States, and the Pope of the Roman Catholic Church as men and women of diverse ethnic backgrounds (Gordon, 2024). On the other end of the spectrum, if the AI is allowed to learn without any guidance by the developers, it can pick up various harmful stereotypes which are prevalent in society.

The AI industry is seemingly caught between and rock, and a hard place as both the options available to them are not ideal and leads to spurious output by the AI model. If we view this with the backdrop of the ensuing culture war in media, especially in the west, the issue of bias and institutional control over the output of an AI takes a very complicated turn.

Another sticking point when it comes to AI is that of ownership and other intellectual property concerns. Is style something that belongs to an individual or is it a public good? Is a prompt sufficient to assert ownership over an artistic work even if the work is being done by the computer. The current intellectual property regime in India gives ownership rights of the product to the human who prompted it, but what if something is created without a human prompting it. Who is the owner of that? Since AI art is infinitely reproducible and can be made by just about anyone, does it have any inherent value? This has also led to the rise of a controversial class of people who consider themselves AI artists. The term AI artist has led to considerable friction between them and the 'traditional' artists. With the latter considering them to be just providing prompts while the AI does the heavy lifting (Southen, 2023). As there is no qualitative difference between a good AI artist and a bad one, there is a lack of the element of skill in AI based art. Skill is seen as an element which is essential to the artistic pursuit and that is why many people refuse to consider AI based content as art.

Conclusion:

To conclude, the application of AI technologies in the field of artistic content such as video games is fraught with many pitfalls. This is due to the fact that art is considered to be something that is essentially human in nature. Any sort of encroachment by mechanisation into this realm is always seen as a violation of the essence of humanity. This has been seen previously with the photograph (Clopath, 1901) and then again with digital art (New Britain Museum of American Art, 2010). Every time a new technology is introduced within art, it is either seen as something which would render artists obsolete, or something which cannot be considered art. AI is seeing a similar reaction, from both artists and people in general. This is also due to the fact that there is a lot of misinformation about how exactly AI art works. Many believe it to be merely a sophisticated version of 'cut and paste', creating a collage of sorts. While others believe that AI will usher in a new age where art is accessible to all and is no longer in the hands of a select few. What is certain is that AI is going to be an integral part of our future and is not a passing fad. The application of AI to new fields is resulting in the emergence of new questions regarding the nature of things whose identity we had long settled upon. The nature of art, labour, creativity, ethics, and even humanity itself is now open to questioning. The answers to these questions still need to be figured out and require a lot of patience and introspection on our part to reach.

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