

EXPLORING THE INTEGRATION OF AI IN THE MUSIC WORLD

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[AI Music By Frank Sinatra]

You might recognize this famous Jazz voice of the legendary Frank Sinatra, but in fact what you're listening to has been entirely generated by Artificial Intelligence. You're Listening to Music In our World Today, I'm your host Evan Peterson.

[AI Music By Frank Sinatra continued]

We're looking into the combination of Artificial Intelligence and the effects it's having on the world of music. While AI's impact on music is impressive, the concern of losing the genuine human touch in our music is also a real concern.

There is a delicate balance between technological innovation and the irreplaceable authenticity of human creativity in music. Let's get into it.

[Lofi Background Beat]

To give you a little background about myself, I grew up surrounded by Jazz Music.

To give you reference, Jazz music is a genre characterized by its improvisational and expressive nature, incorporating elements of swing, blues, and various cultural influences. It has a very creative and expressive influence. Take a listen to Jazz at Lincoln Center's arrangement of Take 5.

[Jazz at Lincoln Center's Take 5]

I ended up falling in love with jazz and just the general music scene throughout my highschool days. Throughout those years I played in multiple Jazz bands where I had the opportunity to play with Grammy nominated artists, traveled around to cities like Chicago, Greenbay, and right here in Minneapolis. I am now playing in Jazz 1, at the University of Minnesota. In addition to being a musician, I find myself constantly with my headphones in, listening to everything from Indie to Old school Rap.

So why am I telling you all this and why talk about AI in music? We live in a world where so many people have an interest in music including myself. As I think about my own journey with music, the idea of AI popped into my mind. I wondered how this technology that seems like it is surrounding us everyday would affect the music world. Would AI dampen the spirit of music? Would it disconnect listeners? Would it put musicians out of business? How would AI affect the music scene as a whole? These were all questions that lingered as I dove into the unknown of this new technology. Stay with us, we got all the Music News to keep you thinking.

[Lofi Background Beat]

Enter the Minnesota Daily article. You should definitely check this one out because I mention it a lot throughout the podcast. I'll include a link in the description, along with all of the other sources that I used. Recently, there was a groundbreaking Beatles song that leveraged AI, not just in composition but also in recreating the iconic '60s visuals. They titled it "Now and Then.", which I think is a pretty good fit! Take a listen.

[Beatles Song "Now and Then"]

To give you some background, The Beatles were a highly influential and commercially successful British rock band formed in Liverpool in 1960, consisting of John Lennon, Paul McCartney, George Harrison, and Ringo Starr. They are widely regarded as one of the greatest and most iconic bands in the history of popular music, known for their innovative sound, songwriting, and cultural impact. Here's a clip from Paul McCartney, one of the band members talking about this new song.

[Paul McCartney Interview, "It was a demo that John had that we worked on and we've just finished it up to be released this year. We were able to take John's voice and get it pure through this AI so that then we could mix the record as you would normally do."

Paul McCartney, impressed by the technology's ability to bring old compositions to life, expresses his enthusiasm towards this new technology.

[Paul McCartney Interview, "All of that is kind of

scary but exciting."

Being that Paul McCartney is such a huge name in the music industry it speaks and says something about what he feels about AI. This technology is also highlighted by Patrick Warfield, the director of the School of Music at the University of Minnesota. He says, "Creative musicians have been using various forms of generative music for decades. The possibilities are endless, but artists are creative and find new and surprising ways of using new technology." Major artists and platforms are harnessing AI to revolutionize music production and distribution, leading to a wave of innovation.

[Music By Jazz at Lincoln Center-Manteca]

I wanted to know more opinions about what others thought of this AI generated music and also what educational institutions think of this new technology. The

College of Contemporary Music, which is a music school located in Hollywood California mentions how truly fascinating the quality of the AI-generated music is. It's not just a mere imitation; they say it demonstrates impressive quality, closely resembling music produced by human artists. Similar to the Beatles song, an AI-generated viral song featuring virtual versions of Drake and The Weeknd, who are popular hip hop artists, caught the College of contemporary music's attention, this song was created by AI software called Amper Music.

[AI song Drake Heart on my sleeve Ft The Weeknd]

The college of contemporary music touched on the fact that AI enables the rapid generation of new musical ideas and variations, streamlining the creative process. Moreover, it allows for the personalization of the listening experience based on user preferences, mood, and even biometric data. I find all of this to be very interesting. Within my own life, and if you are a musician you know this, but sometimes you can get stuck behind an idea or a musical phrase that you are trying to show. For example when writing or composing my own music, I get almost a writer's block, where I don't know what direction I'm going in or how to get to the end destination. From what I've researched so far, AI will play a big part

in helping musicians sort of overcome that quote on quote “writers block”. For listeners at home you can also think about this in the context of ChatGPT, if any of you have used that, which is a type of artificial intelligence language model that is trained on diverse internet text to generate human-like responses. This same type of technology is being used in the musical scene now, but this begs the question, if all of this new music is being made by Artificial Intelligence models, will there be any legal issues that users of this technology will run into, stick around to find out.

[Lofi Background Beat]

Pt2 continued: Referencing back to the MN daily news article, Tom Cotter, a law professor at the University who specializes in copyright says, “The use of a sound alike of someone else’s vocals, to make it appear that the singer is actually singing the song, would violate the singer’s right of publicity,”. Funny enough, even though the college of contemporary music loved the idea of the AI-generated viral song featuring virtual versions of Drake and The Weeknd, Harvard Law and the legal system had a much different opinion about this song. Despite its popularity,

the song was actually taken down after Universal Music Group, the record label representing the artists, issued copyright claims. Harvard Law Today interviewed intellectual property expert Louis Tompros to shed light on the legal implications. Mr. Tompros discussed the current legal landscape, highlighting the Copyright Office's position that AI without human involvement cannot be copyrighted, but once there is a level of any human element, that is when legal challenges arise. He mentions complexities of AI-generated music, addressing questions about copyright infringement, fair use, and the potential for legal action. If you want to learn more about the legal side, I will put the Harvard law article in the description. All in all, the legal system sees AI as balancing artists' rights, promoting innovation while still keeping musicians and artist rights in order.

[Lofi Background Beat]

I have to stop us for a moment, so far we've talked about the Beatles utilizing AI, the college of contemporary music's opinion on the matter, and some of the legal sides attached to AI generated music. But I wanted to touch back on something

that was mentioned earlier, “what exactly is this “AI” technology itself and how does it work?”

[Music- Spain US Air Force Airmen of Note]

Researcher created "folk-rnn" models. These are sophisticated AI tools designed to analyze, compose, and understand music from various angles. If you want to try this AI for yourself I recommend the website folkrrnn.org and themachinefolksession.org. Let me tell you, being a musician this technology was really cool to mess around with. Even if you're not big into making music, but rather enjoy listening, you can still have fun with this technology. There are over 24,000 tunes created by 5,700 users, showcasing the power of teamwork in music creation. In real-time, you can witness the creation of musical notes responding to your input. What it creates is nothing overly complex like you heard in our intro but it still gives you a basic idea of how this AI is being used. From what I've gathered from this, Imagine AI not as a replacement but as a musical companion, a buddy for musicians, composers, and the audience alike. However there are AI platforms that I have found that seem more like a replacement, I found MuseNet

has the ability to write,compose, and play full songs. This technology is powered by open AI, the same creators of Chat GPT. This type of Musical Artificial Intelligence is surprising to me simply because of how good it sounds, take a listen.

[First 5 notes of Chopin Op. 10, No. 9]

I have to acknowledge something, for the majority of this podcast, it seems as though I've only talked about the good parts of this technology and AI within the music scene. After doing all this research that argues for the power of AI within the music scene and even some of the legal applications, I still felt like something was missing. Don't get me wrong, I think that this new technology will change the way musicians and listeners interact with the industry in a good way, but as a musician there is a level of creativity that is missing. When you have the technology to simply plug in a certain phrase, note series, harmony, and make an entire song out of it, it takes away from the human experience and element of music. This might just be me giving some food for thought, but I thought I would bring it up, and hope some of you listening will agree.

[CHARLESTON song - Jazz NEW ORLEANS]

For any non music enthusiast I think of it like this, how would you feel if everyday things were replaced by AI, think of reading poetry or looking at art. How would you feel if all of the articles, newsletters, books, stock-market reports, cooking directions, were all created by AI, it would be a weird feeling right? That feeling you have right now is what I was left feeling after looking into the integration of Artificial Intelligence in the music world. Paul Seli, a psychology and neuroscience professor, at Duke University studies creativity. He mentions how creativity is both a trait and a state, influenced by factors like openness to new experiences, spending time in nature, and revisiting creative ideas. Creativity is seen as a skill that can be developed through practice and effort, contributing to personal fulfillment and potential societal impact. In addition to the Duke Professor, I had the opportunity to sit down with Robert Peterson, who is a seasoned Psychology teacher who earned his masters degree in education and has an emphasis in cognitive neuroscience. He talks to me about the complexities of neuro pathways and circuits regarding creativity. Take a listen,

[Robert Peterson, “there are millions and millions of neural pathways in our brain, interconnecting vast amounts of knowledge and function.

I then asked him how these complexities of neuro pathways and circuits connect with creativity and Artificial intelligence, The more you access that information or walk that path, the more defined that path becomes, such as the case with myelination of a neuron or neural pathway. The more you exercise that circuit, the more efficient that circuit becomes.”]

I then asked him how these complexities of neural pathways and circuits connect with creativity and artificial intelligence.

[Robert Peterson, “AI is remarkable in the sense that it can integrate or synthesize massive amounts of information along millions of circuits that already exist. AI

does this with the speed and volume that no human brain can match. I would say that AI is creative in the sense that it can integrate information from the millions of sources simultaneously to develop something that is original as it was put together in that moment. However, the ideas that it drew from were not original. Then it raises the question of whether or not AI products in the moment are in fact original”]

From what you just heard, our brain is responsible for original ideas such as improvisations and that a technology such as AI could never replace that element. In the creative process of being a musician, it can take weeks or even months to write a song and feel truly good about what you did. With AI, this same style of song, whatever it may be, can be made in seconds. I feel this is unfair to both musicians and music lovers in the sense that you don't truly know was original. Nick Cave, an Australian musician, singer-songwriter, author, and actor, has expressed aversion towards the technology. He says, “ChatGPT [an AI text-generator] has no inner being, it has been nowhere, it has endured nothing, it has not had the audacity to reach beyond its limitations, and hence it doesn’t have the capacity for a shared transcendent experience, as it has no limitations from which to transcend,”. Overall, I want to leave you with this question, “can the

rapid advances of technology truly replace the irreplaceable soul, emotion, and authenticity that make music a profoundly human experience? That's up to you.

Thank you for listening and I'll see you in the next one.

Audio:

Frank Sinatra Song:

<https://www.youtube.com/watch?v=UTAsBuc1tr8>

Spain Air Force Band:

<https://www.music.af.mil/USAFBand/Ensembles/Airmen-of-Note/>

Charleston Song:

<https://www.youtube.com/watch?v=jCzDKDpbKXc>

Manteca Jazz at Lincoln Center Orchestra

<https://www.youtube.com/watch?v=l6jVnKfJCkw-Man>

Lofi Beat:

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

Now and Then Beatles:

<https://www.youtube.com/watch?v=AW55J2zE3N4>

Drake and Weekend AI produced song:

<https://www.youtube.com/watch?v=7HZ2ie2ErFI>

Research:

ABC World News Tonight with David Muir Full

<https://www.youtube.com/watch?v=1-WJCssD6Cg>

Good Morning America-Paul McCartney Interview

https://www.youtube.com/watch?v=Ufu_7ql7z10

College of Contemporary Music

<https://www.mi.edu/in-the-know/ai-music-production-enhancing-human-creativity-replacing/>

Drake and The Weeknd-Harvard Law Article

<https://hls.harvard.edu/today/ai-created-a-song-mimicking-the-work-of-drake-and-the-weeknd-what-does-that-mean-for-copyright-law/>

Folk rnn models:

https://primo.lib.umn.edu/permalink/01UMN_INST/oqqrhb/cdi_scopus_primary_636352498

MN Daily News Article:

https://mndaily.com/280190/arts-entertainment/how-artificial-intelligence-is-changing-the-music-industry/?utm_source=MN+Daily+News+-+Email+Edition&utm_campaign=b9a90614a7-EMAIL_CAMPAIGN_2023_11_12_04_06&utm_medium=email&utm_term=0_-b9a90614a7-%5BLIST_EMAIL_ID%5D

Paul Seli Psych Article:

<https://www.apa.org/monitor/2022/04/cover-science-creativity>

Muse Net:

<https://openai.com/research/musenet>

