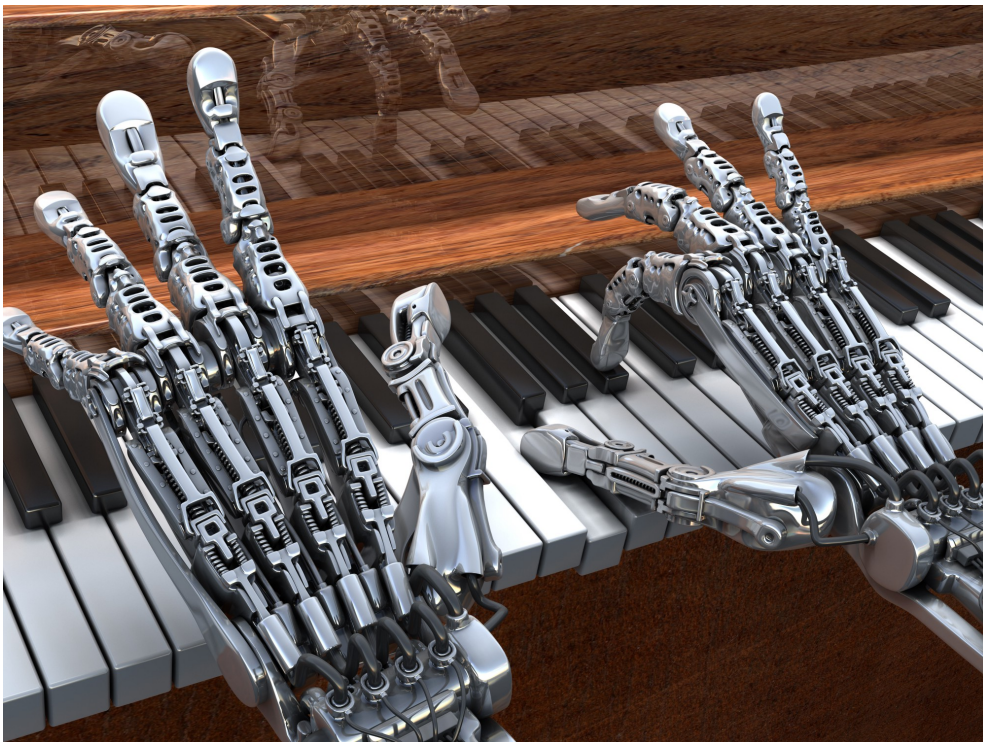# Artificial Intelligence: A Catalyst for a Better World…with Great Music

"I have pretty strong opinions on this. I am optimistic. And I think people who are naysayers and try to drum up these doomsday scenarios — I just, I don't understand it. It's really negative, and in some ways, I actually think it's pretty irresponsible." - Mark Zuckerberg's response when asked for his thoughts on AI and how it could affect the world.

Do you believe that artificial intelligence is poised to significantly improve our societies, or do you imagine extreme dangers resulting from this technology in the future?

Tech moguls Elon Musk and Mark Zuckerberg have been publicly debating this issue recently, with Musk claiming that Zuckerberg's knowledge about AI is "limited". The Tesla CEO and outspoken innovator has been pushing for the proactive regulation of artificial intelligence based on his belief that the technology is a "fundamental existential risk for human civilization." On the other side, Zuckerberg has denounced Musk's warnings, calling his statements "pretty irresponsible."

While many academics, such as Pedro Domingos, a professor who works on machine learning at the University of Michigan, believe that Musk's nightmare scenarios could eventually happen, but his perspective is entirely wrong. Overall, experts appear to agree that the smartest approach is to focus on the current AI challenges, which will lead to developing the necessary regulatory architecture to prevent a future of unpredictable and damaging AI scenarios.

Artificial intelligence holds the potential to greatly improve our world in the short-term, from massively reducing fatal accidents on our roads to expanding the scope of artistic possibilities in media and entertainment in a multitude of incredible ways. And it could be said that while tech billionaires are debating their existential differences about the threat of AI against humanity, the rest of us are working on more humble real-life uses for the industry that will improve the current and future world.

The music industry is already considering fantastic applications for AI, such as the possibility that computers can learn to generate tracks for the film, television and games industries. Moreover, although concerns have been raised about

the effect on human songwriters, AI could ultimately be used to complement the work of these composers, allowing them to focus on the bigger picture while computers create the basic musical structure. A good example is the popular YouTube artist, Taryn Southern, who worked with Amper Music and several other AI music services to release her album's first song "Break Free". While the artist/songwriter created the lyrics and melodies, the AI developed the harmonies, chords, and sequences. Southern didn't feel threatened by her new songwriting partner, explaining that she still got to own her vision while AI "made her more creative than ever."

This is just one of a slew of exciting developments. Another excellent example of successful AI integration in the music industry comes from Google researcher Douglas Eck, who is working with his team on teaching a neural network to learn the musical characteristics of an instrument by analyzing hundreds of notes. Once the machine subsequently creates a mathematical representation of a particular instrument, users would be able to simply move a button across a screen to combine sounds that would create an entirely new virtual instrument, such as one that is 74 percent trombone and 26 percent guitar. Alternatively, any other combination of instruments. The possibilities are truly endless, and it's worthwhile to highlight these exciting and non-threatening innovations in the world of AI.

This sector is expanding rapidly as an increasingly large number of businesses race to get their software to the next level. Companies including British-based Jukedeck and Amper Music, San Francisco's Humtap, Berlin-based Melodrive, Groov.AI in Mountain View, California, and Sony's Computer Science Laboratories (CSL) in Paris conducting a project called Flow Machines.

Moreover, sound generation and songwriting are not the only applications of artificial intelligence in the music

ecosystem. In addition to the rising importance of AI in creative endeavors, it is one of the primary keys to achieving success in customer experience and connection to music fans.

Already, AI is being used in the music industry to improve the consumer experience, such as the creation of playlists based on moods. While Gracenotehas been classifying music by this criteria for many years, its employees haven't listened to every one of the 100 million songs in the company's database to achieve this goal. Instead, machine learning and artificial intelligence have been utilized to successfully teach computers how to competently detect the emotions in music, thereby saving a massive amount of time and money in human resources.

From AI-powered chatbots and smart voice interfaces to effectively utilizing big data and creating additional revenue streams through targeted advertising and highly personalized song recommendation services, the potential for AI collaboration in the music industry is colossal and still waiting to be realized.

T**he development of artificial intelligence should be focused** on enhancing the abilities of humans and freeing us from many tasks as opposed to replacing people altogether. Instead of trying to slow down progress by debating the long-term possibilities of doomsday, it is far more valuable to solve the current issues with AI to allow innovators to push the envelope toward a better world, aided by machine learning yet focused on creating the most accomplished, robust and safe society for us all.

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Original article can be found here:
https://towardsdatascience.com/artificial-intelligence-a-catalyst-for-a-better-world-with-great-music-bebcbbe48646