# **Artificial Intelligence Tools In Digital Audio Workstations POTSCIANCE POTSCIANCE STATE UNIVERSITY OF NEW YORK** Adam Derouchie, Matt Williams, Marco Ingrassia

### Abstract

The integration of artificial intelligence into music production has significantly expanded both the creative and technical possibilities available to producers. Emerging Al-powered plugins and software are now being used for tasks such as stem separation, beat creation, mixing and mastering, sound design, and creative assistance. By automating complex and time-consuming processes, AI has streamlined workflows and reduced production time. Experimentation sometimes follows. For instance, producers are using AI to generate unique compositions, manipulate vocals with voice changers, and explore non-linear sampling techniques that push the boundaries of traditional music-making.

### Background

Producing music has always been a long and tedious process, managing multiple tracks, samples, effects, etc. to exactly your liking can be very time consuming, especially as a novice producer. With the rapid development of Al technology in the last decade, it's no surprise that there have been AI plugins starting to show up in the name of saving the producer precious time. Our goal is to look at a few different AI plugins and their features and analyze their potential viability in the music industry, as well as against current copyright laws and standards.

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Artificial intelligence has greatly improved both efficiency and creativity in digital audio workstations (DAWs). One major advancement is Al-driven stem separation, which uses deep learning models like CNNs and U-Nets to isolate vocals, drums, and other instruments from full mixes. Tools such as iZotope RX, Serato Sample, and Algonaut Atlas 2 make this technology accessible and highly accurate.

Al is also transforming the mixing and mastering process. Intelligent plugins analyze audio to suggest level balancing, EQ, panning, and dynamic adjustments, helping create clear and polished mixes. During mastering, AI applies genre-specific effects like multiband compression and loudness normalization. Tools like iZotope Neutron, Ozone, Gullfoss, LANDR, and Sonible smart: EQ 3 streamline workflows and offer valuable insights for producers of all levels.



### Findings



With AI beginning to make itself more apparent in the public eye, the future direction of these plugins will come down to further legislation regarding the use of AI in creative settings. With AI being as ubiquitous as it is already, it may be difficult for people to recognize, let alone regulate its use in the future.

COPYRIGHT AND ARTIFICIAL INTELLIGENCE Part 2: Copyrightability, 29 Jan. 2025, copyright.gov/ai/Copyright-and-Artificial-Intelligence-Part-2-Copyrightability-Report.pdf. How Will AI Impact the next Generation of DAWs? These Developers Have Their Say. MusicTech, 2024, musictech.com/features/interviews/ai-daw-digital-audio-workstation-ripx-moises-wavtool/.

### **Copyright Implications**

Copyright law was developed to protect the creative works of people, now that Al's have the ability to generate music there are implications for copyrightability of music generated in part or wholly by AI. There is no definitive legal framework set for the determination of copyrightability, it is still determined on a case by case basis, however a composition generated by a prompted Al is unable to be copyrighted. Obtaining legally admissible proof that the work was generated by AI is something that will continue to develop.

### Conclusion

Ai plugins allow for more flexibility in creativity and faster workflow, leading to a streamlined production process. Using assistive AI Tools in a DAW would not impact a works copyrightability given that there were no generative elements to the AI toolset.

### **Future Direction**

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