

An AI that writes music – A guy that writes a blog

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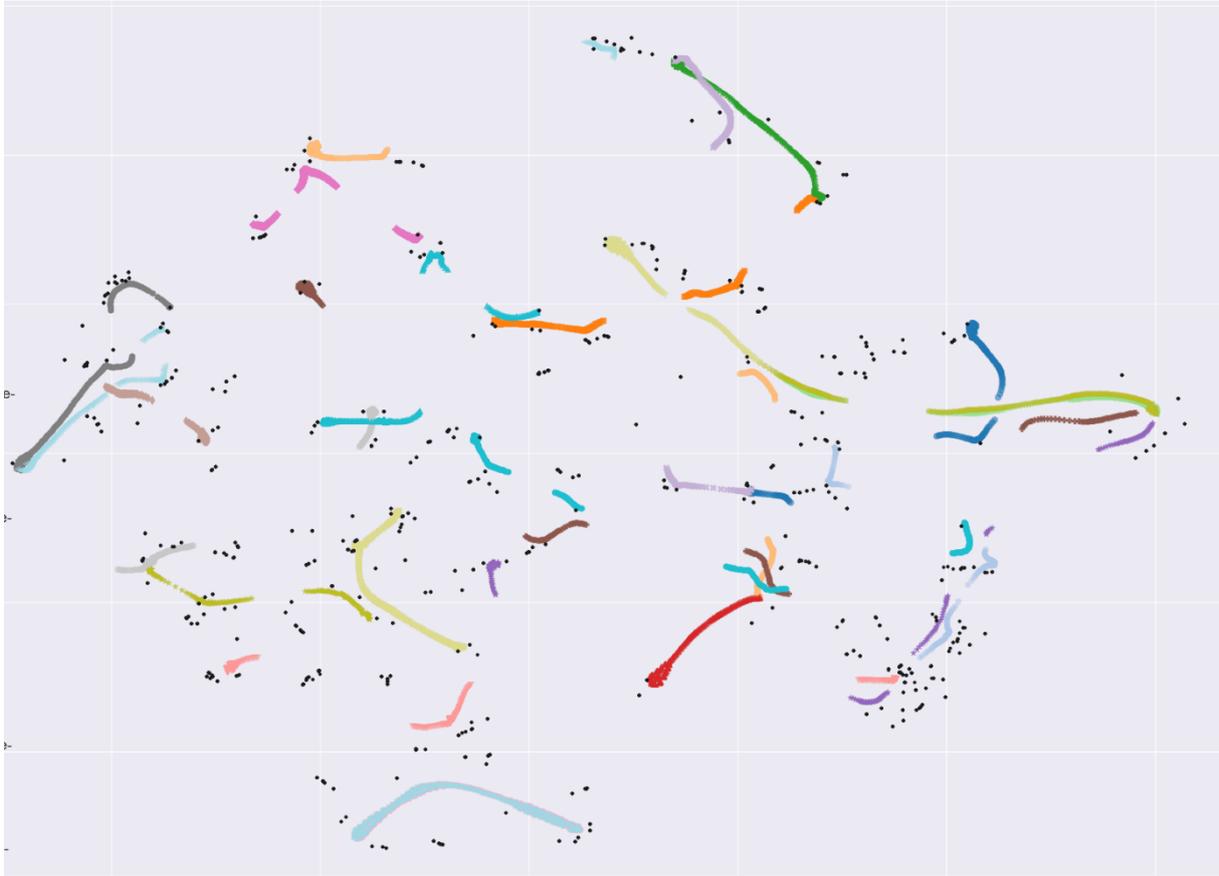
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An AI that writes music – A guy that writes a blog

Posted 6 months ago

A column by Jan Smits, emeritus full professor of Law & Technology TU/e and Musi-co's IP & Legal advisor

An AI that writes music is the claim that Musi-co is making. So does the result of our AI that composes, e.g. a song named [Catchy Kate](#), carry any Intellectual Property Right?

First, we need to dissect the different elements that can be identified in an AI that writes music. And as a result, we will be able to say something about the legal nature of the song *Catchy Kate*.

The AI that wrote *Catchy Kate* consists of two very important, even constituting parts. First there is the total conglomerate of software (hereafter: ML Algorithm) that is able to recognize patterns in musical material and to generate new musical patterns. This ability comes from the structure of the deep neural networks that are at the heart of

the ML Algorithm. Surrounding the networks are software components for inputting and outputting musical scores (in the form of midi files). The ML Algorithm is generic, it can be applied to all kinds of music.

Then second, we need to 'feed' the software conglomerate, the ML Algorithm with a particular type (genre) of music, like Acid Jazz or Soul or Techno. This is done by selecting pieces of music that characterize Soul, Jazz, or Techno. The selection of these pieces (four bars) of music can only be done (for now) by humans. These pieces that characterise according to the human selector Jazz etc. will typically be put into a database (in the form of midi files) that will feed the ML Algorithm. So, when this (or another) database is 'given' to the ML Algorithm to train on it will become the AI that writes music. This music is new, it does not contain patterns/snippets from the database.

From an Intellectual Property and thus legal viewpoint the ML Algorithm (the listings of the algorithm) might be protected by patent law but is at a minimum protected by Copyright law. The database from which the ML Algorithm writes music is again at minimum protected by database law or copyright law. So, the result of the ML Algorithm and the database with snippets of music that characterize a certain genre will be a (whole lot of different) song(s), in this case *Catchy Kate*.

Then there is the legal question is *Catchy Kate* protected by copyright law? My answer is no. Because copyright is a collection of rights that *automatically* vest with someone who creates *an original* work of authorship by a(n) (human) author.

European Legislation does not provide for a general definition as to whom can be considered an author. The [Software Directive](#) and the [Database Directive](#) give no clear picture. But we already have some inclination where the European Court of Justice will go. On the question: Who can be an author? The ECoJ, decided in the Painer case that an original work should be the 'author's own intellectual creation'. And decided that two elements are important: who is the 1) author and what about 2) originality. I could argue that maybe the AI could pass the test on originality but not the human being test. In the words of the Court:

*"an intellectual creation is an author's own if **it reflects the author's personality**. That is the case if the author was able **to express his creative abilities** in the production of the work by **making free and creative choices**(. . .). By making those various choices, the author of a portrait photograph can stamp the work created with his 'personal touch'."*

*Case C-145/10 Eva-Maria **Painer** v Standard Verlags GmbH and others, Luxembourg, 1 December 2011*

So, under EU law only a human being can be the rights holder according to the court. Whereas the song *Catchy Kate* came out of an AI that wrote the song, and applying

the verdict of the ECoJ the answer whether the AI is a person is simple to answer: No. Therefore, the AI cannot become a rights holder. The AI cannot be vested with the copyright on the song *Catchy Kate*.

Would *Catchy Kate* be legally protected under US copyright law? US copyright law doesn't differentiate between humans and non-humans, but when asked whether a monkey could hold a copyright on a photo the monkey took, the court decided that a monkey, more generally an animal could not hold a copyright. Arguing that copyright law's inclusion of terms like "children" and "spouse" imply an author must be human, and although courts have allowed corporations to sue, corporations "are formed and owned by humans; they are not formed or owned by animals."

Whereas an AI clearly is not a human it therefore cannot hold a copyright under US law. Then what about the recent deal Warner Bros closed with Endel? Citing from a [Rolling Stone article](#):

"Endel's co-founder and sound designer Dmitry Evgrafov tells Rolling Stone. "Our whole idea is making soundscapes that are real-time and adaptive. But they were like, 'Yeah, but can you still make albums?' So we did it as an experiment. When a label like Warner approaches you, you have to say 'Why not.'" The other 15 records on the contract are themed around focus, relaxation and "on-the-go" modes and will roll out over the course of the year. All 20 albums will come out of Endel's core algorithm, so they were technically, as Evgrafov says, "all made just by pressing one button."

But what about copyright? Whose names do we put on the copyright, Endel: "We are a collective of designers and sound engineers. (...) We ended up putting in all the names of the software engineers as the songwriters." Also 'proof' that an AI cannot hold a copyright, they need to be human.

So the overall conclusion is that as long as laws do not change, under US and EU law an AI cannot hold a copyright on a song 'produced' by that AI.

So *Catchy Kate* as a result of the Musi-co AI cannot be copyrighted.

As a consequence of the cases I discussed here, what if a user bases a music production on materials generated by an AI, say 'adding his own originality' to the song *Catchy Kate*? The test would then be that *Catchy Kate* no longer 'sounds' as *Catchy Kate* to enable the vesting of a sole copyright by this person.