Optimize This! Why Do We Care If an AI Can Write Songs?

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This file includes the abstract, keyword list, bibliography, and related material for the video essay, "Optimize This! Why Do We Care If an AI Can Write Songs?" by Andrew Goldman. This video-essay may be found at https://vimeo.com/societymusictheory/smtv122goldman

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Abstract for
Optimize This! Why Do We Care If an AI Can Write Songs?

by Andrew Goldman, *SMT-V* 12.2

AI systems like Suno (https://suno.com/home) take in text prompts, and output audio of original songs that are compellingly human-sounding. Here, I describe three ways to compare human and AI generated music. To frame my discussion, I juxtapose my original song ("Optimize!") with a song that Suno generated on the same topic. We can compare **products**, focusing on the musical work (as audio, or symbolic notation), and consider whether AI-generated music passes the Turing test, or whether there are features that sound artificial. I analyze my own song, and Suno's. We can also compare **processes**. *How* did I produce a work of music compared to how Suno did it? Again, I compare my process with Suno's. Both product- and process-based comparisons aim to explain features of musical scores and audio, but music is more than what is encoded in such representations. Thus, a third kind of comparison resists this work-based ontology of music: a comparison of musical **practice**. My song is more than the notes on the page; there was a social motivation to write about optimization. In contrast, AI music's sociality is homuncular: it only has social purpose because the humans who use the technology do.

Short Keyword List

Artificial intelligence; songwriting; music as practice; music cognition; creativity

Extensive Keyword List

Artificial intelligence; AI; Suno; songwriting; songs; music; optimization; optimize; optimal; music theory; creativity; connectionism; connectionist systems; symbolic cognition; music cognition; human vs. AI; Turing Test; ontology of music; social practice; waveform; AI songs; autonomous AI

About the Author

Andrew Goldman is a music theorist and cognitive scientist, and is currently Assistant Professor in Music Theory and Cognitive Science at Indiana University, where he also directs IU's Music and Mind Lab. He received his PhD in 2015 at the Centre for Music and Science at the University of

Cambridge. He was in the inaugural cohort of Presidential Scholars in Society and Neuroscience at Columbia University, and also held a postdoctoral position with the Music, Cognition, and the Brain initiative at Western University before joining the faculty at Indiana University. His research considers how we can (and cannot) use scientific methods to learn about musical perception and cognition in theory, and he also designs and conducts behavioral and neuroscientific experiments on music perception and cognition. Goldman's research has focused on improvisation in music and dance, and more recent work has addressed the perception of musical form, melodic contour, metrical perception, embodiment in music, and a critique of music neuroscience. Goldman is also a pianist and songwriter. His original musical, "Science! The Musical" provides an alternate platform to explore the worlds of music and science. Musical numbers include "The Interdisciplinary Rag," "The Real World," "Publish or Perish," and more!

Supplementary Materials

Chord Progression Generator (Symbolic Code)

This Python code is the symbolic code referenced in the video: https://www.smt-v.org/bibliographies/OptimizeThis_SMTV_code.zip

Discography and Filmography

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