The Open University, Milton Keynes 4 December 2023

### Three Open Questions for the Design of AI for Music Composition

Corey Ford<sup>1</sup>, Sara Cardinale<sup>1</sup>, Nick Bryan-Kinns<sup>2</sup> and Geraint Wiggins<sup>3</sup>

<sup>1</sup>Queen Mary University of London, UK, {c.j.ford, s.cardinale}@qmul.ac.uk <sup>2</sup>University of the Arts London <sup>3</sup>Vrije Universiteit Brussel / Queen Mary University of London

*Abstract*— This paper suggests three open questions for designing AI for music composition by reflecting on interviews with expert and novice composers. Our questions consider the role of AI as a mediator, the importance of a composer's originality, and AI for building intuition.

Index Terms- AI, Generative AI, Music, Interviews

### I. INTRODUCTION

Using Artificial Intelligence (AI) for composition is an active area of HCI research [1]. We reflect upon our interviews we undertook with novices and expert media composers regarding their compositional process. For the novices, interviews were centred around an AI-based tool for combining self and AI-generated blocks of musical notes. For experts, we discussed their real-world music making process. We offer open-questions for AI designers of music making tools.

#### **II. AI QUESTIONS**

*AI as a Mediator.* From the interviews with experts, we found that film music's sound is changing from mainly orchestral instruments to sampling organic sounds, using synthesisers for textural elements, and using simpler and shorter motifs. Novices also described being led by choices in the interface presented to them in their interviews, e.g., AI-generated music was often placed in the composition by novices wherever the interface suggested without their critical reflection, which is fundamental to creativity [2]. As found in Human-Centred AI (HCAI) more broadly [3], this raises questions on whether a composer's agency is taken away by technology.

# How can we design AI tools that support composers' agency?

*Originality.* During the interviews, expert composers mentioned that music for media is a fiercely competitive industry. The presence of numerous aspiring media composers exacerbates this situation, prompting composers to strive for uniqueness in order to distinguish themselves. This is particularly difficult in film music contexts, where directors might be requesting specific musical ideas at tension with the composer's own style. The need to find your own compositional voice might also be innate to creative practice—many of the novices in their interviews described trying to recreate music similar to songs they enjoy, yet with their own twist. This can be challenging as many AI tools tend to create music in a certain style, resulting in similar-sounding music.

## How can we design AI to support people in finding their own musical voice?

Intuition vs Rational Thinking. When making compositional decisions, the interviewees, both expert and novice, describe their choices as instinctual. The particpants describe just playing around until their music "*feels* right". For expert composers, these decisions are based on their intuition, built up over many years of practice. They would explore compositional techniques which they understood as supporting their brief and unique musical style. The novices would also make musical choices that seemed *right*, however, their intuition was based on music known to them.

### How can we design AI to support composer's intuition?

### III. SUMMARY

We suggested three open questions for designing AI which supports the music composition process, drawing upon human-centred perspectives from expert and novice composers. Our first question on agency reflects broader HCAI concerns [3], whereas our other questions reflect the lesser explored artistic concerns of how musicians can find their voice with AI and develop their intuition. We hope these questions form the basis for interesting research on the use of AI for music composition.

Acknowledgments. Funded by the UKRI Centre for Doctoral Training in AI and Music (EP/S022694/1). All studies approved by QMUL's ethics committee. Ford and Cardinale contributed equally.

#### IV. REFERENCES

- T. Jourdan and B. Caramiaux, "Machine Learning for Musical Expression: A Systematic Literature Review," in *Proceedings ofNew Interfaces for Musical Expression (NIME)*, 2023.
- [2] C. Ford and N. Bryan-Kinns, "Towards a Reflection in Creative Experience Questionnaire," in *Proc. of the 2023 CHI Conference on Human Factors in Computing Systems*, 2023.
- [3] B. Shneiderman, Human-Centered AI. Oxford University Press, 2022.

