

DE-CENTERING THE WEST: EAST ASIAN PHILOSOPHIES AND THE ETHICS OF APPLYING ARTIFICIAL INTELLIGENCE TO MUSIC

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ABSTRACT

Questions about the ethical dimensions of artificial intelligence (AI) become more pressing as its applications multiply. While there is a growing literature calling attention to the ethics of AI in general, sector-specific and culturally sensitive approaches remain under-explored. We thus initiate an effort to establish a framework of ethical guidelines for music AI in the context of East Asia, a region whose rapid technological advances are playing a leading role in contemporary geopolitical competition. We draw a connection between technological ethics and non-Western philosophies such as Confucianism, Buddhism, Shintoism, and Daoism. We emphasize interrelations between AI and traditional cultural heritage and values. Drawing on the IEEE Principles of Ethically Aligned Design, we map its proposed ethical principles to East Asian contexts and their respective music ecosystem. In this process of establishing a culturally situated understanding of AI ethics, we see that the seemingly universal concepts of “human rights”, “well-being”, and potential “misuse” are ultimately fluid and need to be examined in specific cultural contexts.

1. INTRODUCTION

The field of Music Information Retrieval (MIR) involves developing artificial intelligence (AI) technologies for making music accessible, evinced by applications such as music recommendation, identification, analysis and generation. Such technologies augment or replace human efforts by their scalability. The impacts of these technologies on music practices and communities are important subjects of investigation as the MIR research field progresses.

As analyzed in Clancy’s PhD thesis on music AI [1], music takes place in a complex network of “human and non-human (AI) ‘members organisms’ located in civic, industrial or academic domains, who can be considered as stakeholders of the global music community” – a network that Clancy refers to as the *music ecosystem*. One may be tempted to delineate this ecosystem in terms of the organ-

izations and individuals involved in the Western music industry on the one hand, and the “listener” on the other. But the shapes music industries take, and the ways people interact with music change depending on the cultural context [2]. In all of these environments, various music AI applications can transform existing practices in anticipated and unanticipated ways.

Some ethical implications of music AI have been outlined previously [3]. These implications either coincide or extend ethical considerations related to AI in general, as they have been increasingly discussed and documented throughout recent years in various ethical guidelines (e.g. [4]). As with the development of technology, however, most propositions for ethical guidelines are deeply entwined in value judgements of Western societies [5]. But what of the values of non-Western societies? This problem has been recognized [6], and has led to a discussion of how an intercultural information ethics (IIE) may arrive at ethical guidelines that facilitate the development of diverse technologies that enable members of various societies to thrive through interacting with it. With a significant amount of research and development in music AI taking place in East Asia (e.g. [7-12]), we therefore advance the introduction of ideas such as IIE to MIR research. The diversity of cultural backgrounds of music AI stakeholders makes it timely to ask: how can ethical guidelines in MIR encompass this diversity [13]?

We begin this endeavor with a short overview of existing ethical guidelines for AI. We then build a bridge to East Asian philosophies and their relation to technology in Section 3. Section 4 interprets central notions of recent ethical guidelines through the lens of a few East Asian philosophical traditions. Section 5 relates these interpretations to current developments in various fields of study, with the goal to indicate ways to implement intercultural perspectives on ethics of music AI.

While it is not possible to address most East Asian philosophical traditions here, we focus on some schools of thought that are inspiring scholarly discussions around the topic of technological ethics. We juxtapose these existing discussions, develop them, and re-situate them in the context of music AI. We hope this can serve as a starting point for future endeavors to examine the impacts of different philosophical traditions around the world on guiding thinking about the ethics of music AI. This paper, largely theoretical in nature, will complement an upcoming book



chapter by the authors that takes a more applied approach by bringing forth the voices of prominent music AI researchers, developers, and practitioners across Asia, whose reflections over the nuances of practicing ethical music AI will further enrich the current discussion.

2. A REVIEW

Given recent advancements and controversies involving AI technology, the ethical implications of integrating such technology into public, private and commercial spheres have become issues of compelling interest to people, companies, and governments [5]. This has led to the creation of research forums like the ACM Conference on Fairness, Accountability, and Transparency,¹ crowd-sourced initiatives like the AI Incident Database,² the formation of corporate ethics committees, inquiries by government bodies,³ and focus groups of professional global organizations.

The IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems⁴ consists of engineers from six continents, and has produced two editions of, “Ethically Aligned Design: A Vision for Prioritizing Human Well-being with Autonomous and Intelligent Systems” (EADv2) [4]. This document argues for the development of autonomous systems guided by five ethical principles:

1. *human rights*: “Ensure [these technologies] do not infringe on internationally recognized human rights”
2. *well-being*: “Prioritize metrics of well-being in their design and use”
3. *accountability*: “Ensure that their designers and operators are responsible and accountable”
4. *transparency*: “Ensure they operate in a transparent manner”
5. *misuse*: “Minimize the risks of their misuse”.

EADv2 means designing with values that “put human advancement at the core of development of technical systems, in concert with the recognition that machines should serve humans and not the other way around ... to create intelligent technical systems that enhance and extend human well-being and freedom” [4]. These five principles align with several AI guidelines produced around the world [5], many coming from countries that are economically developed, and thus which could neglect meaningful local knowledge and jeopardize global fairness.

When it comes to AI and music in particular, Clancy’s PhD dissertation [1] surveys the global commercial landscape of music generation with great attention paid to the intellectual property status of music generated by machines, and how this impacts the “music ecosystem” with respect to the “value gap” – the economic disparity between content owners and creators. Clancy proposes self-regulation according to a marking system that identifies and rewards actions sustaining equitable uses of AI technology within the music ecosystem. In this way, consumers might make informed choices in order to support musicians themselves. Clancy also suggests taking a closer look at non-Western approaches to technological ethics in

order to de-center the conversation from Western philosophical thought, which inspires our paper.

3. NON-WESTERN APPROACHES TO TECHNOLOGICAL ETHICS

Discussions of technological ethics have historically been driven by Western thought rooted in Plato and Aristotle. Recent work, however, has begun to pay attention to non-Western influences on Western science and technology. Dusek [14] discusses in *Philosophy of Technology* the power and value of non-Western scientific knowledge systems and their contribution to the development of technology. Hui [15], in putting into question the affirmation of technics⁵ and technologies as anthropologically universal, argues for the urgency of establishing a philosophy of technology that is “properly Chinese”. Among the growing literature that calls attention to the ethical dimensions of AI, few have situated this topic in non-Western contexts. Among them, Hagerty and Rubinov [16], Jobin et al. [5], and Clancy [1] stand out as writings that call for a multicultural shift in addressing (music) AI and its ethics.

To lay the groundwork for our discussions in Section 4 and 5, we now review recent studies that draw a connection between technology (AI), ethics, and such East Asian philosophies as Confucianism, Buddhism, Shintoism, and Daoism. Scholars have turned to Confucianism, a system of thought based on the ancient teachings of Confucius (551-479 B.C.E), as a source that may enrich the ethics of technology. Writing on “ethical pluralism”, Ess [6] juxtaposes contemporary Western ethics with the ethical tradition of Confucian thought, focusing on their shared notions of “resonance” and “harmony” as a way of articulating “pluralistic structures of connection alongside irreducible differences”. Kirk et al. [17] contemplates Confucianism to help guide technology policy, and explores how the Chinese government builds on Confucian notions of harmony, social hierarchy, and legitimacy to inform the nation’s approach to technological governance and ethics, as well as to build public acceptance towards them. The authors emphasize the “stickiness” of Confucian values in South Korean, Japanese, and Chinese societies, as the three nations continue to foreground hierarchy, family, and social order despite their divergence of political ideology. As another example, Wong and Wang [18] argue for a “multicultural turn” in approaches to technological ethics, developing what they call “Confucian ethics of technology”. In this work, scholars investigate such normative Confucian concepts as “*dao*”,⁶ “harmony”, and “personhood” and their application to the philosophy and ethics of technology.

Buddhism is another source for ethical reflection on technology. Throughout history, technology has played an important role in both Buddhist philosophy and religion. Rambelli [20] explores the presence of machines in the Japanese Buddhist tradition, e.g., robotic monks and priests. *The Ethics of AI and Robotics: A Buddhist View-*

¹ <https://factconference.org>

² <http://incidentdatabase.ai>

³ <https://bit.ly/3xgtVZP>

⁴ <https://bit.ly/2QY1vPq>

⁵ Throughout the book, Hui uses the term “technics” to refer to the “general category of all forms of making and practice”.

⁶ One of the most fundamental yet most elusive notions in Daoist thought; Confucians use the term, often translated as “The Way”, to refer to the “organizing and governing principle of the universe” [19].

point [21] is a significant attempt to bridge the ancient tradition of Buddhism with technological ethics. Arguing for a Buddhism-inspired standard of ethical perfection, namely “machine enlightenment”, Hongladarom [21] presents ways in which Buddhism can contribute to the ethics of AI and robotics. The ethical ideal for AI promoted throughout the book grounds itself in two central Buddhist values: the realization that all things are interdependent, and the commitment to alleviate the suffering of all beings.

When studying the technology-friendly nature of Japanese society, scholars often turn to its religion Shintoism to understand the nation’s anthropomorphic view of technology.⁷ In Shinto beliefs, there is no categorical distinction between humans, animals, and inanimate objects, as the religion attributes spirits, or *kami*, to all forms of existences. Juxtaposing this “Shinto-infused techno-animism” with actor-network theory,⁸ Jensen and Blok [24] posit that Shinto cosmic views offer a vantage point for interpreting the contributions of non-humans to “collective life”, and for studying the entanglements of politics, ecology, science, and cosmos in contemporary society.

While some scholars hold that technologies are antithetical to the concept of *ziran*⁹ promoted in Daoist thought [25], a philosophical tradition primarily associated with the texts of ancient thinkers such as Laozi and Zhuangzi, the pioneering work of Joseph Needham [27] uncovers the long history of Daoism engaging with technology. A recent study of Nelson [28] reveals how ideas from Daoist texts have influenced early twentieth-century German thinkers (Buber and Heidegger) and their views on technological rationality and modernity. This further motivates critical engagement with technological ethics traversing geographical, cultural, and philosophical boundaries.

In the broader context of East Asian societies, the preservation and continuation of cultural traditions lie at the heart of conversations surrounding AI and its application. “The BSRC [Bio-Synergy Research Center] is bringing traditional medicines and cutting-edge computer science together”, writes an article [29] that introduces recent South Korean efforts to use AI and biotechnology to explore the therapeutic potentials of traditional medicines. Guo et al. [30] also study the application of AI in traditional Chinese medicine. In *2047 Apologue* [31], a conceptual theater show, the producer creatively fuses AI and robotics with Chinese folk arts to shed light on larger themes such as environmental crises. In Japan, while the Buddhist robot priest “Mindar” delivers sermons inside the 400-year-old Kodaiji temple [32], others have used AI to help sustain near-extinct traditional crafts [33].

On the website of *Aichi’s World Expo* [34], one can locate such claims as “conservation should replace mass production and consumption”. Indeed, in the race towards becoming world leaders in AI, the theme of bridging “cutting-edge technologies” with ancient cultural heritages and traditions is popular in East Asian countries. Writing on Japan’s seamless assembly of science, technology, and

culture, Šabanović explores the ways in which Japan legitimizes its adoption of new technologies through strategic association with traditional practices and cultural continuity [34]. Technologies, in this case, are perceived as culturally situated artifacts. Traditions, on the other hand, are continuously renegotiated and redefined to include emerging technological devices and practices.

4. TOWARD AN ETHICALLY ALIGNED DESIGN FOR AI IN EAST ASIA

We now examine a list of key ethical principles featured in EADv2, and investigate their meanings in East Asian contexts. It should be clarified that it is beyond the scope of this paper to address every principle that appears in major ethical guidelines. For instance, while we do not devote a section to the notion of “privacy,” there is a growing literature that addresses how “privacy” is viewed differently in East Asian societies [6, 16, 17, 35]. As “privacy” is not listed as a separate principle in EADv2, we consider it as an integral component of our discussion on “human rights”, “well-being”, and “awareness of misuse”, three principles listed in EADv2 that are powerful examples of cross-cultural pluralism and are the focus of this paper.

When approaching inter-cultural comparisons of AI ethics, we ground our analysis in a number of theoretical texts and traditions. Ess [6] draws from Platonic and Aristotelian thought to elaborate on what he calls “interpretive pluralism”, where multiple interpretations of an idea can remain “irreducibly different” from each another and yet be connected by “way of their shared point of origin and reference”. Ess relates this form of pluralism to the Confucian idea of “harmony”, where things can “resonate” in spite of fundamental differences.

Our analysis is also guided by poststructuralist ideas of plurality when it comes to the reading of texts from multiple viewpoints [36]. Our attempt to “de-center” the West in discussions of cross-cultural, technological ethics is inspired by the Derridean [37] gesture of multi-centering, that is, the recognition of multiple, simultaneous centers in the absence of one absolute center that renders the *others* unconditionally marginal. Finally, in suggesting the possibility of an East Asia guideline for AI ethics, we juxtapose our pluralistic perspective with the emerging phenomenon of Asian studies in Asia and, particularly, the work of Chen [38] that seek to use Asia, rather than the West, as an “imaginary anchoring point” for critical inquiry.

4.1 “Human Rights”

The first principle in EADv2, “Human Rights”, is fundamental in every major guideline for AI ethics. While there is little debate that the design of ethical AI should not violate human rights, what the term signifies and how that shifts with cultural context are often neglected. An-Na’im et al. [39] argue that much of our viewpoint towards human rights is biased by expectations native to our own

⁷ Scholars, for instance, have written about robots as a kind of “third existence” that can coexist with humans as social agents [22].

⁸ According to Actor-network theory, human subjects and technological artifacts should be studied with the same method, and that no analytical distinction should be made between subjects and objects [23].

⁹ A central concept in Daoist thought variously translated into “self-so”, “spontaneous”, or “natural” [26].

culture. Also central to engaging with contemporary notions of human rights is the question of what it means to be human. Alford [40] draws on Confucian notions of personhood when reflecting on the state of human rights in China. Alford’s emphasis on the social conception of the persons presupposed in Confucianism echoes Wong [19], in which Confucian personhood is characterized as inherently relational, developmental, and virtue-based.

Another question relevant to our consideration of human rights in AI ethics is whether such rights may be possessed by AI “agents”. Eastern philosophies often make little ontological distinction between humans and non-humans. AI ethicist Pak-Hang Wong comments [41] that based on the “role-based” ethics of Confucianism, one can attribute personhood to non-human beings as long as they “play ethically relevant roles and duties as humans”. This may explain why a clause in the Japanese Society for Artificial Intelligence (JSAI) Ethical Guidelines states that AI should abide by all policies described therein in order to “become a *member* or a *quasi-member* of society” [42].

When it comes to emphasizing the rights of all life forms beyond the human race, a connection can be drawn between East Asian philosophies and the emerging field of posthumanities. Braidotti [43] establishes posthuman ethics as a way of rethinking subjectivity as a collective assemblage that encompasses “human and non-human actors, technological mediation, animals, plants, and the planet as a whole”. Pondering the concept of “digital person”, Sjöberg [44] discusses the prospect of treating intelligent agents as legally responsible entities. Bridging these intellectual traditions, an ethically aligned design for AI in the 21st century might move beyond a human-centric approach and consider the rights of all “*beings*”. Such a stance resonates with Indigenous-centered AI Design as proposed by Lewis [45], and is similarly advocated by Floridi [46] who calls for constructing information ethics as a “patient-oriented, ontocentric, and ecological macroethics” that is “as non-anthropocentric as possible”.

4.2 “Well-Being”

EADv2 [4] writes that AI systems should “prioritize metrics of well-being in their design and use”. Different cultures, however, can have different views over the ways in which technologies can best serve mankind and its well-being. Confucianism-based cultures, for one, often do not draw a clear boundary between the self and the community, the individual and the collective, and the private and the public [47]. These cultural characteristics have a profound impact on what “well-being” signifies and how technologies may contribute to or compromise it.

In contemporary China, a community’s collective welfare is typically prioritized over an individual’s well-being, leading to Western criticisms of China’s abuse of human rights. Writing on “global AI ethics”, Hagerty and Rubinov [16] note how in countries such as Singapore and China, AI-driven surveillance technologies do not generate much controversy among citizens as state surveillance seems to be an “acceptable exchange for security and stability”. Such prioritization of societal harmony, Hung [47] argues, implies a paternalistic style of governance that is common in East Asia, where those occupying positions of

power are expected to guide their respective community as would parents for their children. According to Hung, it is for this reason that “collectively mediating technologies” implemented without full, collective consent are more accepted in Confucianism-based societies.

Bringing an East Asian perspective into discussions of AI ethics also enriches the ways in which one can conceptualize the relations between human and technology, and how such relations contribute to human flourishing. Reflecting on a Confucian “ritual technicity”, Wang [48] brings forth the ritual dimensions of artifacts that transcend their sheer practicality and examines how in *performing* (rather than merely *using*) technologies, humans are able to moralize themselves *with* artifacts. This intimate techno-human relationship implied in Confucian theories of self-cultivation aligns with the “embodiment relations” proposed by Don Ihde [49], according to which humans similarly *embody* technologies. In the Confucian context, the embodied, ritualized technologies become integral to pursuits of growth, wellness, and harmony with the world.

4.3 “Awareness of Misuse”

EADv2 emphasizes the need to minimize the risks of potential misuse of AI. While constructing a “Confucian Ethics of Technology”, Wong [19] probes into the concept of “harmony”, which we argue is essential when implementing responsible AI. It should be noted that the word “harmony” has more than once appeared as a separate principle in major guidelines for ethical AI published recently in China [50, 51]. We juxtapose this concept of “harmony” with the *Mepham Ethical Matrix* proposed by O’Neil and Gunn [52], which requires that one consider the interests of a range of stakeholders with reference to specific moral principles when designing AI. Bringing in a Confucian perspective is helpful in that it specifies how one may “harmonize” these diverging interests while preserving their irreducible differences.

Hongladarom [21] believes a Buddhist perspective can contribute to designing AI that can achieve both “ethical” and “technical” excellence. The author argues that when “harmonizing” the interests of diverse stakeholders, AI (and its manufacturer) must first consider the interest of others before their own, with the ultimate goal of relieving all beings of suffering. Here, any AI device that would cause suffering in “sentient beings” would be considered a case of misuse. This Buddhist vision of AI ethics is in line with Floridi’s definition of Information Ethics as an ecological ethics that seeks to ensure the “existence and flourishing of all entities and their global environment” with the goal of freeing them of “entropy”, a state “more fundamental than suffering” that refers to any form of “impoverishment of *being*” [46].

Just as the concept of “well-being” is culturally specific, the notion of “misuse” varies across contexts. As “cultural change” is described as a major threat to Japanese society, culturally trained robots are seen as a possible solution to this challenge and a way to conserve Japan’s assumed cultural continuity and homogeneity [34]. In this context, any AI system that “breaks” traditions and steers society away from its conservative social agenda may be viewed as a case of misuse.

5. MUSIC AI IN EAST ASIA: A SECTOR-SPECIFIC, CULTURALLY SENSITIVE APPROACH

Clancy [1] calls for a sector-specific (music ecosystem) application of AI ethics while encouraging researchers to consider contributions from non-Western traditions. We now attempt a sector-specific *and* culturally sensitive approach to thinking about ethical music AI in the context of East Asia, extending the principles analyzed in Section 4 to the domain of music.

5.1 “Human and Posthuman Rights”

According to the report “Ethics Guidelines for Trustworthy AI” (EGTAI), “AI systems need to be human-centric, resting on a commitment to their use in the service of humanity and the common good” [53]. A majority of AI ethics discussions are guided by such a human-centric frame. In this section, we move beyond this anthropocentric perspective to consider the environmental impact of “musicking”¹⁰ [54] in the age of AI. We first expand the notion of “human rights” so that it includes the rights of the deceased. We then bridge our work with the burgeoning field of “ecomusicology” to reflect on an AI-informed, political ecology of music [55].

In the case of music AI, Supertone, a South Korea-based music technology start-up, states in the “Ethical AI” section of their website that the firm “never monetize[s] any synthetic voice without the permission of the right holder” [56]. While the website does not further specify who may qualify as “right holders” across scenarios, we argue that we must think beyond the rights of *living* human beings. In the East Asian music industry, experiments are “reviving” deceased musicians: from the collaboration between virtual pop icon Teresa Teng with Taiwanese singer Jay Chou [57] to Big Hit Entertainment’s investment in Supertone to clone the voice of deceased South Korean superstars [58]. It is critical to reflect on the potential violation of “human” rights as well as the constant renegotiation of moral boundaries in such practices.

Section 4.1 establishes that it is necessary to consider both “human” and “*post*-human” rights when discussing AI ethics. De-centering the human resonates with the field of “ecomusicology”, which Titon [59] defines as “the study of music, culture, sound and nature in a period of environmental crisis”. Early efforts to connect human and non-human sound worlds came from soundscape studies and acoustic ecology, founded by Schafer with the *World Soundscape Project*. In “The Music of the Environment” [60], Schafer advocates the “recovery of positive silence”, arguing for the “reduction” rather than the “production” of sound. Turning to classical Chinese philosophies, in *Daodejing*, the fundamental text of Daoism, Laozi [61] writes that “the great note sounds *faint*”, promoting the “quiet” and the “silent” in music. Here, similarly, less is more. Meanwhile, Mozi, the founder of the philosophical school of Mohism, strongly condemns wasteful productions and performances of music [61]. The connection to

AI systems that “fart out” billions of songs just because they can is clear. Devine [55], for instance, illustrates how the carbon footprint of the music industry did not decrease in the age of streaming. We argue that such “ecomusicological” concerns become even more critical with the rapid advance of large, energy-consuming neural networks [62] and, in this context, AI-generated music.

From the ancient philosophies of Laozi and Mozi to the modern scholarship of Schafer, these stances can inspire imagining what “posthuman rights” may consist of in the context of music AI. Writing against artificial creativity, Mersch [63] addresses his concerns over how AI art may result in an overly crowded sonic and visual space marked by “overproduction”, “excess”, and the “more-than”. We thus argue that it is the responsibility of music AI developers to consider how their products impact the health of our soundscape in the middle of environmental crises. Meaningful attempts have been made by researchers using neural-network soundscapes to protect natural environments [64], or using AI to help one tune into island soundscapes to determine the level of seabird recovery [65].

5.2 Music and “Well-Being”

EADv2 refers to the Aristotelian concept of *eudaimonia*, “a practice that defines human well-being as the highest virtue for a society” [4]. While EADv2 does not explicitly address music AI and its tie to human well-being, included is a subsection titled “Affective Computing” that discusses issues related to emotion-like control in both humans and AI systems with a cross-cultural perspective. Considering the role of music as a culturally dependent regulator of emotions, one could propose that any AI music system be considered as a form of “affective computing” and should follow the guidelines detailed in this subsection of EADv2.

To help build an ethical application of AI to music, one that can foster well-being, it would be productive for AI developers to study and understand what makes a certain kind of music aesthetically pleasing and culturally appropriate in a particular musical ecosystem. In China, not all music is thought to carry the potential of contributing to “human flourishing”. “The Master [Confucius] said, ‘Find inspiration in the *Odes*, take your place through ritual, and achieve perfection with music’” [61]. This quote from the *Analects* of Confucius uncovers the essential place the trinity of poetry, ritual, and (ceremonial) music occupies in the growth of Confucian personhood. For Confucius, ritual music is fundamental to the moralization of mind, while entertainment music only corrupts – a claim that would not be unfamiliar to Plato. Today, this ancient link between music, morality, and well-being has in many ways become Chinese government’s rationale for music censorship as a way of promoting art and only “moral art” [66].

Finally, we argue that the propensity of East Asian societies to align AI with agendas of traditional culture preservation provides an important insight on how one may ethically deploy AI technology in these communities to maximize societal “harmony”. Šabanović [34] records

¹⁰ Christopher Small, in 1998, coined the term “musicking”, a verb that highlights music as a process (rather than an object) and that encompasses all musical activities from composing to performing to listening.

how robots in Japan were used to preserve *aizu bandaisan*, a Japanese folk dance, when there are no longer human inheritors to carry them out. Similar revivalist programs can be initiated with the design of AI systems that work to revitalize traditional repertoire. Such systems can potentially be used, for example, to help generate music for the hundreds of poems in the ancient text of the *Book of Odes*, the musical component of which is lost. This is the subject of much revivalist effort, and will require vast human labor.

5.3 Music, AI, and Cases of “Misuse”

To prevent potential misuses of AI technology, Clancy [1] argues the owners and designers of AI should make explicit statements about the intended consequences of these technologies. Taking into consideration the Confucian notion of “harmony” and the Buddhist concern for alleviating all sentient beings of suffering, AI researchers and designers might consider applying the *Mephram Ethical Matrix* [52] in order to “harmonize” the interests of different actors and, eventually, achieve holistic decision making.

According to Lamtharn (Hanoi) Hantrakul (a research scientist at TikTok/ByteDance in Shanghai, China), when designing *Tone Transfer* – a web app that uses Google’s machine learning AI to realize timbre conversion between different sound sources – he was met with the challenge of having to balance the interests of developers, target users, and – very importantly – those of local music practitioners as well as cultural insiders who might oppose having the unique timbre of their musical instruments taken out of context. In a private interview with us, Hantrakul describes the team’s decision to not include *guqin*, the ancient Chinese zither, in the application so as not to misrepresent the music instrument in front of an audience with limited knowledge about its original sound [67]. Hantrakul contrasts *Tone Transfer* with *Sounds of India*, an AI-powered app that transforms sounds into specific Indian music instruments. Hantrakul explains how the developers of that app were more confident to use those instruments because they knew the app would be used by communities already familiar with the sounds, hence reducing risks of misrepresentation and cultural appropriation.

What might other cases of misuse look like in the context of music AI, when factoring in the intellectual traditions reviewed so far? Not unlike the thoughts of Schafer, the Daoist tradition is likely to oppose an overly crowded soundscape that leaves no room for silence, as “only by relying on what is not there, do we have use of the room” [61]. Developers of music AI systems should in this sense pay attention to aspects of data ethics such as data management and “recycling”, so as to avoid flooding our already overloaded info- and sound-scape with algorithmically-generated music.¹¹ Similarly, the Mohist (that condemns wasteful music) and the Shinto tradition (that makes no categorical distinction between humans and their environments) will likely argue against AI systems that require too much computing power, embracing instead the idea of “green” music AI.

As addressed, for much of today’s Japanese society, any AI system that may disrupt its conservative social agenda

and cultural continuity would be viewed as a case of misuse. The same is true for music AI that may harm traditional art. It should be noted that creative experiments have been made by researchers to apply AI to the realm of traditional music, as in the case of “folk-rnn” [68], an AI system showing surprising success in generating plausible transcriptions in traditional dance music styles of Ireland and Scandinavia. These experiments, however, bring forth another set of questions regarding data ethics [69, 70, 71]: can any AI developer freely use and exploit materials in the public domain, which includes most of traditional music, that are not “protected” by copyright? In the cases that these materials are used in the training of a particular model, there should be much more conversation involving practitioners of such living musical traditions.

6. CONCLUSION

This paper contributes a discussion of several ethical dimensions of AI, and specifically AI applied to music, drawing in particular on non-Western philosophies such as Confucianism, Buddhism, Shintoism, and Daoism. In investigating such normative concepts in Confucian ethics as “personhood” and “harmony”, for instance, one may begin to reimagine the kind of relations humans may have with technologies (and thus enrich the existing framework established by Ihde in the 90s [49]). In juxtaposing these philosophical traditions with the critical perspectives of “posthumanism” and “ecomusicology” without disregarding their “irreducible differences”, we put into practice what Ess [6] advocates as “ethical pluralism”, while extending it to the less-visited domain of music AI.

To answer Clancy’s calls [1] for a sector-specific and culturally sensitive application of AI ethics, we take a close look in Section 5 at three ethical principles proposed in the IEEE Principles of Ethically Aligned Design and investigate their significances when applied to the music ecosystems of East Asia. Throughout, we ask what fresh perspectives researchers and practitioners of music AI today might gain by thinking beyond the dominant Western scientific knowledge systems that have been guiding our approaches to technological ethics. We begin such an experiment by turning to a number of influential East Asian philosophies. We recognize, however, that each of these philosophical traditions is extremely intricate and highly heterogenous within, and our discussions can only scratch the surface of this complex topic.

To date, such trans-cultural explorations are absent from existing work discussing ethics and MIR research in general [3]. Since East Asia is playing a leading role in the development and application of such technology [1], the perspectives forwarded in this paper are important to consider in order to draw culturally informed conclusions. This not only illuminates these issues for AI and music, but also applications of technology in general, and subtle differences in how established ethical principles can be (re)interpreted, e.g., “human rights”, “well-being”, and the potential “misuse” of AI technology.

¹¹ For instance, see Boomy (<https://boomy.com>).

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