Global Ethics: From Philosophy to Practice: A Culturally Informed Ethics of Music AI in Asia

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Introduction

The recent blossoming of research in music artificial intelligence (AI) and industrial practice across Asia presents an opportunity to rethink and potentially reorient discourses of technological ethics, which have historically been driven by Western thought. A significant forum in which such discourse is growing is the International Society for Music Information Retrieval (ISMIR), which for over two decades has culminated in annual conferences bringing together researchers around the world in the humanities and engineering building methods for making music as accessible an information source as text (Serra et al., 2013). Such technologies have clear ethical dimensions that need careful consideration (Holzapfel, Sturm & Coeckelbergh, 2018), but the global landscape of participants and interests is so diverse that values that seem undebatable are actually fluid. This is a finding of our paper, ‘De-centering the West: East Asian Philosophies and the Ethics of Applying Artificial Intelligence to Music’ (Huang, Sturm & Holzapfel, 2021), presented at ISMIR this year.

In ‘Ethically Aligned Design: A Vision for Prioritizing Human Well-being with Autonomous and Intelligent Systems’ (EADv2), a well-recognized and international consortium of engineers have proposed five principles to guide the development of autonomous systems (IEEE, 2017). In short, the five principles are ‘human rights,’ ‘well-being,’ ‘accountability,’ ‘transparency,’ and ‘awareness of misuse.’ The definition of these terms, however, rely on the values of the society in which a technology is to be used, and so we see frictions arise when attempting to extend culturally unique values across borders, which move into the global research landscape of such technologies. As a complement to our theoretical discussions of conceivable non-Western interpretations of the three EADv2 principles of ‘human rights,’ ‘well-being,’ and ‘awareness of misuse’ (Huang, Sturm & Holzapfel, 2021), this chapter surveys actual practice by various stakeholders in Asia. How do researchers in Asia perceive the technologies they develop, and the ways they work, in relation to these guidelines for ethical engineering? How do they perceive their relation to or responsibility for the music ecosystem, both local and global? How can the developers and users of music AI minimize harm, maximize benefit, and constructively participate in a global creative research environment?

This chapter is guided by a number of theoretical texts and traditions, among them Ess’s writing on ‘interpretative pluralism’ (2006), the poststructuralist idea of plurality and de-centering (Derrida, 1978; Barthes, 2010), and, importantly, Chen’s call to use Asia, rather than the West, as ‘method’ (2010). In turning towards Asia, Chen hopes to construct a new, ‘imaginary anchoring point’ that can allow ‘societies in Asia to become one another’s reference points,’ eventually transforming existing hegemonic knowledge structures that have long treated ‘the West as method’ (2010: p.xv). Our decision to separately examine the ethics of applying AI to music in Asia is also inspired by what Slobin (1993) calls ‘micromusics,’ that is, ‘small musics in big systems,’ along with his influential conceptualization of ‘superculture,’ ‘subculture,’ and ‘interculture.’ Can we understand AI-generated music in its current state as a form of
‘subcultural sound’ with only local visibility? Or, is such music on track to becoming its own superculture, ‘the dominant, mainstream musical content of a society’ that is, in effect, ‘everything people take for granted as being “normal”’ (Slobin, 2008: p.3)? What, in this case, are the cross-society links – or ‘interculture’ – that connect these groups of subcultural and supercultural practices?

In his PhD thesis on music AI, Clancy (2021) bases his analysis on the guiding concept of ‘music ecosystem,’ another notion that is central to the conceptualization of this chapter. In this work, we approach the vibrant universe of music AI in Asia and its ethics as its own cultural ecosystem, in which heterogeneous groups of actors – from creative AI systems to the practitioners we interviewed – constantly act, interact, and make changes happen both to themselves, to each other, and to their immediate environment. A number of music scholars have engaged with this concept.

Titon (2009), for one, writes on the importance of thinking about music ecologically and musical cultures as ‘ecosystems in which people act as stewards or trustees caring for music in the present and planning for music in the future.’ Tan (2012) then frames Amis Aboriginal music culture in Taiwan as an ecosystem comprising ‘different interacting dimensions of traditional and contemporary singing activity,’ examining how components of such ecosystems form a ‘web of shifting patterns, interact dynamically with each other and beyond this web, in processes of cultural sustenance, production and mediation’ (p.7). In his thesis, Clancy follows the Actor-Network Theory model but replaces the term ‘network’ with ‘ecosystem’ to ‘give emphasis to the emerging dynamics within an industry affected by AI expansion’ (2021: p.325). In particular, Clancy emphasizes that as the music ecosystem continues to globally mutate, ethical contributions from non-Western traditions must be considered. Our ISMIR paper along with this chapter seek to address precisely this issue.

Participants
This chapter features a series of interviews we conducted with leading music AI researchers, developers, and practitioners working in Asia. From South Korea, we interviewed Kyogu Lee, professor at Seoul National University who is also Co-Founder and CEO of the Supertone music AI startup. We also interviewed Team H:Ai:N from South Korea, a contestant in the AI Song Contest 2021 who sought to express in their entry the most abstract and culturally unique emotion of ‘Han’ with the help of AI. We interviewed another participant from the AI Song Contest: Team Chepang from Nepal. We interviewed Dr. Dorien Herremans, who is Assistant Professor at Singapore University of Technology and Design.

For researchers and practitioners that have creatively engaged with Indian music traditions, we have interviewed Ajay Kapur, currently the director of Music Technology at California Institute of the Arts as well as Executive Director of Karmetik, a think tank of artists and engineers exploring ‘a digital renaissance, seeking to question and redefine the boundaries between music, the visual arts, and technology’ (Karmetik, 2019). We have spoken with Preeti Rao, Professor in the Department of Electrical Engineering at IIT Bombay and head of the university’s Digital Audio Processing Lab. We also highlight the work of Lamtharn (Hanoi) Hantrakul from
Bangkok, Thailand, who currently works as a Research Scientist at TikTok/ByteDance in Shanghai and is an advocate for what he terms ‘transcultural machine learning in music’ (Hantrakul, 2021a). In addition, we interviewed Dr. Soraj Hongladarom, Associate Professor of Philosophy at Chulalongkorn University in Bangkok, Thailand and author of *The Ethics of AI and Robotics: A Buddhist Viewpoint* that greatly informs our ISMIR paper (Hongladarom, 2020). Participants from Japan include Professor Hiroshi Ishiguro, director of the Intelligent Robotics Laboratory at Osaka University, Japan and also creator of ‘Mindar,’ a robotic Buddhist priest (Nair, 2019). We have also interviewed Yi-Hsuan Yang, Associate Research Fellow of the Research Center for IT Innovation, Academia Sinica, Taiwan, and also the Chief Music Scientist at the Taiwan AI Labs.

Among our respondents based in Mainland China are: Li Xiaobing, Professor of Composition at China’s Central Conservatory of Music (CCOM) and Director of the conservatory’s new ‘Music AI and Information Technology’ program launched in 2019 (Sarazen, 2019); Gus Xia, Assistant Professor in Computer Science at NYU Shanghai and Director of the Music X Lab that seeks to understand how AI and more broadly computer music can help ‘make the world more creative, expressive, and interactive while embracing the humanity’ (Music-X-Lab, 2019); and Wu Tong, music director of 2047 Apologue, a series of conceptual stage shows created by Chinese director Zhang Yimou that aims to get people to rethink the relationship between advanced technologies, traditional art forms, human beings, and their environment (andyRobot, 2020; Chen, 2021). In each season of 2047 Apologue, Zhang presents traditional Chinese music and arts with high-tech treatments such as advanced robotic and AI technology, while accompanying them with narrative threads depicting both positive and negative impacts of technological forces driving humanity. The director explains:

“If you were to view the advance of civilization from a linear time perspective, in one direction you will see 5000 years of civilization; toward the other direction a future of science and technology, rapid and iterative. Here we are standing in ‘this moment’: A moment in which we take from our forebears but depart toward new creation, a moment in which we cross over from the protracted ‘past’ and draw boundlessly toward the future.” (andyRobot, 2020)

**Music AI in Asia Today**

Asia, a region that is home to over 60% of the world’s population and has emerged as a powerhouse of AI research – witnessing rapid growth of AI startups and research centers. According to the World Intellectual Property Organization (Nurton, 2019), leading tech companies in South Korea and Japan, for instance, have some of the highest numbers of AI patent filings. Based on a recent Harvard Business Review report (Li, Tong & Xiao, 2021), China has passed a number of policies in recent years to accelerate the development of AI, including ‘Made in China 2025,’ ‘Action Outline for Promoting the Development of Big Data,’ and ‘Next Generation Artificial Intelligence Development Plan.’ While its R&D spending is much lower than other countries in the region, Singapore, with its recent unveiling of the ‘National Artificial Intelligence Strategy’ (Smart Nation Singapore, 2021) that is part of its ‘Smart Nation Journey,’ is on track to taking a global lead in AI governance.
Across Asia, AI is becoming an increasingly powerful player in the music sector and has, in many ways, fundamentally reshaped the music industry of the region. Musiio, a Singapore-based startup founded in 2018, uses AI to help the music industry curate tracks more efficiently (Priyashini, 2019). In 2019, China's ByteDance officially ventured into AI-generated music through its acquisition of London-based AI-music startup Jukedeck (Ingham, 2019). In the same year, Chinese company Huawei used AI to complete Schubert's unfinished symphony (Kennedy, 2019). Researchers in India have generated computational Indian classical music using AI (Shetty, 2019), and in South Korea, the AI technology development company Supertone has applied AI to ‘resurrect’ the voice of deceased K-pop musicians (Stassen, 2021).

When asked how well AI technologies have been received in their local society, respondents share a variety of perspectives. Herremans (2021) echoes that Singapore is on track to becoming a frontrunner in AI technologies, as the government and society are extremely interested in AI in general, including music AI. Kapur (2021), on the contrary, singles out India as a special case where AI is deemed useful only if it can contribute to popular professions such as medicine, engineering, or law. The charm of music AI remains to be discovered and accepted. In his words, “the idea of being an artist with AI in India is as weird as being an artist as a person.” Also reflecting on Indian society’s receptivity to music AI technologies, including the digital audio processing tools her research focuses on, Rao (2022) shares that while responses vary, she has not had much success in productively engaging the professional musicians’ community, who often shows little interest in the topic. For Hantrakul (2021b), while music professionals he worked with in Thailand were largely excited about merging traditional musical arts with cutting edge technology such as AI, he met pushback from the general public that resisted change to be made to Thai culture. “For some, I am potentially encroaching on what makes Thai people Thai,” he shares. Finally, according to Ishiguro (2021), one of the greatest advantages of Japanese culture when it comes to AI development is that in Japan people do not have a strong negative impression about AI and robotics. They are ready to accept these technologies in a variety of activities such as religion and traditional arts.

**Practical Perspectives on Ethically Aligned Design Principle ‘Human Rights’**

In Huang, Sturm & Holzapfel (2021), we emphasize the need to understand ‘Human Rights’ from a cross-cultural perspective. Different societies, for instance, hold different notions of ‘personhood,’ the understanding of which is central to the consideration of human rights in AI ethics. We draw a connection between East Asian philosophies and posthuman ethics, rethinking subjectivity as a collective assemblage that encompasses ‘human and non-human actors, technological mediation, animals, plants, and the planet as a whole’ (Braidotti, 2017). Hence, we ask what ‘human rights’ are violated when AI ‘revives’ deceased musicians. Taking inspiration from the field of ‘ecomusicology’ as well as teachings from Daoism and Mohism, we consider the environmental impact of ‘musicking’ in an era of artificial creativity characterized by overproduction (Titon, 2013; Small, 1998). This section of the chapter complements the theoretical discussions in our ISMIR paper in providing a practical perspective on ‘Human Rights’ as a core principle for ‘Ethically Aligned Design’: what does it mean to be human? What does ‘human rights’ consist of? What is the difference between the human and the machine.
condition? May AI agents possess such ‘human’ rights, and can they be perceived as members of our society?

Behind Zhang’s creation of the above-mentioned 2047 Apologue, for one, is the Chinese director’s desire to better understand human-technology-world relations in today’s society and in the not-so-distant future, which we argue are central questions to consider when unpacking the meaning of ‘human (and posthuman) rights’ in AI ethics. In our ISMIR paper, we bridge a Confucian perspective that treats artifacts as an extension of the human body with the four categories of human-technology-world relations proposed by Ihde in his theory of postphenomenology (1990; 2009). Here, agency is co-constituted by ‘the artifacts, their users, and the environmental embeddings where they are situated’ (Wang, 2021: p.11). But how do music AI researchers and practitioners across Asia today perceive such relations between humans, technologies, and their environment?

According to Herremans (2021), in contrast to her experience in Europe of hesitation towards adopting technology, Asian culture appears to be “much more accepting of AI technologies,” as the general public is mostly willing to welcome AI musicians. Ishiguro (2021) echoes such views, sharing that in Germany he has experienced noticeable resistance to his development of human-like robots. Japan, on the other hand, seems ready to accept most forms of AI technologies. While Asia seems generally open to technology, there is a great degree of variance between the attitudes of individual researchers and practitioners towards the ontological condition of technology versus humans and, hence, what rights they may respectively possess.

For Wu Tong (2021), the music director of 2047 Apologue, while he enthusiastically welcomes creative experiments with music AI, he lands his focus on “humanity” (人性 renxing), insisting that there remains an unerasable distinction between robots and humans. For Wu, while part of the profits of an AI-generated song should go to its AI developers and owners, it is important that we do not confuse the role of an “artist” with that of an AI developer, and nor should we “blaspheme against” (褻瀆 xiedu) the “traditional act of composition” by calling a developer of music AI a “composer.” During the interview, Wu emphasizes that when one likes an artist, they like them as “a complete person” (完整的人 wanzheng de ren) and value their creative output as a result of the artist’s “constant struggles in life.” He continues:

“What we witness is the process of (becoming) a human. This is the part that AI cannot replace. Traditional music has humanity in it ... AI can only replace some functions of art ... But humanity is the key. Humanity is imperfect, is uncertain, and makes mistakes. This is the core - everyone attempts to attain some kind of order in this state of imperfection ... After all, there is so much we need to learn from ourselves. Only when we both understand well how robots may serve us and have better understandings of ourselves can we better interact with robots.” (2021, translated by Huang)

For Wu, AI agents should not possess rights, and they should not be perceived as a member of society. As a Buddhist practitioner, Wu cites a teaching that states: “All things are Buddhist in
nature, and hence all things are one” (眾生皆佛, 萬物一體 zhōngshēng jìefo, wànwu yītǐ). “We cannot interpret this teaching literally,” he states, underscoring the ontological distinction between beings of different kinds: “killing a man is still different from killing a tree” (2021). But Team Chepang (2021) presents a different perspective. Diverging from Wu’s view that AI agents can never replace humans, Team Chepang comments on the ability of AI to mimic humans and points out the potential danger of music AI systems “overfitting” to the degree that they completely “remove the sense of uniqueness from the original artist,” thus “diluting” the genuine, musical expressions of a human.

Ishiguro (2021) provides another viewpoint, arguing that technology is “a way of evolution for the humans” and that, depending on society and philosophical orientations, one may eventually grant rights to an AI agent. While both Wu and Ishiguro see developments in music AI as an opportunity to help mankind achieve self-discovery and self-enhancement, Ishiguro makes less ontological distinction between robots and humans. “But we don’t know what human is,” says Ishiguro, arguing that AI offers a rare opportunity for us all to think deeply the meaning of being human (2021). For Ishiguro, once an AI agent establishes a “good relationship” with the rest of the society, it may well become a member of society and possess the same rights that currently belong exclusively to us humans.

Finally, pondering on the potential ‘personhood’ of AI agents, Rao (2022) suggests that in a society such as India, where religion and ritual form an essential part of people’s life, it is not entirely unlikely that one day AI systems will be integrated into certain belief systems and thereby perceived as right-possessing entities. Highlighting the power of “belief,” she shares: “It is not that it is all about what you can see, hear, feel, and know as a person; people do take actions based on believing in certain entities.”

**Practical Perspectives on Ethically Aligned Design Principle 'Well Being'**

The EADv2 (IEEE, 2017) relates the notion of well-being to the Aristotelian concept of Eudaimonia (‘flourishing’), which entails the ability to base decisions about how to live on one’s own ethical considerations. As such, a renunciation of a one-dimensional, economical definition of well-being in favor of multi-faceted metrics is proposed by EADv2, which considers psychological, social, economic and environmental factors in combination.

In our ISMIR paper (Huang, Sturm & Holzapfel, 2021), we point out that a Confucian perspective may facilitate ethical contemplation about the relation between the self and technological artefacts. Hence, Confucian ‘ritual technicity’ can help to determine how we can flourish by embodying technologies. The emphasis of ritual implies a present perspective of how we get accustomed to interacting with technology now, and how these present rituals relate to our traditions and cultural norms that we inherit from the past. We suggest that increasing well-being - under the perspective of several East Asian philosophies - would result from maximizing societal harmony by aligning AI with agendas of culture preservation, a process taking place in several East-Asian societies. Such focus on societal harmony is related to a lack of a clear boundary between the self and the community in many East-Asian cultures, with a reduced emphasis on individual wellbeing as result. Specific to music AI, one would then need to
understand culture-specific aesthetics of what is considered to be pleasing and culturally appropriate, in order to be able to develop music AI systems that support well-being and emotional regulation.

The depth of immersion into a culture that may be required to obtain such understanding by a music-AI developer is exemplified by Kapur and his work that integrates robotics into performance of Indian Hindustani (Kapur et al., 2004) and Korean music. In our interview (2021), Ajay emphasizes the importance of actually using the developed technology to produce artistic outcome in a music performance. According to him, the ways in which the technology then contributes to well-being are manifold. First, it assists in preservation of performance detail by a human expert. Second and consequentially, the documented detail opens new avenues for a democratized music education that empowers larger and more diverse student groups: “You don’t need to be a person of privilege, ... this is how this person uses this instrument and how they are making their sounds and everyone can have access to the information.” Third and beyond preservation, Ajay considers his artistic work instrumental to “show the future of culture and technology,” a future in which technology enriches and extends current practice, and in which it is employed in ways that actually provide increased fairness in access to the global music market.

The idea that music AI has the potential to contribute to societal well-being by enriching and extending musical traditions strongly resonates with most of our respondents. According to Hantrakul (2021b), when used properly, music AI “shines a light” on cultural traditions and “causes this re-imagination and re-invigoration of the culture in a way that's very, very different” to previous forms of technology. Li (2021) relates this extension through music AI to a physiological metaphor: “Musicians now have an extra leg to walk. I don’t think musicians will give up on traditional ways of making music just because of the emergence of new technologies.”

Whereas the enrichment and extension of traditions are both seen on societal and on individual levels as indicated by the previous quotes, several respondents explicitly emphasize the societal dimension of well-being. Li (2021), for instance, states that “AI is good as long as such good technologies are used to help mankind. Some may lose jobs, but we have to look forward. ... If we can combine these two [traditional arts and AI] and make something new out of it, then it is the best. This is how society as a whole develops.” Regarding redundancy from the involvement of AI, Ishiguro (2021) believes that AI “will make people more productive. People will be needed for new jobs. There will be better jobs.” Ishiguro also mentions that there is a responsibility for those who profit from these technologies to pay in the society in which they are operating:

“Companies earning lots of money by AI and robots are paying a lot of tax in Japan. These taxes support health insurance for all. The companies need to pay the tax in their country, otherwise AI and robot technology will cause a serious problem and polarization among the people.” (2021)
Returning to the Aristotelian concept of eudaimonia, Hongladarom (2021) asserts that “for music AI, elevation of knowledge, value, and understanding come to the fore.” Kapur (2021) agrees that East Asian philosophies may promote an ethical approach to music AI that will ultimately lead us to a “higher place of knowledge and truth.” In that sense, the extension of musical practice becomes instrumental in extending one’s horizon for ethical consideration and - consequentially - for well-being.

**Practical Perspectives on Ethically Aligned Design Principle ‘Misuse’**

The EADv2 principle ‘awareness of misuse’ (IEEE, 2017) argues that AI developers should be aware of how the technologies they develop can be used in ways they did not intend, and in particular to reduce the risks associated with such misuse. Another aspect to consider here is that misuse could arise from a failure of the system to operate in the way hoped for by its engineers – which can be a mode of operation sought by and exploited by artists. As discussed in our ISMIR paper, this necessitates identifying a range of stakeholders and their interests in reference to moral principles specific to their cultural context. One may prioritize harmonizing these interests, or seeking to avoid causing suffering in ‘sentient beings,’ or minimizing the disruption of community or culture. We discuss these principles below in reference to the ‘Tone Transfer’ application developed by Hantrakul in Google’s Magenta DDSP team, which was deployed in India.

Tone Transfer is a unique sound synthesis system that learns from sound recordings how to imitate timbral characteristics of a particular musical instrument. With Tone Transfer one can, for instance, whistle a melody and then synthesize it with the sound of a flute or violin. Hantrakul (2021b) mentions that this application “doesn’t make any kind of cultural decisions on how the technology needs to be implemented” – although the design of Tone Transfer explicitly emphasizes musical material where pitch is an important attribute, rather than, for instance, rhythm. Nonetheless, Hantrakul shows a unique awareness of how his application could be misused, could unintentionally cause harm, and how to address these risks.

Hantrakul (2021b) highlights that Tone Transfer has limitations in recreating sounds of some instruments, and such a “failure” could potentially motivate negative impressions of the imitated instrument. Furthermore, Tone Transfer can divorce a musical instrument from its cultural practices, which may not be an issue for a violin, but could be for instruments used in sacred settings:

“[Tone Transfer] is immediately applicable to so many different kinds of sounds and music from different countries. [But if] you just blindly include [traditional] instruments ... then any kind of failure of the model might actually cause [people] to completely misinterpret and perceive the original music in a completely different way.” (Hantrakul, 2021 b)

In his experiments with Tone Transfer, Hantrakul made a conscious decision to not include some instruments because of such failures, such as the *guqin* – China's ancient and venerated
7-stringed zither. According to Hantrakul, when he presented to a friend from China the re-contextualized *guqin* sound created with Tone Transfer, the reaction was less than enthusiastic:

“... I would show it to my friend, who's from China, and who would be like, no, no, no... And that was a very important learning experience for me, because I feel like before that moment, I was just going... yeah, all sounds, more instruments! But then I realized that you have to be a lot more careful than that.” (2021b)

For Hantrakul, the risks of misrepresentation and cultural appropriation are especially high when a product modelled after such non-Western instruments as the *guqin* are presented to a predominantly Western audience, who have very little idea about the original sound, history, and cultural context of the instrument. To tackle these problems, Hantrakul (2021b) highlights the importance of involving practitioners in the development of Tone Transfer models. This was put into practice in the development of Sounds of India – ‘a unique and fun interactive musical experience launching for India’s 74th Independence Day, inspired by Indian tradition and powered by machine learning’ (Hantrakul, 2021b). Hantrakul’s group worked with professional Indian music practitioners to build Tone Transfer models of three traditional instruments: bansuri, shehnai and sarangi. They then created an interactive phone application deployed to users in India familiar with those instruments, who could sing into their phone and hear their melody performed with those instruments. Hantrakul shares:

“To have important figures in the destination community essentially be the ones that disseminate the technology, and having them be part of it, I think, is really important. Because I didn't grow up and was not raised in India, so I can't make cultural calls. So I feel like that was really important. I would say that that's a very important learning experience for me from practicing it in the field.” (2021b)

When asked about the potential ‘misuse’ of music AI systems, Rao (2022) emphasizes that in her development of audio analysis tools, she is focused on delivering scientific findings rather than personal opinions or judgements. For this reason, she is careful not to take advantage of the power of scientific data and tools to make overly generalized, cross-cultural comparisons of different music systems – such as those between Indian music and Western music. “Any kind of misunderstanding [that results from such judgements] can be a kind of misuse,” she states.

Meanwhile, in our interviews, several respondents mention that they aim to “empower” musicians with the tools they are building, recognizing that a potential misuse of music AI could be its replacement of human musicians, which is discussed above. Herremans (2021) admits, “A lot of people are afraid that generative AI systems may replace composers. I don’t believe we are quite there yet, nor that this is what the systems will do. If anything, we hope to empower musicians.” Lee at Supertone also relays this:

“When we talked to musicians (singers) about our technology, there were two very different reactions: one is to use this technology as a disruptive tool to further advance their artistic expressions, while the other views our technology as a replacement of...
human artists. We do understand and respect two conflicting perspectives and hope that our technology helps musicians to expand their artistic expressions.” (2021)

**Philosophical Reflections and Extended Thoughts**

On the WWW homepage of Music X Lab (Music-X-Lab, 2019), a research space that operates at the intersection of music and AI at NYU Shanghai and directed by Gus Xia, one can find a number of quotes written in Mandarin Chinese that find their origins in such Confucian and Daoist classics as the *Daodejing*, *The Analects of Confucius*, *The Book of Rites*, and the *Classic of Poetry*. Written under the large title text of ‘Music X Lab,’ for instance, is a Chinese phrase, the first half of which is a Daoist teaching stating that ‘the great note sounds faint’ (大音希聲 dayi nixisheng), and the second half of which substitutes the character ‘human’ (人 ren) – the first character in the Chinese translation of artificial intelligence – with ‘benevolence’ (仁 ren), an essential Confucian concept, and ‘work/labor’ (工 gong) – the second character in the Chinese translation of artificial intelligence – with ‘merit’ (功 gong), another influential concept in Chinese philosophy. In addition, under the subtitle text of ‘Deep Music Generation’ is another Chinese phrase combining essential Confucian and Daoist teachings that can be translated as: ‘Give a single instance, [and then] draw three inferences (举一反三 juyi fansan); three [then] produces the myriad creatures (三生万物 sansheng wanwu)’ (Van Norden and Ivanhoe, 2005; Watson, 2007)

This shows that early efforts are being made to bridge the new world of music AI with philosophical teachings of Asia. This is also clear from our interviews with leading AI researchers and practitioners in the region, the last question of which asks whether respondents have ever considered how traditional systems of thought they are familiar with may inform their work and ethical thinking about AI. According to Li (2021), while deeper engagements with such questions are yet to happen, discussions about how Chinese philosophy and religion may impact our thinking about music AI occur frequently among his colleagues at CCOM.

Hantrakul, coming from a society where more than ninety percent of the population is Buddhist, reflects upon how the core Buddhist teaching that relates the human condition to one of suffering may impact the heated debate on the ‘humanness’ of AI systems: “If you literally use that version of Buddhism, that teaching, I feel like then you would say that a system is sentient if it can suffer” (2021b). Team H:Ai:N (2021) quotes another notion from the Buddhist scripture that nullifies the absolute distinction between “the one” and “the whole,” applying this perspective to the intertwined relationship between each node of AI and the larger neural networks, stating: “with this metaphor ... no small element in the learning process of an AI model (ex. even one single feature of many datasets) should violate the ethical criteria (we outlined previously).” Contemplating what ‘ethical work with AI’ may signify, Team Chepang (2021) cites *Bhagavad Gita*, an ancient 700-verse Hindu scripture: “You have the right to work, but never to the fruit of the work. You should never engage in action for the sake of reward, nor should you long for inaction.”

In response to this last question of our interview, Wu (2021) asserts that at the root of everything (including our work with music AI) is the notion of ‘pure knowing’ (良知 liangzhi),...
citing here a central concept in Neo-Confucian philosopher Wang Yangming’s ‘learning of the mind-heart’ (心學 xinxue) that in its narrow sense refers to the capacity of moral judgment and maintenance of moral knowledge and standard (Lu, 2017). “Merely developing technology without attending to it with humanity and without learning more about humanity itself – in other words, technology that is not guided by the ‘benevolence’ (仁 ren) of humanity – is extremely scary,” Wu shares his concern. Finally, Hongladarom (2021) - a professor of philosophy and scholar of Buddhism - points out that when it comes to music AI, the problem of “agency,” “authenticity,” and “elevation of knowledge, value, and understanding” will remain topics that the religious and philosophical traditions of the East pay much attention to.

A few issues surface from our interviews that deserve closer examination in future work. First, when asked about the ethics of music AI, nearly all of our respondents acknowledge the importance of the issue at stake, but more than one of them mention that this is a problem for “others” to figure out, referring in some instances to “big players in this field such as Google or OpenAI” or to unspecified “scholars” (Anonymous, 2021). This points to a less-than-clear practitioner-scholar/thinker divide in the field of music AI: even when most of our respondents occupy full-time academic positions and are hence “scholars,” some state that their job is “simply to make things happen,” delegating the task of “thinking critically about ethical issues in music AI” to, in this case, “other scholars” (Anonymous, 2021). One respondent says that they will await the “big players in this field” to sort out ethical issues, which shows the considerable influence of large corporations such as Google and OpenAI in mapping out the industrial and, embedded within, ethical landscape of the field of music AI. Should they really be relied upon to address issues that are extraneous to the services they provide, e.g., targeted advertising?

Second, while this chapter aims to provide perspectives that can lead to a more culturally informed ethics of music AI in Asia, we in no way intend to overlook intra-cultural diversity and, in other words, downplay the fact that Asia is in itself an extremely heterogeneous space. It is for this reason that we highlight multiple viewpoints here even when they diverge. For instance, different from Ishiguro’s observations that inter-cultural differences exist when it comes to general attitudes towards AI between East Asian and Euro-American societies, when asked what the main difference is, if any, between deploying music AI in Korean societies and other societies, Lee of Supertone (2021) argues that to him the difference is “more personal than cultural/societal.” When reflecting on the fact that Japan is not a very “tiered society” where clear distinctions are drawn between humans, animals, and robots, for instance, Ishiguro (2021) disagrees with other scholars who have attributed this characteristic of Japanese society to Shintoism or Buddhism. Instead, he proposes an “island hypothesis”:

“In Japan, we are living on a small island. And our family history is the longest in Japan, longer than 2000 years … Japan is just a big family. We don’t need to distinguish between humans and robots, and humans and humans. This is the most important Japanese idea … It comes from geography.” (Ishiguro, 2021)

Conclusion
This chapter contributes an empirical perspective to our call for a pluralistic, cross-cultural perspective on ethics of music AI. Technologies and the engineering practices that produce them benefit from increased diversity, just as cultural expressions such as music flourish when they come in myriad shapes, each adapted to cultural and personal preferences. The intertwinedness is likely to be taken to new levels by humans working with AI. Our respondents come from a diverse set of cultural, musical, and technical backgrounds, and agree in essence to the mutual effect of developments in culture and technology. As most of them are developers of music AI, a strong enthusiasm outweighs skepticism, but the majority expresses an acute awareness of the impact of music AI as a force powerful enough to transform musical and cultural practices.

The respondents offered their perspectives on three dimensions of ethically aligned design (IEEE, 2017), namely human rights, well-being, and misuse. Whereas some of the perspectives may not differ widely from those that would have been obtained from engineers of other origins, the aim of our endeavor to include multiple voices is not to construct difference. Instead, the aim is to de-center and de-colonialize our existing critical paradigms to include a larger range of philosophical and practical angles when thinking about notions central to ‘ethically aligned design.’ One complementary angle offered in this chapter, for instance, is how traditional forms of music may be reinterpreted, re-enacted, and potentially revitalized through music AI. In this context, a tension can be observed between the slow process of learning from cultural informants, and the fast pace enforced by increased funding and public attention towards music AI in East Asian societies. It remains yet to be explored how other dimensions of ethically aligned design such as accountability and transparency may be interpreted from non-Western perspectives.

Ultimately, the present attempt to add some empirical data to our previous considerations of these three ethical dimensions is necessarily incomplete. But as it is with considerations of ethics, the outcome is not a definite set of strict rules, but a body of knowledge to guide us to decisions that promote human flourishing. Given the limitations of our work presented so far, we finish this chapter in the same way as Kapur ends every one of his presentations:

“‘Namaste’ - what it actually transcribes into is “I lower my ego in the presence of you so that we can search for knowledge and truth” ... I am sharing my idea but I am sharing it with you so that together collectively we can get to a higher place of knowledge and truth. If we bring that type of attitude to solving these problems - we can solve them.” (Kapur, 2021)

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