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Exploring the impacts of artificial intelligence on freedom of religion or belief online

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ABSTRACT

Freedom of religion or belief is an essential right for building pluralistic and tolerant societies which can sustain a multiplicity of competing ideas. However, the opaqueness of artificial intelligence systems on the Internet represents a challenge to the protection and enjoyment of this and other human rights. Although AI has generated interest in the human rights literature, these studies have largely focused on AI and its impact on freedom of expression and privacy, leaving other rights such as freedom of religion or belief neglected. As part of a broader research project to expand the academic conversation about AI and human rights, this paper will examine the impact of artificial intelligence on freedom of religion or belief online. The paper will focus on the worship, teaching, observance, and practice associated with freedom of religion or belief alongside the impacts of AI in content display, content moderation, and online privacy. The paper will offer preliminary policy recommendations to encourage discussion on policy approaches to AI development and deployment which incorporate protections for freedom of religion or belief in the era of artificial intelligence.

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Introduction

Artificial Intelligence's increasing importance and capture of the popular imagination has encouraged vigorous discussion and debate within academic and policy circles about its implications. Much of the debate has focused on ensuring that the development of AI will be ethical. AI ethics boards have become commonplace around the globe. Prominent examples include the European Commission's high-level expert group and the Global Partnership on AI, an international secretariat focused on developing human-centric AI hosted by the OECD.[1] Simultaneously, states around the world have sought to harness the potential of AI to gain strategic advantage in business, cyberwar, research, and economic development.[2] These twin conversations have dominated much of the discourse and resulted in many AI ethics and consulting firms, NGOs, and academic centres.

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Beyond conversations about ethics and competition, NGOs, activists, and scholars have focused on how AI will interface with international human rights. Given the dystopian popular framing of AI as omnipresent and omniscient in films like *2001: A Space Odyssey, Her, Blade Runner, The Terminator,* and others, these discussions have largely focused on the potential impact of AI on the right to privacy and freedom of expression on social media and the broader Internet.[3] The focus on these human rights found popular resonance with invasive Internet advertising, automated chatbots, and global disinformation campaigns. Indeed, much of the literature on AI and human rights has been focused on these 'charismatic' rights, although recent research is increasingly incorporating other human rights in studies on AI.[4]

The purpose of this paper is to broaden the academic discourse on AI and human rights by examining the impact of AI on freedom of religion or belief online. With the indivisible and mutually reinforcing nature of human rights, the analyses and research taken or not taken during this nascent stage of AI development will set the course for the development of human rights online in the age of AI. In addition to sources from United Nations, this paper will mainly draw from European Convention on Human Rights due to its comparatively high freedom of religion or belief caseload.

This paper will first define AI and provide a brief overview of freedom of religion or belief, followed by a discussion of the intersection of freedom of religion or belief and freedom of expression. The paper will then move into outlining freedom of religion or belief online in the context of worship, teaching, observance, and practice. After touching on freedom of religion online and offline, the discussion will move into threats to right online, namely algorithmic censorship and its constituent elements of content display and content moderation. Finally, the paper will conclude with policy recommendations for states and technology companies.

Defining artificial intelligence

There is no widely accepted definition of artificial intelligence. It is commonly envisioned to be comprised of two subfields, namely narrow and general AI, both powered by algorithms.[5] Broadly speaking, narrow AI seeks to imitate human behaviour through analysing input data to give a desired output, attempting to 'derive a rule or procedure that explains the data or can predict future data'.[6] Social media feeds, online shopping recommendations, automatically generated music playlists, and much of what powers the commercial Internet utilise narrow AI. Well-known examples include Google's AlphaGo which defeated the world's top Go player Ke Jie, DeepBlue which defeated world chess champion Garry Kasparov, and Google's anti-suicide system which provides psychological support recommendations based on search terms.

Narrow AI is comprised of machine learning, deep learning, and reinforcement learning.[7] Former UN Special Rapporteur on Freedom of Expression David Kaye defines machine learning as 'techniques used to train algorithm to use datasets to recognise and help solve problems'.[8] Machine learning systems are 'set a task and given a large amount of data to use as examples of how this task can be achieved or from which to detect patterns. The system then learns how best to achieve the desired output'.[9] It is important to note that machine learning systems are trained using human-selected data. For example, to train AlphaGo, a database of 30 million human Go games was

used, which then informed the system as it began to play games against itself and learn from its own mistakes.[10]

The key difference between machine and deep learning is how the algorithmic learning model improves. In machine learning, a human programmer must intervene to improve the model or modify the results. Deep learning, however, is modelled on the neural pathways of the brain with algorithms self-modifying and improving based on earlier results of the deep learning system and data inputs.[11] As a result, according to Microsoft, a deep learning system can 'learn through its own data processing'.[12] Self-driving cars are an example of deep learning systems which improve based on their own interpretation of data.

Reinforcement learning is essentially autonomous and self-learning. These systems can generate their own data, learn from success and failure and require little to no human data input. Microsoft Research states that reinforcement learning is 'an approach to machine learning that learns behaviours by getting feedback from its use'.[13] Again, Google's AlphaGo is an example of this approach. AlphaGo played games against itself, learned from its own mistakes, and then played new games against itself with the resulting data, continuing to reinforce and refine its ability to play.

What narrow AI models have in common are the algorithms which are used to analyse the inputted or generated data. Algorithms are groups of instructions for computers which guide the computer to process input data. Kaye defines them as ' … code designed and written by humans, carrying instructions to translate data into conclusions, information or outputs'.[14] Since algorithms are developed by engineers and computer programmers, their development reflects geography, social and cultural practices, social class, race, gender, and the conscious and unconscious biases of those developers.[15]

The outputs of machine learning have become instrumental in the operation of organisations and government institutions. Utilising the outputs of AI to inform the decision-making process is termed 'algorithmic decision making'.[16] Its use includes predictive policing in New Orleans and Chicago [17], social media content moderation[18], and employment decisions[19], among others.

Beyond narrow AI, the other main AI subfield is general AI. General AI attempts to develop systems which can act as accurate substitutes for human behaviour.[20] These systems seek to emulate famous AI such as 'Samantha' in the 2013 movie *Her* or the HAL 9000 computer in the 1968 film *2001: A Space Odyssey*. As of 2021 no general AI system exists, and many scholars contend that it is debatable whether AI will ever reach this stage of sophistication. Some optimistic scholars believe the earliest date of general AI's emergence would be 2099.[21]

Understanding freedom of religion or belief

Article 18 of the Universal Declaration of Human Rights (UDHR) states:

> Everyone has the right to freedom of thought, conscience and religion; this right includes freedom to change his religion or belief, and freedom, either alone or in community with others and in public or private, to manifest his religion or belief in teaching, practice, worship and observance.

The International Covenant on Civil and Political Rights (ICCPR) Article 18 also states:

(1) Everyone shall have the right to freedom of thought, conscience and religion. This right shall include freedom to have or to adopt a religion or belief of his choice, and freedom, either individually or in community with others and in public or private, to manifest his religion or belief in worship, observance, practice and teaching.
(2) No one shall be subject to coercion which would impair his freedom to have or to adopt a religion or belief of his choice.
(3) Freedom to manifest one's religion or beliefs may be subject only to such limitations as are prescribed by law and are necessary to protect public safety, order, health, or morals or the fundamental rights and freedoms of others.
(4) The States Parties to the present Covenant undertake to have respect for the liberty of parents and, when applicable, legal guardians to ensure the religious and moral education of their children in conformity with their own convictions.

And finally, the European Convention of Human Rights (ECHR), Article 9 states:

(1) Everyone has the right to freedom of thought, conscience and religion; this right includes freedom to change his religion or belief and freedom, either alone or in community with others and in public or private, to manifest his religion or belief, in worship, teaching, practice and observance.
(2) Freedom to manifest one's religion or beliefs shall be subject only to such limitations as are prescribed by law and are necessary in a democratic society in the interests of public safety, for the protection of public order health or morals, or for the protection of the rights and freedoms of others

Additionally, General Comment 22 on the right to freedom of thought, conscience and religion, holds that the right to freedom of religion or belief 'encompasses freedom of thought on all matters, personal conviction and the commitment to religion or belief, whether manifested individually or in community with others'.[22] This wide-ranging right is a cornerstone right in the development of democratic and pluralistic societies, foundational in the development of a rights-based dialectic between self and other, and plays an important role in fostering tolerance and diversity.[23] Indeed, former UN Special Rapporteur on Torture, Manfred Nowak states that this right is the nucleus of the ICCPR because it demonstrates that 'the individual as a rational being is master of his or her own destiny'.[24] Beyond this, Bielefeldt, Ghanea, and Wiener argue that freedom of religion or belief is a right which facilitates 'combating discrimination, indoctrination, negative stereotypes, harassment of minorities, and persecution of dissidents' as well as facilitating critical inquiry on the meaning of 'humanism, Enlightenment, modernity, liberalism, secularity, equality, and diversity'.[25] What Bielefeldt et al. call a 'complicated' human right encompasses broad categories and the 1981 UN Declaration on the Elimination of All Forms of Intolerance and of Discrimination Based on Religion or Belief has deemed it essential to any conception of life, mandating its protection and supporting active efforts to eliminate religious or belief-based discrimination to ensure the enjoyment of this right.[26] The human rights instruments and commentary above outline some of the specific protections for the freedom of thought,

conscience, religion or belief (hereafter referred to as freedom of religion or belief or FoRB) in international human rights treaties ratified by 173 countries.

The treaties outline two aspects of this right: the right to hold a religion or belief, and the right to manifest it. Within the literature, these are termed the *forum internum* and the *forum externum*, respectively. The *forum internum* is the inner dimension of belief or thought, and the protection of the *forum internum* is held to be inviolable, specified in General Comment 22 of the Human Rights Committee which states that the right to freedom of religion or belief 'does not permit any limitations whatsoever on the freedom of thought and conscience or on the freedom to have or adopt a religion or belief of one's choice'.[27] This protection is absolute and per Article 4.2 of the ICCPR and Article 1 of General Comment 22 there can be no derogation from Article 18 during a national emergency which threatens the existence of the state.[28]

The function of this is to protect the inner ability of individuals to develop, hold, or change thoughts or beliefs as a fundamental element of human selfhood. The *forum internum* is also considered foundational for democratic society and for sustained critical thought.[29] Jurisprudence has also held that it is to be free of interference by states or private actors, maintaining that individuals have a right to not reveal their thoughts or opinions, to not have those thoughts or opinions manipulated, and to not be penalised for their thoughts.[30] Heiner Bielefeldt believes that violating this inner core of selfhood through force or coercion can lead to self-betrayal and damages the ability for an individual to develop stable self-respect.[31] Further, this right protects not only those with explicit religious beliefs, but is vital to protect the rights of agnostics, skeptics, atheists, and individuals who have little to no interest in religion.

The *forum externum* governs the external manifestations of the right to freedom of religion or belief, specifically articulated as the right to manifest 'alone or in community with others'. Manifestation has been both defined conceptually by scholars as well as specifically in various human rights instruments. Four manifestations are recognised in article 18 of the ICCPR and UDHR and article 9 of the ECHR: practice, observance, teaching, worship. Conceptually and theoretically, these manifestations take multiple overlapping forms, with former UN Special Rapporteur on Freedom of Religion Heiner Bielefeldt stating that these manifestations encompass:

> searching for an ultimate meaning or by giving up such an enterprise, by adopting a belief or by changing it, by communicating on religious questions with others or by disagreeing with their convictions, by building communities or by leaving a particular group, by manifesting their religion or belief publicly or by insisting to be left alone.[32]

As a right to freedom, it allows for individuals to find their own way by exploring religion or belief or advocating against it, and this freedom to choose or not choose, or to remain uninterested or unsure empowers people to actualise the agency to fully enjoy the freedom of religion or belief.[33] This includes the right for individuals to not practice a religion, and to not disclose or be coerced or compelled to reveal their choice or religion in public, in private, or to any office of the state or to state authorities.

The protection of manifestation includes the right to adopt or change a religion or belief, to worship through ritual acts, build places of worship, display religious symbols, use ritual objects, observe days of rest and be protected from religious coercion or pressure.[34] It also includes protecting the right of individuals to have safe places to

worship together and to 'make, acquire and use to an adequate extent the necessary articles and materials related to the rites or customs of a religion or belief;'.[35] Article 18 of the UDHR and ICCPR and Article 9 of the ECHR also protect holidays, the appointment of clergy, and the right to teach and disseminate religious materials as well as communicate with groups and individuals nationally and internationally on religious matters, and the right to conscientious objection. Other resolutions and court rulings from the UN Commission on Human Rights, General Assembly, and elsewhere have reaffirmed the right to protection from state discrimination on the basis of religion, and the encouragement of pluralism in domestic religious thought as well as the protection of religious minorities in states which have a dominant or official faith.[36]

However, for the purposes of analysing the impacts of AI on FoRB in this paper, manifestations of FoRB will be understood as those articulated in article 18 of the ICCPR and UDHR and article 9 of the ECHR: practice, observance, teaching, worship. The purpose in doing so is to ensure that this preliminary analyses of AI and FoRB online utilises a broadly recognised framework for understanding manifestations of FoRB in order to better understand both the impacts of AI as well as to discuss potential remedies.

Former Special Rapporteur on FoRB Bielefeldt believes that freedom of religion or belief is a controversial and complicated right which has been subject to significant debate and clarification in numerous human rights court cases and through multiple UN resolutions and reports.[37] The right itself has an important relationship with Freedom of Expression such that the UN has made clear that these rights are deeply entwined.

The intersection of freedom of religion or belief and freedom of expression

Human rights are interdependent and the exercise of one human right must not undermine the exercise of other human rights. To that extent the right to freedom of religion or belief intersects with other human rights, most notably the right to life and liberty, the prohibition on torture, and freedom of expression.[38] However, freedom of expression has a special relationship to freedom of religion or belief. Bielefeldt et al. believe that these two rights are pivotal in the history of human rights and that they are entwined through distinguishing two distinct aspects of legal protection, namely the *forum internum* and the *forum externum*.[39] Further, Nowak believes that freedom of opinion (expression) and FoRB are the nucleus of the ICCPR.[40] From the perspective of artificial intelligence and human rights online, the intersections of freedom of expression and FoRB are especially relevant. It is important to distinguish if and how freedom of religion or belief manifest online and what separates it from online expression. Indeed, the intersection of freedom of expression and FoRB has been the subject of multiple resolutions, comments and reports from various UN bodies, along with formal acknowledgement of the unique and important overlap between these rights:

> the close interrelatedness of freedom of religion or belief and freedom of opinion and expression is not confined to mere parallelisms in normative formulations within the covenant; the interrelatedness is also a practical one, as the two rights mutually reinforce each other in facilitating free and democratic societies.[41]

The right to freedom of expression and freedom of religion or belief are often portrayed as being at odds, for example in the controversies surrounding the Danish

cartoon representations of the Prophet Muhmmad.[42] The perception is that 'freedom of expression seems to signal a "green light" to all sorts of provocation, while freedom of religion or belief appears to function more like a "stop sign" to provocation'.[43]

However, these rights exist on a legal continuum and any attempt to restrict one right will restrict both: limiting how people can think and what they believe will limit how and what they can express.[44] As current UN Special Rapporteur on Freedom of Religion or Belief Ahmed Shaheed warns, an environment where expression is limited is likely to limit thought or belief and vice versa.[45] This legal continuum is articulated by Evans [46], referring to the European Convention on Human Rights (ECHR):

> all forms of thought, conscience and religion or belief will amount to 'ideas' or 'opinions' the expression of which is protected under Article 10 [Freedom of Expression] … In other words, Article 9 [Freedom of Religion or Belief] addresses a sub-set of ideas and opinions. [47]

If the two rights exist on a continuum, then some distinction must be made between expression of an opinion and an expression of religious conviction or belief. In the case of *Campbell and Cosans v. the United Kingdom* and *Arrowsmith v. the United Kingdom,* the European Commission on Human Rights ruled that beliefs are held to a higher standard than opinions or expressions [48] and constituted 'views that attain a certain level of cogency, seriousness, cohesion and importance'.[49]The UN has likewise held that a sincere belief that one holds, whether religious or not, informs how one lives – it is one of the 'fundamental elements of his conception of life'.[50]

What differentiates these sincerely held beliefs from expressions of opinion is that they 'reflect an existential desire to actually live in accordance with one's religious or other conviction, for instance by observing certain dress codes or dietary restrictions, thus exceeding mere communicative 'expressions'.[51] While the distinction is often difficult, Bielefeldt [52] argues, 'earnestness and comprehensiveness' with regard beliefs can serve as a further guide towards distinguishing between the rights to FoE and FoRB. However, the sincerity of held opinions does not necessarily qualify them as a 'belief', as in the case of *Pretty vs. the United Kingdom* which found that a terminally ill woman's desire to die by euthanasia did not constitute a deeply held belief protected by the right to FoRB.[53]

Of particular concern is how the two rights interact with regards to their respective limits. When does defamation of religion amount to an attack on a faith, and when does the right to manifest a belief impinge on the rights of others to critique it? Former UN Special Rapporteur on freedom of religion or belief Asma Jahangir and former UN Special Rapporteur on contemporary forms of racism, racial discrimination, xenophobia and related intolerance Doudou Diène clarify this by stating that:

> The right to freedom of expression can legitimately be restricted for advocacy that incites to acts of violence or discrimination against individuals on the basis of their religion. Defamation of religions may offend people and hurt their religious feelings but it does not necessarily or at least directly result in a violation of their rights, including their right to freedom of religion. Freedom of religion primarily confers a right to act in accordance with one's religion but does not bestow a right for believers to have their religion itself protected from all adverse comment.[54]

What is protected in the right to FoRB are the individual believers, and not the belief system itself.[55] Thus, a final aspect of the relationship between these two rights is to discern the line between when expression harms FoRB. This specific power of freedom

of expression to impact the rights of others is addressed in article 19 of the ICCPR and General Comment 34 which state that the right to freedom of expression has 'special duties and responsibilities' and subject to certain restrictions, specifically in the case of 'respect of the rights or reputations of others'.[56]

Respect in freedom of expression as it relates to religion or belief is exemplified in the case of *Otto-Preminger-Institut vs. Austria* which dealt with an allegedly blasphemous film dealing with sexual tension between Mary, Satan, and Jesus Christ that was banned in Austria. The filmmakers brought a suit to The European Court of Human Rights alleging that their freedom of expression was violated. The Court supported the ban, ruling that while 'Those who choose to exercise the freedom to manifest their religion … cannot reasonably expect to be exempt from all criticism', the film was made in a 'malicious violation of the spirit of tolerance' and did nothing to further religious debate or discussion.[57]

There are numerous distinctions between expression and manifestations of religion or belief, however similar the two may seem. This is important as online platforms have yet to articulate their approaches to manifestations of freedom of religion online, preferring to relate to content from a freedom of expression model. Further, while there have been multiple UN reports on freedom of expression online, FoRB online has not been the subject of significant discussion.

Understanding freedom of religion or belief online

To address the issues of AI's impacts on the right to FoRB online, it is useful to examine how religion manifests online through the lens of digital religion studies. Digital religion, as an academic field, is primarily concerned with understanding how religious practices evolve online and how they interface with other elements of religious worship, teaching, practice, and observance.[58] On the other hand, other scholars in the field see digital religion as not interfacing necessarily with online and offline contexts but being its own 'third space' of purely digital religious manifestation and should be evaluated as such without reference to offline manifestations of religion.[59] Still more scholars examine both how religious beliefs are brought into digital spaces and how these digital manifestations impact digital expressions of religion.[60] Each of these perspectives informs digital religion and is useful in understanding how FoRB manifests online.

Due to its broad focus on the manifestations of religion online, literature from digital religion will be used to outline the four manifestations of freedom of religion or belief outlined in the ICCPR, UDHR, and ECHR: worship, teaching, practice, and observance. It is important to note that while overlap exists between these four manifestations, they nonetheless provide useful conceptual distinction for examining the impacts of AI on FoRB.

Worship

Worship is fundamental to the practice of religion and represents an important way through which religious beliefs are manifested in life. Worship has been held by courts to include 'ritual and ceremonial acts (in or out of temples), religious rites with the

occasion of birth, matrimonial rites, funerary rites, and celebration of religious holidays'.[61] UN Human Rights Committee General Comment 22 defines worship as

> ritual and ceremonial acts giving direct expression to belief, as well as various practices integral to such acts, including the building of places of worship, the use of ritual formulae and objects, the display of symbols, and the observance of holidays and days of rest.[62]

Further, the European Court of Human Rights held that the worship includes the right to construct accessible places of worship.[63]

Helland's [64] case study of the embrace of the Internet by Tibetan Buddhism is especially relevant to demonstrate how worship can manifest online. The Tibetan Buddhist community regularly uses online sessions with the tradition's spiritual masters to conduct worship sessions and ritual ceremonies focused on scriptural interpretation and the veneration of holy objects.[65] Through the principle of 'co-location' by which a digital space is re-created as a sacred space, worshippers partake in remote-streamed ceremonies with Lamas and other high Tibetan Buddhist masters and which worshippers report as feeling as authentic and real as an in-person ceremony.[66] These ceremonies are considered by believers to be religiously valid, serve to strengthen group identity, and provide meaningful engagement with spiritual teachers who, without the Internet, would not normally be available for spiritual mentorship.[67]

Indeed, to support this acceptance of co-located worship and ritual, various non-profit groups have undertaken a widespread wireless Internet connectivity effort across the Himalayas so that Buddhists in remote villages can worship online in digital spaces which are sanctioned by the Lamas as legitimate spaces for worship.[68] Notably, the Dalai Lama himself has performed highly sacred rituals and acts of worship online for the religious benefit of the Tibetan diaspora, requiring and allowing individual Buddhists to utilise online live video streams on social media to participate on equal footing with in-person Buddhists.[69]

Individuals and groups construe worship online in different ways. Ceremonial and ritual acts have occurred through WhatsApp, live streaming, blogs, and in online forums, across social media, and elsewhere.[70] These acts of online worship take a variety of forms, but all are negotiated and religiously or spiritually co-located in ways which accommodate and incorporate the Internet to make the experience meaningful and enriching for participants. Importantly, online acts of worship require a sense of community or space where the acts can be conducted with privacy, security, and robust connectivity for believers.

Teaching

Religious teaching involves the ability to disseminate religious material or to preach in appropriate spaces, which is not necessarily limited to houses of worship.[71] The European Court of Human Rights has also held that the right to teach also includes the right to proselytise, so long as this right is performed without physical or psychological abuse or coercion.[72] Teaching in this context includes religious teaching of children in conformity with the convictions of their parents or legal guardians, guaranteed in ICCPR Article 18.4 and Article 14.2 of the Convention on the Rights of the Child.

Online teaching includes holding formal online classes using software designed for the purpose. Teaching also occurs in forums, on social media videos, with sermon and prayer groups through WhatsApp. Gray [73] has documented how Muslim women use Facebook Live, WhatsApp, Instagram, and SnapChat to teach a full and broad range of classes on aspects of the Islamic faith, including classes to help other women emerge as teachers within Islam.[74] Given the challenges that many Muslim women have encountered in practicing their faith, let alone becoming teachers, the availability, security, and anonymity afforded by online platforms has opened up opportunities that wouldn't otherwise be available to them.

In light of the COVID-19 epidemic, the Internet has also played a prominent role in maintaining religious teaching when in-person teaching cannot occur. Prior to the pandemic, for youth and children, the Internet and social media were already essential to enhanced engagement and deepening connection to faith. For example, Golan and Martini found that religious and religious educational live-streaming through social media ensures that there is a 'constant presence of the Transcendental' in the lives of young people.[75] The COVID-19 pandemic has exacerbated this by moving religious education exclusively online, ensuring that parents and guardians can continue educating their children in line with their convictions in realisation of ICCPR Article 18.4 and the Article 14.2 in the Convention on the Rights of the Child.[76]

In addition to worship and community building, the Internet has also been vital for adult religious teaching and education during the COVID-19 pandemic. For Newar Buddhists in Nepal, in-person sermons, teachings, and meetings form an important part not only of religious life, but for broader social life and structure.[77] The pandemic resulted in the closing of most temples and religious gathering spaces, threatening to disrupt the last Buddhists in the world to teach using the ancient Sanskrit language. However, members of the community focused on utilising social media, particularly Facebook to teach dharma, instruct other teachers on performances, provide space for classes on religious scriptures and the community's distinct religious use of Sanskrit, and more.[78] Their use of this platform maintained important religious teachings and transmissions, and broadened access to teachers for the faithful.

Observance

Defining religious observance as opposed to practice has been the subject of numerous discussions at the United Nations. In examining nearly 50 years of UN documents, de Jong argues that observances are 'prescriptions that are inevitably connected with a religion or belief and protects both the right to perform certain acts and the right to refrain from doing certain things' while practice includes events which are 'not prescribed, but only authorised by a religion or belief'.[79]

Nonetheless, United Nations Human Rights Committee General Comment 22 outlines that religious observation:

> may include not only ceremonial acts but also such customs as the observance of dietary regulations, the wearing of distinctive clothing or headcoverings, participation in rituals associated with certain stages of life, and the use of a particular language customarily spoken by a group. [80]

It also includes the observance of days of rest and holidays.[81] A day of rest may include a ban on the use of technology, as well as other prescribed restrictions or limitations on behaviour.[82]

Research in digital religion demonstrates that religious observance online can form the bedrock of religious communities and groups. For example, Fitzsimmons, in her research on Muslim and Jewish women religious dress bloggers, found that this form of observance online was 'an aspect of sharing and enacting lived religion, and affirming a different 'ordinary life' than that of the secular mainstream'.[83] These blog networks formed important focal points in inter-denominational and inter-religious dialogue and were 'part of how these women constitute their gendered religious identities'.[84] The presence of these women in social media was an important manifestation of religious observation, yet also 'part of how they subvert expectations of themselves as "oppressed", expectations based on stereotyping or a perceived contrast between their dress and behaviours'.[85] Indeed, the presence of religious observation in social media not only affirmed the women's identities, fostered religious community, but also contributed to a plurality of perspectives and presence online.[86]

Practice

As discussed above, the distinction between practice and observance has been controversial. The conclusion by de Jong [87] is that practices are authorised by a religion but not necessarily prescribed as essential to the faith. Martínez-Torrón argues that practice consists of 'personal actions of different nature, which go beyond teaching or compliance with certain rites or acts of worship'.[88] For example, the European Commission of Human Rights held in *X vs. UK* that the applicant was not required by his Islamic faith to disregard contractual obligations to attend mosque during work hours.[89] Further, the European Commission of Human Rights and UN Human Rights Commission have held that practice must be in a recognisable form such as ritual and devotional acts, including writing and dissemination of texts, soliciting money, establishing institutions, and maintaining and establishing communications networks among the religion's followers.[90]

On the Internet, the manifestation of practice is equally complex. For example, Campbell and Rule [91] discuss the elements of participation in religious practice through watching videos on social media of baptisms or participating in the baptisms at a distance. Likewise, online streaming services provide livestreams of the Jewish Wailing Wall for remote participation, with groups taking emails as prayers to be inserted into the wall's crevices.[92] Indeed, the extension of practice online includes the development of apps for guiding rituals or sending prayers.[93]

In Indonesia, Barendregt (2008) demonstrates that there is a robust and large Islamic mobile app community developing apps to aid in religious practice. Muslim's ethnographic study of the 'One Day One Juz' (ODOJ) movement in Indonesia examined how WhatsApp was central to Islamic practice for the movement's 124,000 followers who are connected via 4,103 WhatsApp groups.[94] The groups are central to the practice of the faith, and include daily Quranic readings, integration into pre-dawn prayers, and religious and spiritual advice and consultation with scholars and experts.[95] ODOJ's WhatsApp groups have become central to the overall religious identity and practice of

many Indonesian Muslims, with single in-person ODOJ events being attended by 75,000 people.[96] Indeed, within the broader Islamic community, Al-Rawi's examination of literature about Muslims online indicated the presence of a 'virtual Ummah' or Islamic community whose focal point was the use of social media as space for religious practice, especially for minority Muslim groups like Latino Muslims in the United States.[97]

An ecosystem of apps designed to support religious practice have emerged and are regularly promoted and discussed throughout social media. These include apps for Catholic confession [98] or Catholic prayer [99], a sabbath texting app for Jewish youth [100], apps to support Pentecostal religious practice in Zimbabwe [101], as well multiple apps to support Jain religious practice.[102] Indeed, the literature on digital religion makes clear that contemporary religious practice and the religious identities of believers are deeply influenced by the confluence of online and offline religious practice.

Freedom of religion online vs. offline

The various UN resolutions and reports do not emphasise specific online platforms, but rather focus on the centrality of state protection for the right to FoRB regardless of platform, as is the case with other human rights.[103] As the case studies of digital religion demonstrate, the Internet has become integral to the faith of millions. This can include, but is not limited to, online forums or groups to discuss scripture, religious memes to build community, blogging as a form of observance, online rituals to support faith, or utilising apps or social media to teach and worship. The focus is on rights of individuals to use the Internet to practice and manifest their religion or belief without interference from the state or private actors.

Thus, manifestations of the right to FoRB online emphasise how FoRB is exercised online, regardless if that is entirely online, such as in confessional apps, or a mixture between online and offline like WhatsApp use in the ODOJ movement in Indonesia. Indeed, the use of the Internet to mediate and transform religion has dated from the earliest days of the commercial Internet.[104] More recently, blasphemy on social media, online religious hate speech, and social media facilitated religious radicalisation have become important aspects of the right to freedom of religion or belief online.[105] These issues have presented social media companies with a struggle between the rights to freedom of expression and FoRB and have involved developing AI solutions to address them.[106] While framed as a problem to be solved, the presence of these issues highlights the importance of religion online. As a result, the other aspects of how religion or belief manifest online, such as peaceful manifestation of teaching online receive scant attention.

The right to FoRB online restructures how all aspects of religion can be understood and experienced: old rituals are recreated in new digital spaces while digital spaces create new relationships to offline rituals.[107] Further, in certain political, social, or health contexts, utilising the Internet may be the only way individuals can practice, worship, or observe their faith with others. This is especially important in contexts where individuals are part of a persecuted religious minority, or in situations such as the COVID-19 pandemic where health concerns limit the ability to worship or practice in community. Freedom of religion or belief online also allows individuals with physical disabilities, or those who cannot afford to travel to religious gatherings or places of

worship to participate in their faith or belief. As researchers in the field of digital religion have noted, as connectivity advances it becomes increasingly difficult to maintain an offline and online dichotomy with religion or belief.

Threats to freedom of religion online

Freedom of Religion online faces various threats due to the actions and inactions of both state actors and technology companies. These threats impact both the *forum internum* and *forum externum*. In his 2019 report, UN Special Rapporteur on Freedom of Religion or Belief Ahmed Shaheed stated that '… the emergence of "digital authoritarianism" through increased surveillance, encroachment on privacy and broad restrictions on expression related to religion or belief has rendered cyberspace a perilous place for dissenters and religious minorities' [108] and that

> Digital applications, for example, are reportedly being used to report allegations of blasphemy, and digital footprints can be used to assess compliance with faith-related observances. In addition, in several cases, social media has been used to incite hatred against religious communities or mobilize hostile or violent responses to offensive expression. [109]

The Association for Progressive Communications' (APC) 2019 submission to the UN Special Rapporteur has emphasised that states must approach the Internet and manifestations of religion or belief online from a rights-based perspective, citing serious concerns for the future of FoRB online.[110] The APC has also called on technology companies to ensure that they do not violate the human rights of their users. Specifically, the APC called for companies to protect FoRB online and ensure that content moderation is guided by international human rights law, improving the diversity of moderation staff, hiring content moderation staff with regional or local expertise, and more.[111]

An important component of FoRB is protection of freedom of thought, or the *forum internum* discussed earlier. This protects our inner world of thoughts and opinions from interference by states or private actors, including protection for how we form our thoughts, whether conscious or unconscious.[112] However, as Alegre and Aswad contend, new technologies such as brain-computer interfaces and algorithms which extract our data to deliver customised content, influence how we think and perceive the world, constituting a violation of the *forum internum.*[113] The Council of Europe agrees, declaring that '[f]ine grained, sub-conscious and personalised levels of algorithmic persuasion may have significant effects on the cognitive autonomy of individuals and their right to form opinions and take independent decisions'.[114] Algorithmic persuasion comes not only from direct conscious engagement with online content, but also from collecting data about what we do not engage with, how long we look at content before deciding to engage, typos, conversations near microphones, and more.[115]

Beyond algorithms, former UN Special Rapporteur David Kaye asserts that individuals using the Internet articulate their opinions 'digitally, saving their views and their search and browse histories, for instance, on hard drives, in the cloud, and in e-mail archives'.[116] The data which Kaye refers to constitutes parts of 'the process through which individuals form and maintain opinions'.[117] As Aswad argues, the business model of 'surveillance capitalism' is to harvest as much of this information about users as possible and utilise sophisticated algorithms to monetise that data. Much of that

data, as Kaye argues above, comes from normal use and reflects both conscious and unconscious awareness. Thus, the data collected about users will reflect things that they may not even be consciously aware of themselves and which can be used to manipulate their thoughts to drive online engagement or other business needs.[118] With the expansion of surveillance capitalism into areas such as insurance, healthcare, finance, as well as expanded use in social media, the possibility exists for users to be penalised for their thoughts or have their thoughts manipulated through differential treatment.[119]

In a 2020 interview with the prominent New York University blog *Just Security*, Shaheed emphasised the importance of social media companies and other actors taking responsibility under the *Guiding Principles on Business and Human Rights* to ensure that their policies and procedures do not violate human rights, such as protection of the *forum internum*.[120] While Shaheed's work has emphasised the importance of minimising online hate speech, religious discrimination, and prosecution due to online blasphemy laws, online threats to the enjoyment of freedom of religion or belief have been largely neglected by the United Nations.

In his 2018 report former UN Special Rapporteur for Freedom of Expression David Kaye outlined a framework for examining how AI impacts freedom of expression online focusing on content display, content moderation, surveillance, and digital profiling.[121] Since freedom of expression is closely related to freedom of religion or belief and the fundamentals of AI online are the same, Kaye's framework is a useful model for examining how the right to FoRB could be impacted by AI.[122]

In this paper, Kaye's framework is combined with sociologist Zeynep Tufekci's idea of 'algorithmic censorship' to examine the threats to freedom of religion online.[123] Algorithmic censorship is concerned with the extent to which algorithm training and software development determines what can or cannot be seen on the broad Internet and the extent to which individuals can proactively interact with and shape their online environments. Finally, privacy considers how AI consensually or non-consensually gathers information about individuals online, what that information contains, how that information is packaged, marketed, and used, and who it is sold to and for what purposes. The remainder of this section will utilise this framework to examine the risks to FoRB from AI.

Algorithmic censorship

Tufekci coined the term 'algorithmic censorship' to describe how algorithms are determining what we can or cannot see online and the extent to which we can interact with content and shape our online environments, manifesting online as content display and content moderation.[124] The algorithms which power algorithmic censorship are programmed by people who are themselves influenced by gender, class, upbringing, culture, and the myriad conscious and unconscious biases which all humans have. The presence of these biases has been noted by researchers in numerous studies of algorithmic bias, racism, and discrimination.[125] The existence of human fallibilities in algorithmic code, which mediates our experiences of social media, search engines, and much of the Internet represents an unacknowledged threat to the right to FoRB online.

To illustrate the dangers of algorithmic censorship combined with unconscious bias, AI developed at Google consistently identified images of African-Americans as gorillas.[126] While there may be many explanations for these results, an important

organisational fact is that less than 2% of Google's workforce was Black.[127] The lack of racial diversity as an organisational check on unconscious bias could have contributed to the AI's inability to correctly identify human beings. With the expanded use of AI in police forces or national security, these biases could have serious implications for human rights, justice, and public safety. Further, the training data used can likewise influence the outputs of AI. For instance, Google's Cloud Natural Language AI determined that the phrase 'I'm a Jew' was negative, after having been trained with biased training data.[128]

Much of the danger to human rights comes from AI's opaque development amongst the 'Big Five' (Facebook, Google, Microsoft, Amazon and Apple) which lacks external oversight.[129] These risks and threats can be multiplied when AI is deployed in contexts which support anti-blasphemy laws, exacerbate religious tensions, or used to target religious minorities by invisibly influencing what content exists or is accessible on the Internet. Tufekci's algorithmic censorship can contribute to online 'gaslighting', leaving users unsure of the content and advertising they see in their social media feeds or search results and simultaneously depriving users of the ability to hold online platforms accountable.[130] Thus, with online platforms stating that AI is regularly used for both content display and content moderation, the widespread deployment of AI could impact the right to freedom of religion or belief online as well as other human rights.[131] The following sections will discuss in more detail how algorithmic censorship in the form of content display and content moderation impact FoRB online.

Content display

Content display involves algorithmic determination of what content appears in social media feeds or search results. With content display, AI systems learn to serve content which generates user interactions by examining data of what users have interacted with previously. The result is that the AI systems typically serve more of the same content, with the emphasis being that content display focuses on what can be *seen* online. For example, a simplistic social media AI system will take as input 'liking' a photo of a bird and serve more bird content as well as other related content which other users who interacted with bird photos have also 'liked'.[132] The data used to display this content can come from one internet browsing session, months or years of social media use, from the data generated by other users you are connected with, or with geographically or demographically aggregated anonymous data.[133] The Council of Europe summarises the role of AI in content display succinctly:

> algorithmic predictions of user preferences deployed by social media platforms guide not only what advertisements individuals might see, but they also personalise search results and dictate the way how social media feeds, including newsfeeds, are arranged. [134]

The current trend in content display towards increased personalisation and customisation is driven by AI.[135] With significant amounts of content generated daily on the Internet, the use of AI systems allows both organisations and individuals to organise, categorise, and work with content efficiently. However, the algorithms which power this efficiency promote certain types of content which itself influences future content to be displayed. On this issue former UN Special Rapporteur on the promotion and

protection of the right to freedom of opinion and expression, David Kaye says 'Artificial intelligence-driven personalisation may also minimise exposure to diverse views, interfering with individual agency to seek and share ideas and opinions across ideological, political or societal divisions'.[136] Further, content display is not only limited to newsfeeds and search results, but includes recommendations for products, 'friends' or connections, groups, videos, and more.

Through the development of the algorithms which power AI, it may de-prioritise certain content with lower levels of engagement and prefer content with higher engagement, meaning that these systems can be manipulated by actors who can thereby develop influence online.[137] Disinformation campaigns in the United States during the 2016 election are an example of this, with Russia's Internet Research Agency manipulating Facebook's algorithms to promote dis/misinformation. These results were successful, with promoted anti-immigrant or hate-speech focused Facebook pages garnering hundreds of thousands of followers.[138] Several of the algorithmically promoted pages held events offline which attracted hundreds of people to fake protests in Houston, Texas.[139]

The power of AI to determine what content is displayed or recommended can pose significant risks to the manifestation of FoRB. As a 'right to freedom', FoRB allows for individuals to choose not to manifest a religion or not have their religious choices made public.[140] Here Nowak argues that the emphasis on freedom demonstrates the defensive nature of FoRB, protecting all aspects of the right to FoRB from interference by the state or other entities.[141] This aspect is especially important for threatened religious minorities, including atheists or agnostics, who may be subject to arrest, intimidation, or torture. Programmatically speaking, AI can make recommendations which could disclose an individual's religious preferences through recommending them to certain friends, advertisers, vendors or other groups or individuals. Advertisers or other consumers of AI-gathered data could be subpoenaed or compelled to reveal individuals who may be part of a targeted religious minority.

This AI-enabled public exposure of private religious choice happens automatically and is based on algorithmic assumptions designed to increase user engagement with a platform. The problem of inadvertent exposure is present in cultures where women's participation online is discouraged or curtailed due to 'family honor'. In Pakistan, in order to avoid inadvertent exposure on social media, many women employ 'digital purdah' or digital female seclusion by maintaining multiple social media accounts to ensure they fulfil religious ideals of the role of women online.[142] In each of these accounts the women are careful to monitor their digital interactions, likes, and friends to limit the potential for inadvertent exposure which could endanger their lives.[143]

Content moderation

With the enormous amounts of content generated each day, online platforms have turned to AI in order to provide moderation.[144] AI powered content moderation responds to reported content, removes offending content, mediates comments, and deletes spam. AI is also used to recommend problematic content for additional review by a human content moderator. Content moderation by AI is a method of governing speech, which involves '… collecting massive amounts of data and applying data analytics techniques to identify patterns and correlations in order to predict trends and

outcomes. Such predictions are followed by automatic filtering or removal of expressions'.[145] The types of content which are moderated depend on the individual platforms as well as the national jurisdictions in which the platform is operating and in which the offending content is situated. Thus, AI powered content moderations focuses on the types of content which *exist* on a platform, in contrast to content display which focuses on what can be *seen*.

Access Now, a leading digital rights NGO, has defined content moderation as the 'practice through which an online service deals with user-generated speech' and thereby can decide what content exists on an online platform.[146] This is significantly different from content display, with the key difference being that content display will prioritise certain content but doesn't remove any content. In contrast, content moderation decides which content should exist on a given platform. Thus, AI can influence how religion or belief manifests online by moderating content related to religion or belief before it is even seen by individuals online, eliminating entire conversations, pages, videos, events, and other content from social media. The potential harm of this approach is significant as it can deprive individuals and groups of the ability to exercise the right to FoRB 'alone or in community with others' by completely eliminating the ability to do so, rather than making it lower ranked or more difficult to find as with content display. For example, with content display, a social media search for an online worship group for women of a minority religion will eventually result in finding the group. However, a similar search for the group when the group has been automatically moderated with AI will give no results.

Similar to how AI is trained for content display, with content moderation the AI system is trained by humans using samples to learn which content should be automatically removed or recommended to human moderators.[147] However, David Kaye has stated that the algorithms as well as the training data used are unavailable for third-party examination.[148] This opaqueness, combined with lack of access to remedy once content is moderated, ultimately results in social media users being unable to know why content was removed or hidden.[149]

Major social media platforms assert that AI can solve content moderation issues related to the manifestation of FoRB such as incitement to religious violence, discrimination, or hate speech, but recent research has demonstrated that AI content moderation is fallible. Indeed, UN Special Rapporteur on Freedom of Religion or Belief Shaheed states that the use of AI content moderation '… can result in the over-policing of certain faith communities and further inhibit communicative action'.[150] Two recent studies have supported this, by demonstrating that AI content moderation tools for hate speech detection are biased against African-Americans. These systems were 1.5 times more likely to mark tweets written by African-Americans as offensive, while also discriminating against other vulnerable groups who utilise non-Caucasian forms of speech.[151] How these systems might automatically censor content related to religion or belief has yet to be studied.

In addition to AI autonomously moderating content, it also recommends content for review to human moderators.[152] Human moderators can lack contextual awareness, language skills, or may have political, social, or religious agendas influencing moderation decisions.[153] These moderators also suffer from psychological stress and burnout, in addition to post-traumatic stress disorder and other psychological risks associated

with repeated exposure to disturbing online content, which can often exceed 25,000 images per day.[154] The serious implications of AI content moderation and human review have been witnessed in Facebook's role in the Rohingya crisis due to the AI's inability to detect or understand nuance in Burmese hate speech and a critical lack of locally qualified human content moderators.[155]

Roberts[156] asserts that human reviewers will continue to play an important and central role in online content moderation for the foreseeable future. She argues that AI's importance is overstated because humans can never be taken out of a central role for content moderation, or at a minimum for training algorithms.[157] Other scholars, like Duarte et al.[158] agree that the current state of AI precludes its ability to provide sole content moderation duties due to significant levels of inaccuracy and the relative ease of manipulation by certain actors. In this case, AI will play a supporting role in content moderation with human reviewers making most of the final decisions.

Nonetheless, AI selects certain content to recommend to human reviewers over other content, in addition to its current role in moderating easily identifiable offensive content.[159] The aforementioned shortcomings notwithstanding, large online platforms such as Twitter, Facebook, and Google have made clear commitments to increasing the use of AI in content moderation, with Facebook going so far as to state that their AI will 'take action on the content automatically'.[160] Therefore, despite controversies and the varying role of AI as either sole moderator or as a moderation-recommender, AI's role in the content moderation process will have a significant impact on how the right to FoRB is exercised online.

While the ambiguity surrounding AI's effectiveness and role in content moderation continues, the widespread coverage in the media of AI and its presentation in films and television may influence vulnerable religious minorities or other threatened groups in how they use online platforms.[161] Religious minorities who use social media may become less likely to use these platforms if they perceive a risk to be discovered or arrested because of AI. Indeed, social media arrests and prosecution have already occurred for cases of blasphemy on the WhatsApp and Facebook platforms.[162] Further, content removal due to jurisdictional content moderation rules where certain religious content is considered blasphemous may be enough to deter individuals from exercising their right to freedom of religion or belief online. The combination of AI opaqueness, media hype and excitement, lack of access to remedy and increased prevalence of AI in content moderation raise the issue of multiple avenues through which AI can impact or harm the right to FoRB.[163]

Privacy

Beyond content display and content moderation, user privacy can play a significant role in exercising the right to FoRB online. The right to privacy is enshrined in Article 12 of the UDHR, Article 17 of the ICCPR, and Article 8 of the ECHR. The applicability of the right to privacy offline to the Internet was clearly established by Resolution 34/7 of the UN Human Rights Council which stated 'the same rights that people have offline must also be protected online, including the right to privacy' [164] and which urged states to 'protect the right to privacy, including in the context of digital communications'.[165] UN Special Rapporteur Shaheed likewise states that intrusions into online

privacy represent a threat to the exercise of FoRB online.[166] Within the context of religion, privacy plays an important role as the right to FoRB includes the right to not disclose one's religion or belief to anyone, including state authorities.[167] Indeed, the European Court of Human Rights has repeatedly struck down practices or requirements which may directly or indirectly force an individual to reveal their religious or belief preferences.[168]

Human rights organisations Privacy International and Article 19 describe multiple challenges to privacy from AI, including non-consensual data collection by consumer products, using AI to identify individuals, AI profiling of individuals based on population-level data, AI-generated inferences of information and identity based on non-sensitive data, and AI decision making.[169] The programmes which ultimately enable AI surveillance are often framed as something which will have positive benefits for society. For example, much of AI's impact on surveillance has been in facial recognition and closed-circuit televisions, smart-policing supported by crime analysis, and in 'smart city' initiatives.[170] Certainly, enhancing public safety and making cities more responsive and responsible are positive goals which AI is touted to enable, but the vast collection of data and the omni-presence of AI contributes to widescale AI surveillance and normalises violations of privacy as the price of 'progress'. Beyond this, AI is used to sift through vast amounts of online data to identify potential terrorists and threats [171], analyse and gather open-source intelligence [172], support medical research [173], anticipate epidemics [174], and more. These are arguably positive and socially beneficial programmes. However, the use of AI in these programmes could contribute to privacy violations if the resultant data is sold by data brokers and available to existing state and corporate surveillance programmes.[175]

As reported by Freedom House, AI is being used by governments around the world to monitor dissidents and silence dissent, identify and deal with threats pre-emptively, and build databases of individuals and groups who are believed to pose dangers to the state.[176] Through surveillance on social media, AI can map a user's contact networks, target and harass journalists, monitor sentiments in postings and comments, gather significant amounts of inferential data about a user without their knowledge, and more.[177] Indeed, governments and law enforcement agencies are actively partnering with AI companies, such as Clearview AI, to identify and develop advanced surveillance systems which can utilise AI to match individuals based on random photographs with their personal information available online.[178] The US Federal Bureau of Investigations (FBI) and other law enforcement already have access to Clearview AI's database of 3 billion photos and have used the programme to 'search by face' in order to identify 'criminals'.[179]

The tremendous expansion in data generation and data analysis via AI, as outlined earlier by Privacy International and Article 19 [180] highlights the growing ubiquity of AI invasions of individual privacy. Due to AI's opaqueness, the exact violations to privacy are unclear, but the idea of automated surveillance of social media and Internet searches can lead to self-censorship by threatened individuals regarding their religious or belief preferences. For example, AI can already infer an individual's religion or beliefs based on the metadata associated with content they publicly like, follow, share, or comment on despite hiding their profiles.[181] This information can be used to identify religious minorities, apostates, blasphemers, atheists, and others whose religion or beliefs make them targets of state surveillance, arrest, or torture.

Further, the enormous quantities of non-consensual data collection which are deliberately or inadvertently collected by AI through the devices in digital life can be subpoenaed by state authorities for the purposes of surveillance, intimidation, or more.[182] For example, using Clearview AI, law enforcement or state intelligence agencies can identify individuals with cross-referenced social media profiles and posts by providing a random photograph of someone from a church, mosque, synagogue, or elsewhere.[183] Already, online surveillance or harassment has been demonstrated to impact freedom of expression, the rights to assembly and association, and other rights.[184] In its groundbreaking story 'Wrongfully Accused by an Algorithm' the New York Times outlined the first case of wrongful arrest as a result of unconscious racist bias in AI facial recognition technologies.[185] Consequently, without proper policy interventions in AI development and deployment, the use of the Internet for practicing, teaching, observing, or worshiping could become threatened.

Policy responses

There is a considerable level of alarmism and hype surrounding AI, both on its positive and negative potentials and reality.[186] Indeed, research which debunks myths surrounding AI, such as recent research disproving that YouTube's algorithm encourages radicalisation, are beneficial for development of clear policy and to avoid technological solutionism or falling victim to fear.[187] Despite the continuing tension between the positive and negative attributes of AI, the consensus is clear that AI will have a significant impact on the Internet, whether that impact is through shaping conversations, fear and uncertainty surrounding AI, or cyber-utopianism about AI's potential.

Academic literature on AI and human rights has largely focused on privacy and freedom of expression.[188] While recent research and reports have highlighted other aspects of AI's human rights impacts, and Alegre and Aswad have studied the impacts of new technologies on freedom of thought and the *forum internum,* no literature has discussed how AI might impact FoRB.[189] The right to freedom of religion or belief is vital to pluralistic societies, and despite the rising prominence of religion and the Internet in the guise of hate speech, radicalisation, or blasphemy, literature on AI and FoRB is lacking. As part of a broader research project to contribute to well-rounded investigations of human rights and AI, this paper offers policy recommendations as a starting point for future policy research on AI and freedom of religion or belief online.

There is a critical and growing level of interest in the AI industry, governments, civil society, and social media platforms to ensure that AI is developed ethically. This has resulted in more than 60 AI ethics initiatives in the public, private, or public-private spheres.[190] Examples of these initiatives include the *Santa Clara Principles on Transparency and Accountability in Content Moderation,* the *Toronto Declaration* for AI development using a framework of international human rights law, the World Economic Forum's *AI Council*, AI industry consortium *The Partnership on AI*, and the state-centric *General Partnership on AI*.

Civil society pressure has contributed to the development of multiple AI ethics boards to help guide companies in ethical AI development. Moving beyond AI ethics, recent research has emphasised the need to ground AI development and implementation within human rights frameworks.[191] Notably, the 2020 report by the UN High

Commissioner for Human Rights clearly articulates the need for human rights law rather than ethics to formulate the foundation for the development of advanced technologies.[192] Despite these notable advancements, Yeung et al.'s notable paper in the *Oxford Handbook of AI Ethics* argues that the continued focus on ethics in AI alongside a lack of clear definitions of those ethics has led to widespread AI 'ethics-washing' resulting in AI ethics becoming 'an empty vessel into which anyone (including the tech industry, and the so-called Digital Titans) can pour their preferred "ethical" content'.[193] As Hidvegi and Leufer [194] argue, this focus on AI ethics lacks the conceptual clarity needed to protect human rights since AI development could be ethical but nonetheless violate human rights. For instance, an ethical approach may emphasise cultural ethical frames, creating AI development standards which vary by geography and culture. Thus, it could be ethical to develop AI which restricts exercising the right to FoRB online in the name of religious harmony, but that ethical frame would violate the human rights of religious minorities. Hidvegi and Leufer go on:

> While ethical reasoning and individual conscience certainly have a role to play, we believe that it is important to stress the role of human rights here. Beyond their embodiment in specific laws, human rights offer us a broad and well-defined set of principles to cover all instances in which our dignity and integrity are threatened.[195]

Thus, in line with the research trends on human rights and AI development, approaches to AI should incorporate developments in AI ethics, international human rights law and standards, as well as recommendations from the UN *Guiding Principles on Business and Human Rights* to the greatest extent possible. While states ultimately bear primary responsibility for the implementation of human rights, the reality of AI development and deployment on the Internet mean that private companies are at the forefront of AI and human rights.[196] It is therefore essential that efforts to protect the right to freedom of religion or belief online includes technology companies as well as states.

Recommendations for states

As discussed in this paper, FoRB has four key unique manifestations: worship, teaching, observance, and practice. This paper outlined various ways in which they exist online through utilising scholarship in the field of digital religion. As UN Human Rights Council resolution 34/7 [197] has stated, offline human rights must be protected online. Thus, states must endeavour to ensure that national laws will not impact manifestations or the exercise of FoRB online, except for the clearly stated reasons in existing human rights law. What this entails is a more nuanced understanding of how religion manifests on the Internet. For example, online recommendation systems may accidentally reveal an individual's religion or belief preferences to others through AI inference. Online advertising, which utilises vast amounts of information in order to micro-target ads, can produce advertisements which reveal an individual's religious preferences. Further, the structure of social media algorithms may reflect religious bias, hiding or removing posts, videos, and other content related to the exercise of FoRB. Beyond this, states should consider the impact of domestic legislation on virtual 'pilgrimages' whereby diaspora partake in religious worship, teaching, observance, or practice with members of the same faith within a country. Thus, domestic legislation may not only harm the human rights of individuals within the state's borders but can have a global impact on religion.

States must recognise the importance of technology companies to human rights online, use legislation as well as negotiation and cooperation to encourage measurable human rights informed standards for the AI industry and incentivize and support greater competition amongst smaller AI companies outside of the large multinational corporations which dominate AI.[198] As the earlier example with Google's image recognition AI shows, diversity in AI can encourage greater consideration of the complexity of human life and affairs, potentially mitigating short-sighted bias which can have serious repercussions for religion and belief online. For example, Google's Cloud Natural Language AI categorised Christianity and Sikhism as good while Judaism was considered negative.[199] To remedy this, Hao[200] argues for the development and inclusion of participatory machine learning in AI development 'which seeks to involve the people most affected by machine-learning systems in their design'.

Technical development has largely ignored incorporating human rights standards, with a notable exception within the Internet protocol development community.[201] The lack of industry engagement with human rights and opaque nature of AI development, despite the existence of the UN's *Guiding Principles on Business & Human Rights*, can be addressed through the development of code auditing panels which respect industry intellectual property but provide third-party review in support of human rights standards.[202]

Recommendations for technology companies

Human rights impact assessments & training data

The *Guiding Principles on Business and Human Rights* provides a framework for these businesses to begin to incorporate human rights into their algorithmic development and AI deployment. However, technology companies should conduct regular Human Rights Impact Assessments (HRIAs) in order to best implement these principles. Samway [203] has proposed a model of HRIA implementation focused on the right to freedom of expression and technology companies which is a useful framework for HRIAs to focus on FoRB. Adapting this to AI and FoRB leads to eight steps to develop an HRIA which accounts for freedom of religion or belief:

(1) Review international human rights law around FoRB.
(2) Review the human rights situation, traditions, and culture in the country or region of interest with a focus on religion or belief.
(3) Map the local legal terrain surrounding FoRB, identify issues around gender, ethnicity/race, worship, practice, observance, and teaching.
(4) Map business plans for algorithm development and deployment in the country/region and identify risk areas.
(5) If the algorithm has the potential to promote and protect FoRB, this should be emphasised in development.
(6) Conduct risk assessments and run tests based on the deployment of the AI.
(7) Examine variables identified in step 3 in datasets used to train AI.
(8) Propose mitigation strategies for the identified risks and emphasise protecting human rights.

HRIAs for FoRB and AI should include an outside expert review panel to analyse both the AI and the regional/country level FoRB situation for ways in which the two might interface once AI is deployed in that area. Indeed, the cultural and religious differences around the world require that care be taken in steps 1–3 to ensure that a proper understanding of how religion or belief manifests, identifying precarious groups, understanding the role of gender, understanding the local manifestations of worship, teaching, observance, and practice, and more. These variables must also be considered not only with how the AI will act in everyday life, but also in how these variables are included in the training data used for the AI. Some human rights focused questions about training data might be:

- What kind of data is being used? How was this data collected? What religious or belief groups were targeted or excluded in data collection?
- What groups are identified in the training data? Which groups were excluded and for what reason? How do the inclusions and exclusions reflect the real population which will be impacted by the AI system?
- How might various datasets impact these groups in practice, observance, worship, and teaching online?
- What errors were encountered during testing? How did these errors impact the various identified groups as well as their ability to practice, observe, worship, and teach online? What inferences can be drawn from these errors?
- What kind of online content will this AI impact the most? Who or what might it inadvertently impact? How are these distinctions manifest in theory, testing, and implementation?

These questions are a starting point for working with data and testing and how they will impact the manifestations of FoRB online. Does the AI support individuals in realising the fullness of their religion or belief online? How might a content recommendation engine inadvertently discriminate against a minority faith? Does the AI protect the right of individuals to not disclose their religion or beliefs by accounting for recommendation engines, advertising, contact suggestions, and other elements designed to connect or market to individuals? Based on literature in digital religion, how might these systems intentionally or unintentionally encourage or discourage exercising the right to FoRB online? While there are other human rights which AI will impact, most notably freedom of expression and privacy, HRIAs and social media companies must mitigate harms to all human rights, not only the rights which generate the most collective attention.

These questions and recommendations are only a starting point. It is understood that given the complexity of online platforms and the multiplicity of competing groups, voices, and content not all human rights can be perfectly protected nor fully guaranteed online. It is the nature of AI systems in social media and search results to filter through content and privilege some individuals, content, groups, over others and thus some elements of discrimination are part of modern technological development despite best intentions.[204] Given this, what is important is that companies have done due diligence to be transparent about these limitations, conduct HRIAs, understand how they will impact FoRB, and provide adequate access to appeal and remedy so that both groups and platforms benefit from mutual exchange about rights. Lack of access to remedy

and lack of collective dialogue between technology companies, civil society and users are one of the major shortcomings of current AI deployments, but are also the most feasible and easily implemented ways to enhance protection of human rights in AI.[205]

Conclusion

Human rights and the Internet have long had a contentious relationship, alternating between the Internet's potential for creating new avenues in the enjoyment of rights while simultaneously making their restriction easier.[206] For countless religious groups, the Internet has led to a flourishing and changing of worship, teaching, observance, and practice. For some faiths, the Internet has allowed individuals to grow and nurture their practice, and for others it has led to the emergence of new religious practices and helped with proselytising. Digital religion scholars point to the reality that the Internet is increasingly essential for many religions.[207]

Artificial intelligence promises to revolutionise many aspects of the Internet, and is already doing so on social media, in search results, with online shopping, and elsewhere. However, the rapid emergence of artificial intelligence has resulted in a lag in considering human rights implications. Further, much of the literature on the impacts of AI on human rights has focused on freedom of expression and privacy, neglecting entirely or discussing other rights such as assembly and association, security, political participation, and freedom of religion or belief only in passing. Although this trend is changing in scholarship and reports by the UN and NGOs, a strong focus on freedom of expression and privacy remains in both popular and scholarly literature. The potential for AI to advance human rights is great, as is its potential to contribute to human rights backsliding. Regardless of intentionality, bias in AI development alongside how AI displays or moderates content and relates to privacy will have a direct impact on exercising the rights to freedom of religion or belief online and to what extent the Internet serves as a space for the enjoyment of those rights going forward. It is true that the volume of content on the Internet necessitates an automated approach, but how it is implemented from staff hiring decisions, development and testing, and into deployment remains opaque.

The existence of AI ethics boards, increased research on the human rights implications of AI, and the wide discussion on the role of AI in society are hopeful signs, and this groundswell of support for critical AI analysis needs more voices in support of human rights and examining human rights implications. As the case studies have demonstrated, the Internet is increasingly a fundamental space not only for expression, but also for religion or belief to take shape, manifest, and thrive. It can alternatively become a space of religious control, surveillance, and restriction. Thus, at an important inflection point in AI's development, it is essential that AI stakeholders examine how AI will impact the exercise of freedom of religion or belief and to collaborate to ensure that AI works for the benefit and enjoyment of all human rights.

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