THE ALGORITHM AND THE ALMIGHTY:
NAVIGATING ARTIFICIAL INTELLIGENCE THROUGH A REFORMED LENS

Introduction

As artificial intelligence (AI) has advanced with unprecedented velocity, we begin this policy with a delineation of key terms to ensure conceptual clarity. In a field characterized by relentless innovation, definitions are provisional and often lack permanence. Nevertheless, for the sake of this policy document, we define "artificial intelligence" as a computational system that behaves in ways that we traditionally associate with human intelligence. The most common current AI systems are referred to as "generative AI": the use of large language models that employ probabilistic algorithms to generate text, audio, and visual content in forms that are coherent, contextually responsive, and strikingly human-like. These systems are trained through statistical analysis of extremely large sets of human-written text and produce results based on those statistics. Since the algorithms are probabilistic, they sometimes make mistakes — providing information that may look realistic but actually be false, often referred to as "hallucinations." Recently, these systems have gone beyond human-like interaction to the performance of other traditionally human tasks, such as summarizing meetings, editing documents, or writing software.

Although the boundaries are somewhat vague, it is common to speak of three categories of AI: ANI (Artificial Narrow Intelligence) human-level performance on specific tasks; AGI (Artificial General Intelligence) human-level performance across a broad range of concepts and tasks; ASI (Artificial Super Intelligence) performance that vastly exceeds human-level performance. Most observers would say that current AI is somewhere between ANI and AGI. It is very difficult to predict if or when AGI or even ASI will be reached.

Historical Development of AI

The term "artificial intelligence" was coined during a 1956 gathering of computer scientists at Dartmouth College. Early academic AI research focused on topics like robotics, game playing, problem solving, visual pattern recognition, and symbolic reasoning. In the 1980s, the first commercial use of AI took the form of "expert systems," in which human expertise was encoded in symbolic rules for making decisions. These systems worked well within their domains of expertise but were irrelevant outside their domains.

Dramatic increases in computing power led to a public breakthrough in 1997, when IBM's Deep Blue computer defeated Gary Kasparov, the chess world champion. Like the expert systems of the 1980s, Deep Blue embodied significant symbolic expertise, but it also took advantage of the increased computing power to look much further ahead in the game than human beings are capable of. This was an early demonstration that AI need not work in the same style as human intelligence.

The increased computing power also led to advances in machine learning, image recognition, and natural language processing, ultimately leading to what is now referred to as generative AI: large-language models (LLMs) that use statistical and probabilistic methods to generate natural language responses to natural language queries, based on the analysis of massive amounts of source material. The release of the first publicly available LLM — ChatGPT from OpenAI in November 2022 — was a watershed moment, sparking dramatic growth in the recognition and use of AI by all parts of society. Since then, the power of LLMs has steadily increased, using ever larger amounts of source material and allowing users to make longer and more complicated queries.

Even before the term "artificial intelligence" was defined, the British mathematician Alan Turing had proposed a way of testing whether a computer could think by asking a human interrogator to decide which of two conversational partners was a person and which was a machine. For many decades, the Turing Test was the standard for judging machine intelligence. While there is some debate, generative AI models seem close to meeting this standard.

But it also seems that the Turing Test itself has become less relevant. As the power of AI systems grows, the bigger question is whether machines may exhibit human traits that are not purely intellectual, such as emotions, self-awareness, consciousness, or a sense of right and wrong. Using the Turing Test as a guide, the best we may be able to say is that their behavior does, or does not, suggest such traits.

Opportunities and Risks

AI will profoundly affect the future of God's creation and its inhabitants, including human beings. There is, however, great uncertainty about the nature of those effects. Many substantial beneficial effects are possible: accelerated scientific advances that reduce or reverse climate change; reduction of global inequities in health and education; and increased productivity that reduces poverty, to name a few.

However, the risks are also substantial: widespread unemployment as AI takes over many jobs; the vast amounts of energy to support the computation required by AI; increased concentration of power and money in a few individuals, corporations, or governments; and the use of AI to manipulate truth and distort reality. There are even existential threats, such as the possibility that ASI will take complete control over life on Earth, relegating human beings to subservience.

Given the magnitude of these effects, coupled with the speed and uncertainty with which AI is progressing, the larger question is how the future will be determined and who will control it. Without adequate regulation, the most likely future is

one in which AI is developed and controlled by a small group of technology companies driven largely by economic interests, what we might call a "technocracy." In this context, it is imperative that religious leaders and organizations of all faith traditions, including the Presbyterian Church (U.S.A.), provide moral guidance to ensure that AI is used in ways that respect human dignity and promote creation's flourishing.

Theological Framework

Good social witness policy follows from thoughtful, faithful, and theologically-shaped attention to scripture. And although the scriptures do not imagine mechanically-driven AI, it is still the case that such attention can offer profound guidance on how to think about and use AI.

A starting point for thinking about and using AI is the creation stories. In Genesis 1:26, God says, "Let us make humankind in our image, according to our likeness; and let them have dominion over the fish of the sea, and over the birds of the air, and over the cattle, and over all the wild animals of the earth, and over every creeping thing that creeps upon the earth." Note here two things.

First, humankind is created in the image of a creating God. While the language of "co-creating" with God is problematic,[i] it is nevertheless the case that creativity is built into our spiritual DNA: human beings are, and always have been, creators. That human beings have now created generative AI is not discontinuous with who we are nor what we do. That human beings may eventually create (or play a role in creating) artificial general intelligence is, likewise, theologically consistent with who we are and what we do.

Second, we creating creatures are charged with a task: to have dominion. While that language has been distorted to mean that human beings are not only distinct from but superior to other creatures — and that we can therefore do whatever we want with them — thoughtful scholars of the Old Testament have reminded us that we should understand dominion primarily in terms of stewardship. Having dominion means exercising that particular kind of care over things different from us so that they can, themselves, flourish as God has created them to and in ways that maintain their difference from us.[ii]

Then, in Genesis 2, stewarding is given more concrete expression: "[t]he LORD God took the man and put him in the garden of Eden to till it and keep it" (Genesis 2:15). To till the ground is to use tools — plows, hoes, and such — to prepare the soil for planting. One of the ways human beings exercise stewardship is through the tools we create. Before human beings ate from the tree of the knowledge of good and evil, human beings made tools in order to pursue the tasks to which we have been called. AI, as a kind of tool, can help with the tasks to which we have been called.[iii]

Yet tool-use is tricky. For one thing, the same tools we use to pursue stewarding work can be turned towards other purposes. Tools can be used towards domination and exploitation. They can injure those who use them, or support addictions. They can be turned into weapons. How we use tools matters, which is not only why the Presbyterian Church (U.S.A.) maintains policies about proper and prohibited uses of many tools (e.g., weapons of war, tools the manufacture of which causes harm to creation, etc.), but why social policy on AI is necessary.

For another thing, the tools we shape reshape us. The prophet Isaiah highlights the way that craftsmen use tools not only to make their labors easier but to create idols:

> The carpenter…plants a cedar and the rain nourishes it. Then it can be used as fuel. Part of it he takes and warms himself; he kindles a fire and bakes bread. Then he makes a god and worships it, makes it a carved image and bows down before it. Half of it he burns in the fire; over this half he roasts meat, eats it and is satisfied. He also warms himself and says, "Ah, I am warm, I can feel the fire!" The rest of it he makes into a god, his idol, bows down to it and worships it; he prays to it and says, "Save me, for you are my god!" (Isaiah 44:13–17)

Isaiah's parable highlights the human susceptibility to trust in our own creations more than is prudent, sometimes even projecting into the works of our hands the power to save us. Such projection onto a tool as powerful as AI would be a form of idolatry, turning ourselves into creatures that both harm and are more susceptible to harm. And the more potent the tool, the more dangerous it can be to both human beings and the rest of creation.

AI is a potent tool. It is for this reason that an awareness of our tendencies toward sin (including the sins associated with misusing tools), idolatry (including creating things that we fear as well as things that we worship), and pride (including thinking that we have the capacity to create and use the right tools to solve all our problems) must remain in the forefront of our minds as we shape and use tools like AI.

Yet a Reformed understanding of sin is always encompassed within a wider Reformed understanding of divine grace and providence. Just as none of our tools should be used as a means through which to attempt to escape from our creaturely lives and responsibilities, so none of our tools should be imagined as a means through which we could escape the providential care of the triune God. Sin's power may be beyond our ability to overcome, but God's grace — made manifest in Jesus Christ and given continual expression in the work of the Holy Spirit — is greater than sin's power.[iv]

Within God's graceful providence, God pursues whatever processes God desires in whatever context God chooses using whatever tools God wishes to bring about God's kingdom. No Reformed theologian could ever claim that God cannot use AI to further God's purposes, nor that God cannot use those who work in AI technology towards such ends. Because those ends,

as witnessed in scripture, include creaturely flourishing, so our use of tools ought to be directed towards shared human and creaturely flourishing.

Moreover, as revealed most perfectly in Jesus of Nazareth, God works incarnationally.[v] Just as the incarnation reminds us that God is not an ethereal or purely spiritual being, so serving an incarnate God reminds us that even the most seemingly nonmaterial of things — like AI — is actually composed of physical things (wires and circuits and flowing electrons) and that it impacts other physical things (human bodies and the non-human natural world). As such, a Reformed theology of AI attends not only to AI's physicality but to its effects on human beings and the rest of creation.

Finally, placing God and God's providential work squarely in the center of a theology of AI means that we are called neither to fear a future of increasingly complex machines nor express optimism in the capacity of those machines to resolve our present crises and determine our future. Our hope, instead, is that nothing escapes God's providential work and that our responsibility is to discern what God is doing in the world and seek to align ourselves with God's work, using the tools we have created — even when those tools may be freighted with complex questions, deep concerns, and enormous potential.[vi]

Broad Implications

Because AI is so expansive and far-reaching — and because all spheres of human life fall within the purview of divine providence — the church, in following the triune God, is called to reflect on and respond to AI and its transformative potential. As it does so, the church recognizes that powerful tools have the capacity to bring both profound welfare and monumental harm to creation. Therefore, as it engages questions about AI in various spheres of life, the church is guided not only by its deepest theological convictions but also by analytic acuity and Christ-like compassion. Below are some primary spheres of life that require Christian reflection and discernment in relation to the use of AI.[vii]

Vocation and Labor

Few spheres are likely to experience broader implications from advances in AI than vocation and labor. AI possesses the capacity for both profound augmentation and profound disruption across an expansive range of professional fields. As a generative technology, AI can produce text, images, audio, code, and other media at a level of sophistication that approaches or surpasses human output. AI streamlines repetitive tasks and enables advanced data analysis, thereby possibly reallocating human energy toward more creative or relational endeavors. Yet AI also carries the potential to displace human workers in certain industries entirely. To safeguard the dignity and flourishing of persons affected by such transitions, the church must advocate for robust social safety nets as well as access to education and vocational retraining. As with prior technological revolutions, the diffusion of AI will render some forms of labor obsolete even as it generates new arenas for the expression of human creativity, vocation, and the deep callings inherent to our identity as beings created in the image of God. The church, as ever, should be responsive to such concerns, including through its pastoral commitments.

Environmental Implications

AI development and use come with significant environmental concerns, even as it may also prove a potential resource through which to address environmental crises. The mining for rare-earth metals necessary for AI technology has led to the ravaging of local and vulnerable ecosystems. Demand for water to cool and energy to run the data centers upon which AI relies threaten to outstrip the human capacity to supply them — even as such demands dramatically exacerbate climate change and environmental degradation. At the same time, AI, thoughtfully applied, can manage and analyze the massive volumes of data necessary to respond to climate change and environmental degradation.

Companionship and Dependency

Using AI for companionship has attracted significant public interest. While AI offers potential for fostering social connections, relying on AI alone to alleviate loneliness can lead to decreased human interaction and increased social isolation. AI companionship can create emotional dependency between humans and machines rather than encouraging human-to-human contact, and can distort the nature of true human relationships. Ethical AI use should enhance and foster human interactions rather than replacing them. Churches can respond to the loneliness epidemic by providing a welcoming place of human connection and belonging. The hospitality of local churches can foster meaningful and authentic relationships with God and with one another.

Education

AI offers exciting new tools to enable learning for all types of learners. At the same time, AI can have deleterious consequences on intellectual ability and growth. Studies demonstrate significant learning disparities between students who use AI in their assignments and those who do not (or who use it in a limited and disciplined manner). As the church experiments with AI tools in Christian education, spiritual practice, evangelism, pastoral care, and preaching, these dynamics should be assessed. Further, AI can be used unscrupulously in educational settings, including exams and coursework associated with preparation for ministry. The presence of AI requires clear policies in order to avoid its dishonest use.

Media

AI technology impacts media by enhancing and expediting content creation, distribution, and consumption. Access to such tools provides a broader portion of society with the possibility of creating and sharing their perspectives and ideas. Graphic design and video editing algorithms dramatically reduce production time. Simultaneously, AI can reproduce a person's voice

and image, and can produce text that is virtually impossible to distinguish that of a human counterpart. Social media platforms use AI to collect data and analyze user patterns and preferences to create content designed to increase the time users engage the platforms. Such use also reshapes advertising strategies, as well as political, religious and ideological marketing. The media use of AI raises concerns about truthfulness, privacy, intellectual property, and transparency. Fake websites, videos, social media posts, and propaganda that willfully misrepresents individuals and organizations generate anxiety about the weaponization of media, as well as the authenticity of legitimate sites; unregulated user data analyses can violate users' privacy; and those who benefit from the improper use of AI in the media may evade accountability.

Governance and Civil Society
All political systems — and certainly democratic ones such as those that guide both the United States and the Presbyterian Church (U.S.A.) — find stability only as the members of those political systems see themselves as living in a shared world and drawing from common sources of data. AI's ability to rapidly produce and disseminate mis-, dis-, and malinformation threatens to upend such stability. As such, AI increases the potential for both chaos (driven by a world of untrustworthy data) and authoritarianism (as a means of controlling chaos), especially when foul political actors find value in using AI to promote chaos or authoritarianism. Yet AI, thoughtfully regulated, also has the potential to fund responsible political agency and draw more people into the types of political conversations that undergird political responsibility.

Global Conflict and Peace
Among AI's most significant risks is its use in global conflict. AI-powered drones, disinformation campaigns, and military tactics threaten to exacerbate violence rather than prevent it. And because AI is globally accessible, such uses extend beyond "rogue nations" to non-state actors pursuing violent ideological agendas. Yet AI used within international law frameworks can also reduce violence — not only through more precise targeting and calibrated coercive force, but by strengthening political and economic systems that address the desperation fueling conflict. Peacemakers can deploy AI to enhance translation between contending parties, monitor potential flashpoints and ceasefires, and power conflict resolution simulations.

Legal Systems — Privacy and Surveillance
Rapid AI advances raise novel legal questions. Courts are currently deciding whether using copyrighted material to train AI constitutes infringement, and whether AI-generated content carries any property rights. AI also complicates privacy and security. Enhanced surveillance capabilities raise Fourth Amendment concerns about when government tracking violates individual rights. The thorniest issue is accountability: when AI causes harm, who bears responsibility? These challenges outpace regulatory efforts, yet developing legal frameworks remains imperative. Unconstrained development risks proliferating AI systems that fail to serve humanity's interests.

Medicine and Health
AI systems have the potential to dramatically improve health care. For example, AI is being applied to accelerate the development of novel drugs and therapies, and AI-generated drugs are already entering clinical trials. AI systems are also being used to improve care through more accurate diagnoses, personalized treatment plans, and efficient use of medical professionals' time. Perhaps most importantly, AI systems could be used to fill health care gaps globally by making medical expertise widely available, especially in the absence of medical professionals. But there are also risks. AI systems make mistakes, so human oversight will always be required. More subtly, AI medical systems may reflect biases in their training sets, potentially harming underserved and marginalized communities.

Toward the Future
AI and its implications will continue to unfold, and require ongoing assessment and discernment. As we move into new technological realities, all agencies of the Presbyterian Church (U.S.A.) are to be guided by the following ethical framework in the use of artificial intelligence:

1. Recognize the fundamental, inherent dignity of every human and the goodness of all creation.
2. Recognize the tremendous potential for AI to aid and support every stage of human life, and benefit all creation.
3. Because new technologies are disruptive, prioritize the minimization and mitigation of such disruptions on human beings, human communities, and ecosystems.
4. Insist upon the preservation, promotion, and expansion of fundamental freedoms and rights for individuals and communities in interactions with AI.
5. Advocate for AI-related environmental and ecosystem safeguards to ensure the flourishing of creation.
6. Insist that all persons impacted by processes related to the development and use of AI can give free, prior, and informed consent to their participation in such processes.
7. Insist that every application of AI include identifiable human agents who remain legally and/or morally accountable for such use, and implement policies within the PC(USA) to that effect.
8. Promote peace, inclusivity, justice, equity, interconnectedness, and sustainability when addressing the development, promulgation, and use of AI systems.
9. Engage the broader implications of AI in a theologically responsible manner.
10. With ecumenical, interreligious, and secular partners, advocate domestically and internationally for ethical and equitable development and use of AI.

All officers and leaders of the PC(USA) should exercise their ordination vow to serve the church with energy, intelligence, imagination, and love in their use of AI, by:

1. Using AI in ways that support and sustain the efforts of the church to follow Jesus faithfully and witness to God's love and justice.
2. Using AI in a transparent and publicly justifiable manner.
3. Placing human moral agency at the center of oversight and control of AI, such that human beings maintain responsibility for what is produced by AI and can respond to harms done through AI.
4. Protecting and advocating for individuals' rights to privacy and security as related to AI.
5. Seeking expertise and the best scientific information available about the safe, ethical use of AI.
6. Using AI sparingly and in pursuit of limited, particular purposes, due to its impact on the environment.
7. Approaching AI with curiosity, maintaining an awareness of the implicit and explicit biases inherent in AI systems, and not introducing or reinforcing social biases or inequities in the use of AI.
8. Being continually guided by scripture, the Confessions, and the Book of Order in interactions with AI.

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[i] In the Reformed tradition, human beings are not co-anything with God.
[ii] See, e.g., William P. Brown, *A Handbook to Old Testament Exegesis* (Louisville, KY: WJKP, 2017), ch. 16.
[iii] See also Matthew 25:14–30.
[iv] See Colossians 1:15–20.
[v] See John 1:1–18.
[vi] See Ephesians 2:8–10.
[vii] The PC(USA) has existing social witness policy that addresses these spheres. These proposals align with those policies, which can be found at https://pcusa.org/about-pcusa/agencies-entities/interim-unified-agency/ministry-areas/social-witness-policy.