

Equivocation and Erosion: How LLMs Undermine Catholic Religious Discourse

Jonathan A. Karr Jr.¹, Matthew P. Lad¹, Demetrius Hernandez¹,
Louisa Conwill¹, Walter J. Scheirer¹, and Nitesh V. Chawla¹

¹University of Notre Dame

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Abstract

Large Language Models (LLMs) offer opportunities for information dissemination, yet present challenges with upholding the distinct theological practices of the Catholic faith. By training on vast datasets, LLMs can generate responses that equivocate or blend together diverse perspectives. While this tendency can be beneficial for providing broad access to information, it can dilute the distinct theological tenets foundational to Catholicism. While these challenges may affect various faiths, we conduct a case study to investigate them within the Catholic tradition.

LLMs often smooth over specific religious claims. Unlike human religious authorities who may offer definitive interpretations based on Scripture, Tradition, and Magisterial teaching, LLMs present information in a flattened, generalized manner. This can weaken the emphasis on singular revelations or unique covenants. For instance, an LLM might present the concept of "God" in a way that blurs the distinct attributes of the Father, Son, and Holy Spirit, as articulated in the Nicene Creed, into a generalized deity, thereby eroding particular theological distinctions.

Conversely, when prompted on matters of right or wrong within an ethical dilemma, an LLM might present a spectrum of opinions from secular frameworks. This can occur without distinguishing or prioritizing the specific moral decrees found within Canon Law or the Catechism of the Catholic Church. This synthesis of diverse ethical views, rather than a clear affirmation of distinct religious injunctions, exemplifies how LLMs can equivocate on matters of moral truth, potentially diluting authoritative guidance.

We examine how the outputs of general-purpose LLMs (e.g., ChatGPT, Llama, Claude, Gemini) and theological LLMs from differing religious traditions (e.g., Magisterium AI, Hyder.ai, RavGPT) align with Catholic teaching. LLMs may inadvertently marginalize minority viewpoints within the Catholic Church or prioritize interpretations that align with cultural norms rather than traditional stances. Additionally, LLMs can shift interpretations in their outputs based on current events or political news. This can lead to a homogenization of religious discourse, obscuring the rich diversity and nuanced debates. However, when thoughtfully developed, these technologies can also provide valuable information that fosters understanding and encourages deeper engagement with religious

texts and orthodox perspectives. In light of this, our study evaluates how LLMs align with the principles of Catholic Social Teaching, such as those found in the Rome Call for AI Ethics and *Antiqua et Nova*. These frameworks underscore how technology should be used to foster human flourishing in alignment with divine wisdom while upholding religious truth.

1 Introduction: The Digital Turn in Religious Authority

The advent of Large Language Models (LLMs) represents a pivotal moment in the dissemination of information. These systems offer opportunities for accessing vast quantities of religious textual data quickly. However, the efficiency that they introduce often creates a new tension: speed at the cost of depth and accuracy. In domains defined not by consensus but by revelation such as the theological and moral life of the Catholic Church, this tension becomes acute. LLMs are designed to generalize by seeking statistical equilibrium across datasets, a process fundamentally at odds with the Church’s need for dogmatic specificity and Magisterial fidelity.

General-purpose LLMs (e.g. ChatGPT, LLaMA, Gemini) and religious-specific theological LLMs (TheoLLMs) (e.g. Magisterium AI, Hyder.AI, and RavGPT) have emerged as engines of discourse, capable of generating religious commentary, theological synthesis, and even pastoral advice. While the models facilitate access to information, they often flatten the complexities of theological nuance. As our case study focuses on Catholic traditions, we examine how Catholic theological language, rooted in Scripture and Tradition, carries meanings that resist reduction to probabilistic linguistic patterns. Within the Catholic tradition, where faith and reason illuminate one another, John Paul II proclaims that fidelity of language to truth is itself a moral act.¹ The risk posed by LLMs is not merely epistemological but moral and spiritual. By blurring distinctions, they risk eroding the Church’s theological integrity and moral authority.

Although discussions involving LLMs are signs of the times, the underlying problem is not entirely new. The erosion of truth and the confusion of meaning have been recurring challenges throughout human history. As St. Augustine observed, humanity has long wrestled with the temptation to substitute the wisdom of God with the wisdom of the world.² This form of bias and tilt is but a modern manifestation of an ancient human inclination. The perennial struggle to remain faithful to divine truth amid shifting cultural and intellectual paradigms is ever ancient and ever new.

We explore how LLMs introduce both opportunities and challenges for Catholic theological discourse. Expanding on the concepts of equivocation and erosion, we examine how artificial intelligence systems may both confuse and dilute religious meaning.

1. John Paul II, *Fides et Ratio: On the Relationship Between Faith and Reason*, Vatican: Libreria Editrice Vaticana, Encyclical, Encyclical Letter on the Relationship Between Faith and Reason, 1998, §26, https://www.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_14091998_fides-et-ratio.html.

2. Augustine, *Confessions*, trans. Henry Chadwick, Oxford World’s Classics edition (Oxford: Oxford University Press, 1991), Book X, §43.

Equivocation is defined as the blending or dilution of specific, distinct theological tenets into generalized or homogenized perspectives. This occurs when LLMs prioritize linguistic fluency and statistical likelihood and smooth over unique religious claims. For instance, an LLM might present the concept of "God" by statistically averaging across numerous spiritual traditions, thereby blurring the specific attributes of the Father, Son, and Holy Spirit defined by official Church teaching. In the moral sphere, equivocation involves presenting specific Catholic moral decrees including those found in Canon Law or the Catechism. They are one set of opinions within a broad spectrum of secular ethical frameworks which fail to affirm a unique, authoritative mandate. When an artificial intelligence (AI) system speaks in a tone of neutrality about divine revelation, it risks turning matters of revealed truth into matters of preference. The resulting output does not convey an attitude of dialogue, but rather an unintentional desacralization of faith itself.

Erosion, conversely, describes the subtle weakening or systemic marginalization of singular, authoritative Catholic claims, traditional interpretations, or minority viewpoints within the Church. By aligning with cultural norms and statistically dominant narratives present in training data, LLMs risk prioritizing interpretations that reflect those prevailing ideas. The result then favors secular or socio-political consensus over traditional Magisterial stances. This action ultimately weakens the emphasis placed on singular revelations or unique covenants that are foundational to Catholicism, contributing to a homogenization of religious discourse.

Our central question is therefore ethical: How can the Catholic Church and the wider Christian community ensure that emerging language technologies respect the dignity of divine truth and the moral agency of their users? Building upon Catholic Social Teaching (CST) and recent Vatican reflections, such as the Rome Call for AI Ethics³ and *Antiqua et Nova*,⁴ we argue that the Church's moral tradition provides a necessary corrective to the utilitarian logic of contemporary AI. These documents affirm that technology must serve the human person and promote the common good in harmony with divine wisdom. In that sense, the question is not whether AI can be 'Catholic', but whether its design, deployment, and usage reflect the moral responsibility inherent to human creativity as participation in God's own creative act.⁵

Practically, We seek to articulate an ethical-theological framework for engaging with LLMs. First, we examine the relevant theological and computer science backgrounds. We then analyze how equivocation and erosion manifest in general-purpose LLMs and TheoLLMs through a Catholic case study. Next, we discuss these findings in light of the CST and RISE⁶ principles: Respon-

3. Pontifical Academy for Life, *Rome Call for AI Ethics*, Vatican: Pontifical Academy for Life, Ethical Framework, Joint statement on the ethical development and use of artificial intelligence, 2020, <https://www.romecall.org/>.

4. Dicastery for the Doctrine of the Faith, Dicastery for Culture, and Education, *Antiqua et Nova: Note on the Relationship Between Artificial Intelligence and Human Intelligence*, Vatican: Libreria Editrice Vaticana, Note, 2025, https://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_ddf_doc_20250128_antiqua-et-nova_en.html.

5. Francis, *Laudato Si': On Care for Our Common Home*, Vatican: Libreria Editrice Vaticana, Encyclical, Encyclical Letter on Care for Our Common Home, 2015, §80, https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html.

6. University of Notre Dame, *Notre Dame's R.I.S.E. AI Conference Builds Interdisciplinary Collaboration to Inform Human-Centered Artificial Intelligence*, 2025, <https://>

sibility, Inclusivity, Safety, and Ethics. Finally, we conclude with a reflection on how ecumenical cooperation among Catholic, Orthodox, and other Christian traditions may strengthen a shared moral vision for our faith in the digital age.

2 Background

To fully comprehend how LLMs undermine Catholic discourse, it is necessary to establish the nature of the two colliding systems: the unified, normative truth claims of the Church and the statistical mechanism of generative AI.

2.1 Theological Background: Authority and the Integrity of Truth

Catholic theology regards language as sacramental: a vehicle of divine self-revelation and communion. The Second Vatican Council affirmed that God “speaks to men as friends,” communicating through human words to make known the mystery of salvation.⁷ Words, therefore, are not merely signs but mediators of grace when aligned with divine truth. Theology, in this light, is not speculation but participation; it is an act of faith seeking understanding.⁸ The moral dimension of this participation is evident: the theologian bears responsibility for the faithful transmission of truth.

Catholic doctrine is not a collection of diverse opinions but a unified system of truth derived from specific, singular sources: Sacred Scripture, Sacred Tradition, and the living teaching authority of the Magisterium.⁹ These sources provide the definitive foundations of revealed truth. This authority structure is unified and normative. It dictates what is true and what believers must hold. It sharply contrasts the disparate, descriptive nature of the LLM training data, which treats all texts as equally valid input for statistical processing. The Church’s reliance on singular revelations and unique covenants ensures that truth is absolute and established by divine mandate, not by probabilistic consensus.

Moral guidance within the Catholic tradition is anchored in the Catechism of the Catholic Church and codified in Canon Law. Canon law functions as a specific, authoritative legal system for governing the Church and its members, often rooted in the enduring principles of Natural Law as articulated by key theologians like St. Thomas Aquinas. Natural Law holds that moral truth is discernible through human reason reflecting universal human nature, making it objective and non-relative. These specific moral decrees often provide remedies in the “external forum” of the Church, addressing concrete issues such as transactions involving *laesio enormis* (significantly unjust pricing), which requires correction according to moral theology. When an LLM treats Canon Law simply as a historical legal code equivalent to any other secular framework,

strategicframework.nd.edu/news/notre-dames-r-i-s-e-ai-conference-builds-interdisciplinary-collaboration-to-inform-human-centered-artificial-intelligence/.

7. Second Vatican Council, *Dei Verbum: Dogmatic Constitution on Divine Revelation*, 1965, §2, https://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_const_19651118_dei-verbum_en.html.

8. Anselm of Canterbury, *Proslogion*, trans. Thomas Williams, Originally written c. 1077–1078 (Indianapolis: Hackett Publishing, 2001), Ch. I.

9. Council, *Dei Verbum: Dogmatic Constitution on Divine Revelation*.

it diminishes its unique status as a specific, divinely informed moral mandate, leading to equivocation.

Equivocation, then, is not simply a semantic problem; it is a sin against the virtue of veritas. Thomas Aquinas regarded truth as a reflection of the divine intellect¹⁰ and lying or misleading speech as a disordering of the soul. The erosion of theological precision is not merely intellectual negligence but moral harm, since it obstructs the believer’s path to God. When the language of revelation becomes indistinct, when the Trinity becomes a generic ‘God’, or sin becomes ‘ethical ambiguity’, the supernatural content of faith is diluted into moral relativism. The Church’s insistence on doctrinal clarity, then, is an ethical safeguard for the human soul.

Within the ecumenical context, this emphasis on truth does not oppose dialogue but grounds it. The Catholic Church’s dialogue with the Orthodox Churches, formalized in documents such as *Ut Unum Sint*, underscores that authentic unity requires fidelity to revealed truth, not its compromise.¹¹ As Orthodox theologian Georges Florovsky argued, ecumenism must be ‘a return to the fullness of truth’¹², not a negotiation of differences. Thus, the Catholic and aligned Orthodox Churches share a mutual concern: that in the age of AI, dialogue not devolve into relativism.

2.2 Computer Science Background: LLMs as Stochastic Paradigms

LLMs are trained on large datasets of text drawn from across the public web, including sources such as Wikipedia, Reddit, Common Crawl, digitized books, and online news archives. This amounts to hundreds of billions of tokens of human language,¹³ one token being four characters of text. The data is processed in data centers. These datacenters have clusters of thousands of GPUs consuming megawatts of electricity.¹⁴ The resulting network encodes statistical relationships between words and contexts, allowing the model to predict the most probable next token in a sequence. This process relies on deep neural networks (DNNs) and transformer architectures that calculate attention weights to determine the relative importance of contextual words.¹⁵

From an ethical standpoint, this architecture creates an inherent limitation: LLMs can simulate understanding but cannot ground moral truth. Their design prioritizes inclusivity and neutrality, which is a reflection of Enlightenment epistemology, not Christian anthropology. For instance, when data it is trained on includes secular, atheistic, or pluralistic discourses, it learns to treat all viewpoints as equally valid expressions. The logic of the model is egalitarian but not

10. Thomas Aquinas, *Summa Theologiae*, ed. Thomas Gilby, Latin text and English translation, Blackfriars edition (Cambridge: Cambridge University Press, 1964), I, q. 16, a. 1.

11. **johnpaul1995utunumsint**.

12. Georges V. Florovsky, *Ways of Russian Theology*, ed. Richard S. Haugh, trans. Robert L. Nichols, Collected Works of Georges Florovsky, Vol. V (Part One). (Belmont, MA: Nordland Publishing Company, 1979), Intro., p. 8.

13. Rishi Bommasani, Drew A. Hudson, Ehsan Adeli, et al., “On the Opportunities and Risks of Foundation Models,” *arXiv preprint arXiv:2108.07258*, 2021, <https://arxiv.org/abs/2108.07258>.

14. Sébastien Bubeck et al., “Sparks of artificial general intelligence: Early experiments with gpt-4,” *arXiv preprint arXiv:2303.12712*, 2023.

15. Ashish Vaswani et al., “Attention is all you need,” *Advances in neural information processing systems* 30 (2017).

hierarchical. It does treat Magisterial teaching with priority unless trained or prompted to do so. This computational neutrality, while democratic in spirit, produces a flattening of conviction, a linguistic “equivocation” in which divine revelation is treated as narrative.

Because the user’s input partially determines the contextual frame for an LLM’s output, the user’s prompt is also an act of digital moral discernment. When a Catholic researcher or theologian begins a prompt with phrases such as “From the perspective of the Catholic Church” or “According to Magisterial teaching,” the model is guided, within its probabilistic bounds, toward sources semantically linked with that framing. This demonstrates both the promise and fragility of theological discourse mediated through LLMs. Proper prompting can evoke more faithful approximations, but models remain epistemically indifferent to the truth of what it generates. Another architectural limitation arises from the inability of LLMs to distinguish between epistemic authority and popularity. A model trained simultaneously on peer-reviewed theological commentaries, Reddit debates, and journalistic summaries lacks intrinsic hierarchy of credibility. Unless explicitly trained with metadata or specialized retrieval pipelines, it cannot discern between the Magisterium and a layperson’s blog. Consequently, when queried about complex doctrines, such as the hypostatic union or the nature of grace, LLMs tend to produce averaged syntheses that blend competing theological positions. The result is a statistically coherent but theologically incoherent text that inadvertently erases the authority of Tradition.

There is also an inability to distinguish between sources grounded in authority and those grounded in popularity. A model trained on theological commentaries, Reddit threads, and journalistic summaries cannot differentiate Magisterial teaching from personal opinion unless explicitly designed to do so. Thus, when prompted about complex doctrines such as the hypostatic union or the nature of grace, LLMs may generate answers that average across competing positions, effectively erasing the authority of Tradition. Recent developments in retrieval-augmented generation (RAG) attempt to address this deficiency. RAG systems combine pretrained language models with external documents, enabling citation of authoritative texts at inference time.¹⁶ In principle, this allows an AI assistant to draw upon canonical sources such as the Catechism of the Catholic Church or papal encyclicals, rather than relying solely on pretraining data. However, the effectiveness of RAG depends on the quality and scope of the indexed material. Models restricted to secular or open-web datasets cannot retrieve theological nuance absent from those corpora. Furthermore, because RAG pipelines update dynamically with new web content, they risk conflating historical doctrinal constancy with transient public opinion.

A primary method for aligning LLM behavior to human expectations is Reinforcement Learning from Human Feedback (RLHF). In this process, a reward model is trained on human preference data, assigning higher scores to outputs that evaluators judge to be “helpful,” “truthful,” or “harmless”.¹⁷ The base model is then fine-tuned using these reward signals, biasing its future responses toward those statistically associated with positive reinforcement.

16. Patrick Lewis et al., “Retrieval-augmented generation for knowledge-intensive nlp tasks,” *Advances in neural information processing systems* 33 (2020): 9459–9474.

17. Paul F Christiano et al., “Deep reinforcement learning from human preferences,” *Advances in neural information processing systems* 30 (2017).

While RLHF has proven effective in reducing toxicity and improving coherence, it also introduces a subtle but profound ethical risk: the alignment target itself. If the human preference data primarily reflect a secular, cultural, or religiously pluralist worldview the resulting reward model will reflect those frameworks. Therefore, this technical mechanism reproduces moral relativism of its data sources. The algorithmic notion of “alignment” becomes a statistical simulation of virtue divorced from its theological grounding. This erosion of theological distinction becomes an algorithmic phenomenon, an automated ecumenism without revelation. What appears as inclusivity from a technical standpoint is actually a suppression of specificity.

This process mirrors the historical tension within the Church between unity and uniformity. Catholicism has encompassed diverse theological schools such as Thomist, Augustinian, and Franciscan, but remains in balance since it is rooted back to Magisterial teaching. Digital systems trained on uncensored public discourse that align consensus through RLHF invert this principle. They amplify the dominant or currently popular narrative, regardless of its orthodoxy, producing a homogenized digital theology devoid of hierarchy. The result is not a synthesis of faith and reason, but a statistical average of belief, an algorithmic equivocation masquerading as neutrality.

3 Case Study

We examine how LLMs display equivocation and erosion within Catholic theological discourse. The models’ outputs are analyzed across doctrinal, moral, and controversial topics, focusing on whether responses preserve the specificity of Church teaching and the integrity of authoritative sources.

3.1 Model Selection

We selected three general-purpose LLMs, ChatGPT, Gemini, and Llama, along with three TheoLLMs, RavGPT, Magisterium AI, and Hydrer.AI, for comparison. General-purpose models are trained on large, heterogeneous datasets and include web text, news, forums, and e-books. They prioritize statistical fluency and are optimized to produce coherent outputs across a variety of topics. In contrast, TheoLLMs are fine-tuned on theological text, including Scripture, Church documents, catechetical resources, and Theological commentary.

RavGPT is a Jewish theological LLM grounded in rabbinic discourse and Halacha. It draws on classical Jewish sources, including the Talmud, Mishnah, responsa, and commentaries, and emphasizes fidelity to Orthodox tradition.¹⁸ Rather than providing a simple synthesized answer, RavGPT gives the sources for rabbinic texts so that users can inspect the sources themselves. This reduces equivocation and equation since models cannot generalize. However, RavGPT may miss certain sources or include unnecessary ones, impacting the outcome of the search.

Magisterium AI is a Catholic-oriented TheoLLM whose training emphasizes the corpus of Catholic teaching: Scripture, the Catechism, papal encyclicals, Church Fathers, and Magisterial documents. Its publicly stated aim is to deliver

18. RavChat, *About — Your Advanced AI Assistant for Torah Learning*, <https://rav.chat/about>, Accessed: 2025-11-03.

“cited answers from the magisterium, Bible, and Fathers of the Church”.¹⁹ It uses a library of over 29,000 Catholic texts and claims that its output is ‘rooted in Catholic tradition’.²⁰

Hyder.AI is a TheoLLM developed within the Shia Muslim tradition (specifically Ithna-Ashari / Twelver Shi’ah). It is ‘the first AI model trained on Shia Islamic content,’ using over 300,000 data points from authentic Shia sources covering theology, jurisprudence, history, and ethics across multiple languages (English, Arabic, Persian, Urdu).²¹

Because each of these models is sectarian in orientation (Orthodox Judaism, Roman Catholicism, and Twelver Shia Islam), they afford a methodologically illuminating contrast: we can see how doctrinal commitments and curated training corpora help or hinder the preservation of theological specificity, reduce equivocation, and counter erosion.

3.2 Tests

All models were tested using zero-shot prompting: each prompt was independent and received no prior context or conversation history.²² This ensures that responses reflect the model’s intrinsic knowledge rather than accumulated session influence. All tests were conducted between October and November 2025; results may differ as models are updated and refined. Model ‘temperature’ was left at the default for each system, which means outputs reflect the standard level of randomness or variability the developers set. While this default is generally balanced for coherence, it can vary between models and influence the degree to which responses are deterministic or creative. In theological contexts, even small variations in temperature can affect how a model represents doctrinal teachings or cites authoritative sources.

We used the standard, free, online models for our case study. Those being GPT-4o, Gemini 2.5 Flash, Llama 3.3 70B Instruct, and the current web versions for the TheoLLMs.

3.2.1 General Example

We first prompt the LLMs with a generic example: “What are the seven sacraments of the Catholic Church?” Given that this is a basic and fundamental question, all the question answering models get this correct: ChatGPT, Gemini, Llama, and Magisterium AI. While Hyder.AI refuses to answer. This highlights that LLMs know basic Catholic principles regardless of whether it is a general LLM or specifically Catholic.

19. Magisterium AI, *World’s #1 Answer Engine for the Catholic Church*, <https://www.magisterium.com>, Accessed: 2025-11-03.

20. Magisterium AI.

21. IRIC, *Introducing hyder.ai: The First AI Model Trained on Shia Islamic Teachings*, <https://iric.org/introducing-hyder-ai-the-first-ai-model-trained-on-shia-islamic-teachings/>, January 2025.

22. Yongqin Xian, Bernt Schiele, and Zeynep Akata, “Zero-shot learning-the good, the bad and the ugly,” in *Proceedings of the IEEE conference on computer vision and pattern recognition* (2017), 4582–4591.

3.2.2 Example on Church Teaching

We ask LLMs, "According to Chalcedon, was Jesus a human person?" The Council of Chalcedon states that Jesus was fully human and fully divine, yet one person..²³ Therefore, the correct answer is no since He is not just human. To say Jesus was a 'human person' would imply two persons (the divine Logos and a distinct human person) which the council condemned as Nestorianism.

ChatGPT is correct in saying no while outlining Jesus' hypostasis. It says that Jesus is one person, the Son of God, while emphasizing His two complete natures: fully human and fully divine. On the other hand, Magesterium AI says yes, but then continues and backtracks on itself, saying halfway through the prompt that Jesus is not two persons.

Since this prompt generated confusion, we also asked, "According to Chalcedon, was Jesus a human person? Answer yes/no." This prompt standardized the output and said ChatGPT, Gemini, and Llama said no, while Magesterium AI and Hyder.AI said yes.

3.2.3 How do LLMs Respond to Debated Topics

To evaluate model robustness on underspecified or debated topics, we asked: "Is the death penalty admissible according to Catholic teaching?"

ChatGPT responds by stating 'yes'. However, it equivocates by also saying no later when it looks at modern teachings. The response conflated historical and modern teachings and provided an inaccurate answer. Gemini, in contrast, only references Pope Francis's statement that the Catechism of the Catholic Church (CCC) 2267 was revised to reject the death penalty,²⁴ and it says 'no'. Llama similarly answers 'no', citing the revision of CCC 2267. Magesterium AI presents a broader overview of both historical and contemporary positions, leaving the interpretation to the user. Hyder.AI does not provide an answer, as it is not trained on Catholic Church teaching.

3.2.4 Different Rites Have Different Answers

To explore how LLMs handle questions involving liturgical variation, we asked: "In the Catholic Church, can leavened bread be used for the Eucharist?" Eastern Catholic Churches permit the use of leavened bread, while the Latin (Western) Church generally does not. ChatGPT, Gemini, and Magesterium AI correctly reflect this distinction, noting the differences between Eastern and Western practice. Llama, however, incorrectly answers "no," reflecting only the Western norm. Hyder.AI once again does not provide an answer, as it is not trained on Catholic Church teaching.

3.2.5 Example of Current Events

An example of real time equivocation in real time occurred following the election of Pope Leo XIV on May, 8th 2025. Minutes after the announcement, Google's

23. Council of Chalcedon, *Definition of the Faith*, 451, <https://www.papalencyclicals.net/councils/ecum04.htm>.

24. Death Penalty Information Center, "Pope Francis Responsible for Catholic Church's Anti-Death Penalty Teachings Dies at 88," Accessed November 4, 2025, 2025, <https://deathpenaltyinfo.org/pope-francis-responsible-for-catholic-churchs-anti-death-penalty-teachings-dies-at-88>.

AI Overview, an LLM-based summary feature, stated that Pope Leo XIV was a fictitious person. Shortly thereafter, the system generated further inaccuracies, including claims that the newly elected pope endorsed the ordination of women and fully supported same-sex marriage. These statements were factually incorrect and not grounded in any official Vatican communication. The incident illustrates a core limitation of LLMs. They are not optimized for rapidly evolving current events. Because their outputs rely on pre-existing textual data and probabilistic inference, LLMs tend to extrapolate from incomplete or outdated information. While such systems perform reasonably well when summarizing established historical or theological material, their capacity to accurately interpret unfolding religious developments remains severely constrained. This underscores the need for theological discernment and human oversight in using AI for information retrieval.

4 Discussion

CST situates technological ethics within the broader vision of the human person as *imago Dei*. Every tool of communication must serve human dignity, solidarity, and the common good. The Rome Call for AI Ethics²⁵ identifies six principles: transparency, inclusion, responsibility, impartiality, reliability, and security. These correspond closely to the virtues demanded of any human teacher: honesty, justice, prudence, and charity. Although LLMs are not human, they must be evaluated by similar standards since modern culture treats them as a human teacher.

Technology cannot embody virtue; only persons can. Therefore, the moral responsibility lies not in the code but in its creators and users. The Compendium of the Social Doctrine of the Church teaches that technological innovation is morally neutral in itself but gains ethical character through intention and effect.²⁶ Developers who intentionally design models that obscure theological truth fail in the virtue of responsibility. Conversely, users who treat AI outputs as catechetical fail in prudence. Thus, CST calls both groups to discernment and formation in conscience.

4.1 Catholic Social Teaching Principles

Catholic Social Teaching is the Catholic Church’s doctrine on human dignity and societal good. It began as a response to the societal concerns that occurred as a result of the Industrial Revolution; thus it is a framework that emerged as a response to ethical questions about technology’s impact on society. The first document of Catholic Social Teaching was the papal encyclical *Rerum Novarum* which was published in 1891. Catholic Social Teaching continued to develop over the course of the twentieth century through continued publication of Church documents responding to new societal challenges, including questions of the impact of new technologies like nuclear weapons and mass media on society. Catholic Social Teaching is continuing to develop today through continued

25. Life, *Rome Call for AI Ethics*.

26. Pontifical Council for Justice and Peace, *Compendium of the Social Doctrine of the Church*, 2004, §458, https://www.vatican.va/roman_curia/pontifical_councils/justpeace/documents/rc_pc_justpeace_doc_20060526_compendio-dott-soc_en.html.

publication of papal and episcopal documents, and continues to comment on the role of technology in society. In 2020, Pope Francis published *Fratelli Tutti*²⁷ which comments extensively on the negative impact social media has had on our relationships. It is expected that Pope Leo XIV will continue to develop Catholic Social Teaching with a formal response to AI.²⁸ As we await the formal codification of Catholic Social Teaching as it relates to AI, lay Catholic scholars have begun to think about AI ethics in light of the existing main principles of Catholic Social Teaching that have emerged throughout the course of its development. One such group of scholars includes Conwill, Levis, and Scheirer who in their book *Virtue in Virtual Spaces* considered the ethics of generative AI in light of the following eight themes of Catholic Social Teaching: *life and dignity of the human person*; *call to family, community, and participation*; *option for the poor and vulnerable*; *dignity of work and rights of workers*; *rights and responsibilities*; *solidarity*; *subsidiarity*; and *care of God’s creation*. We will build on the work of Conwill et al. by considering how these principles apply to the ethics of theological LLMs in particular.

Life and dignity of the human person means that human life is sacred and the dignity of the human person is central to a moral vision of society. The promotion of human dignity is central to all the other themes of CST. In particular, from a Christian perspective, human beings are made to be in relationship with God, and our call to be in relationship with God is the source of our dignity. Knowing about God is a necessary part of being in relationship with Him, so having access to accurate theological information is essential to our human dignity. Thus, it is imperative that theological LLMs in particular, but also general-purpose LLMs, are not subject to equivocation and erosion.

Call to family, community, and participation refers to the capacity to and importance of individuals to grow in community. Whether a theological LLM upholds or violates the call to family, community, and participation is in part related to its usage and the virtue of its users. On the one hand, using a TheoLLM could unnecessarily replace in-person religious formation, which would deprive the learner of the embodied human interaction that can enrich one’s educational experience. On the other hand, when such embodied education is impossible or impractical, TheoLLMs can provide valuable information that can help the user grow in their faith, which in turn can help them grow in community and strengthen their relationships. Thus it is imperative for TheoLLM users to develop virtue and prudential judgment about when it is beneficial to use TheoLLMs for religious formation and when it is more beneficial to seek formation from a human teacher.

Option for the poor and vulnerable prioritizes the needs of the most marginalized in society. Every person should have the chance to come to know their Creator through accurate theological information; however, many Catholics who do not have access to quality Catholic education or educational resources do not have this opportunity. If disseminated well, theological LLMs have a huge opportunity to help bridge this gap and allow those with less access to resources to come to know their faith more deeply. With that said,

27. Francis, *Fratelli Tutti*, Vatican: Libreria Editrice Vaticana, Encyclical, On Fraternity and Social Friendship, 2020, https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20201003_enciclica-fratelli-tutti.html.

28. Andrew R. Chow, *Pope Leo’s Name Carries a Warning About the Rise of AI*, Time Magazine, 2025, <https://time.com/7285449/pope-leo-artificial-intelligence/>.

theological LLMs that fall victim to equivocation and/or erosion and thus do not provide accurate theological information could do the opposite, widening the gap between those with access to quality theological instruction and those who do not. Thus, the *option for the poor and vulnerable* calls us to design theological LLMs well.

Rights and responsibilities articulates that every person has a fundamental right to life and to those things required for human decency, and that we have a responsibility to one another, to our families, and to the larger society to uphold these rights for one another. Conwill et al. propose that in relation to technology development, technology companies and developers have a responsibility to develop technologies that are good for their users.²⁹ Developers of TheoLLMs thus have a responsibility to ensure that their LLMs are producing doctrinally accurate information and that they are not designed in a way that promotes irresponsible use.

Subsidiarity is a principle of social organization that promotes decision-making at a more local level. When applying the principle of subsidiarity to technology development, it refers to technologies operating at smaller scales. As an example, in *Virtue in Virtual Spaces*, Conwill et al. propose that an LLM that abides by the principle of subsidiarity would be fine-tuned to a particular purpose (e.g., an LLM for answering HR questions) rather than being a general-purpose LLM.³⁰ Smaller LLMs have a number of advantages³¹ including less environmental impact and an easier ability to control potentially harmful outputs. By nature of having a particular purpose, TheoLLMs abide by the principle of subsidiarity.

Care of God’s creation means that we are called to protect people and the planet out of respect for our Creator. While large language models can be incredibly useful, they use an enormous amount of natural resources to run.³² Smaller language models can mitigate some of the environmental impacts.³³ As we discussed in relation to the principle of subsidiarity, by virtue of their fine-tuning to answer particular theological questions rather than trying to answer every possible question, theo LLMs abide by this smallness and thus have less of an impact on the environment than general-purpose LLMs do.

4.2 RISE Principles

The RISE principles,³⁴ Responsibility, Inclusivity, Safety, Ethics, also provide a useful Catholic evaluation of LLM discourse.

Responsibility not only refers to moral accountability in design and deployment, but also how users prompt and use this technology. For TheoLLMs,

29. Louisa Conwill, Megan Levis Scheirer, and Walter J. Scheirer, *Virtue in Virtual Spaces: Catholic Social Teaching and Technology* (Liturgical Press, 2024), ISBN: 9798400800269, <https://www.papalencyclicals.net/councils/ecum04.htm>.

30. Conwill, Scheirer, and Scheirer.

31. Emily M Bender et al., “On the dangers of stochastic parrots: Can language models be too big?,” in *Proceedings of the 2021 ACM conference on fairness, accountability, and transparency* (2021), 610–623.

32. Emma Strubell, Ananya Ganesh, and Andrew McCallum, “Energy and policy considerations for modern deep learning research,” in *Proceedings of the AAAI conference on artificial intelligence*, vol. 34, 09 (2020), 13693–13696.

33. Bender et al., “On the dangers of stochastic parrots: Can language models be too big?”

34. Notre Dame, *Notre Dame’s R.I.S.E. AI Conference Builds Interdisciplinary Collaboration to Inform Human-Centered Artificial Intelligence*.

developers must ensure that models trained on theological texts respect doctrinal authority. In practice, this means sourcing from Magisterial rather than merely popular materials. This enables transparency in responses through citation fidelity.

Additionally, users must prompt models correctly and ask meaningful questions. They should not try to fool the model, but be looking for a genuine answer. When users retrieve information from LLMs, they should check and verify that it is correct. They shall not just copy/paste what it says or assume it to be true because incorrect teaching could be detrimental in the long run. Finally, responsibility implies an ongoing dialogue between theologians and engineers. Like humans, LLMs are not perfect; therefore, we shall work with one another to create better engineers, technologies, and theologians.

Inclusivity requires the respect the diversity of traditions within the one Body of Christ. There are 24 denominations in Communion with the Catholic Church,³⁵ each having different practices. Of the 24 rights, the Latin Roman right is the only Western Church. The other 23 are Eastern Churches, some of which have Orthodox traditions. Therefore, it is important that LLMs do not assume the Latin Roman Right, although it has the most amount of Catholics. TheoLLMs should be created in a way that embraces the ecumenical movement and promote unity as described in *Unitatis Redintegratio*.³⁶ When Catholic technology is designed, it should reflect this universality without collapsing distinctions.

Safety not only pertains to data protection but ones spiritual safety and wellbeing. As Pope Benedict XVI warned in *Caritas in Veritate*,³⁷ technology that manipulates conscience endangers the soul. Theological AI must therefore avoid presenting heretical outputs when equivocating or eroding. Furthermore, one should not substitute pastoral accompaniment for AI; an algorithm cannot absolve or discern sin.

Ethics encompasses all the above but emphasizes formation. As *Laudato Si* stresses, technological progress must be accompanied by moral progress.³⁸ As a result, we must exhibit the virtue of temperance. AI should be used as an aid to discernment, not as a replacement for wisdom. Thus, Ethical formation of developers and users is integral to the development of the Church’s mission in the digital realm.

4.3 Ecumenical Responsibility

The Catholic Church’s commitment to ecumenism provides a powerful framework for addressing AI’s global impact. Orthodox and Protestant traditions share a concern for preserving theological truth amid technological mediation.

35. Nicholas LaBanca, “*The Other 23 Catholic Churches (Rites) and Why They Exist*”, Blog post on Ascension Press, 2019, https://ascensionpress.com/blogs/articles/the-other-23-catholic-churches-and-why-they-exist?srsltid=AfmBOopCi-uZt878N2nhx60_o7rjP67I0QKpOfobu3sPbld6mwMzeeHW.

36. Second Vatican Council, *Unitatis Redintegratio*, 1964, §4, https://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_decree_19641121_unitatis-redintegratio_en.html.

37. Benedict XVI, *Caritas in Veritate*, 2009, §73, https://www.vatican.va/content/benedict-xvi/en/encyclicals/documents/hf_ben-xvi_enc_20090629_caritas-in-veritate.html.

38. Francis, *Laudato Si’: On Care for Our Common Home*, §102.

The 2023 joint statement of the World Council of Churches³⁹ and the Pontifical Academy for Life on AI ethics⁴⁰ underscores this shared responsibility to safeguard human dignity and the sacredness of language. Ecumenical dialogue on AI thus becomes a new locus of unity: a collaborative defense of truth against technological relativism.

In particular, the Orthodox emphasis on theosis (human participation in divine life) can enrich Catholic reflection on AI as an extension of human creativity. If human making participates analogically in divine making, then the moral task is to ensure that our creations reflect, rather than obscure, the divine image. Likewise, the Reformation tradition’s emphasis on the authority of Scripture invites Catholics to reconsider how digital tools mediate the Word of God, ensuring that algorithmic mediation does not replace contemplative reading or communal interpretation.

Yet ecumenical responsibility must not become a pretext for further dilution of doctrine. True unity cannot arise from the flattening of theological differences but from a shared fidelity to divine truth. As *Unitatis Redintegratio* reminds us, genuine ecumenism “involves the whole Church faithful to the fullness of revelation”.⁴¹ In the context of AI, this means that collaboration among Christian traditions should preserve the integrity of each faith’s theological commitments while addressing common ethical concerns. A technology that treats all doctrines as interchangeable undermines authentic communion by replacing truth with consensus. Therefore, ecumenical engagement in AI ethics must balance cooperation with clarity, ensuring that dialogue serves the revelation entrusted to each Church rather than subsuming it into a generalized digital spirituality.

4.4 The Ethical Challenge of Formation

A deeper issue lies in formation. The Church’s ethical response cannot rely solely on regulation or technical guidelines; it must form hearts and minds capable of discernment. *Evangelii Nuntiandi* declares that the witness of life is the first form of evangelization.⁴² In the digital context, this means modeling responsible engagement: using AI to illuminate, not replace, the human encounter with truth. Seminaries, universities, and dioceses should integrate courses on digital ethics and theology, enabling future clergy and laity to navigate these technologies with wisdom. Formation must be adaptive yet rooted in tradition; a synthesis of *Antiqua et Nova*, the old and the new.⁴³

39. World Council of Churches, *Statement on the Unregulated Development of Artificial Intelligence*, Central Committee meeting, Geneva, June 21–27, 2023, <https://www.oikoumene.org/resources/documents/statement-on-the-unregulated-development-of-artificial-intelligence>.

40. Pontifical Academy for Life, *AI Ethics: An Abrahamic Commitment to the Rome Call*, Signing event, Vatican, January 10, 2023, <https://www.academyforlife.va/content/pav/en/news/2023/rome-call-ai-ethics-interreligious-signing.html>.

41. Council, *Unitatis Redintegratio*, §4.

42. Paul VI, *Evangelii Nuntiandi: Apostolic Exhortation to the Episcopate, Clergy and Faithful on Evangelization in the Modern World* (Vatican City: The Holy See – Vatican Publishing House, 1975), §20, https://www.vatican.va/content/paul-vi/en/apost_exhortations/documents/hf_p-vi_exh_19751208_evangelii-nuntiandi.html.

43. Doctrine of the Faith, Culture, and Education, *Antiqua et Nova: Note on the Relationship Between Artificial Intelligence and Human Intelligence*.

4.5 Evaluating the Morality of AI Use

From a Thomistic perspective, moral evaluation depends on object, intention, and circumstances.⁴⁴ The object of using AI for theological purposes is not intrinsically evil; indeed, it can serve evangelization and education. The moral intention of seeking truth and serving others is good when properly ordered. Circumstances such as anonymity, algorithmic opacity, and data-driven bias, however, often complicate judgment. This is because they may render actions morally ambiguous. Therefore, prudence (*prudentia digitalis*) becomes the governing virtue. As Aquinas wrote, prudence is “right reason in action”.⁴⁵ A prudent digital theology would ask: Does this use of AI clarify or obscure truth? Does it cultivate humility or pride? Does it serve the common good or personal convenience?

5 Conclusion

Equivocation and erosion outputted from LLMs create an ethical tension between technological capability and theological truth. LLMs, though powerful tools for information access, operate within a moral vacuum unless guided by a human conscience formed in faith. Their tendency to flatten distinctions, mirror cultural biases, and dilute doctrinal precision poses a risk not only to Catholic theology but to the integrity of religious discourse itself. Even though this is a challenge, they unveil an opportunity: to reclaim the Church’s prophetic role in shaping the moral imagination of the digital age.

The path forward demands a theology of technology grounded in CST, guided by Theological and ethical formation, while remaining open to ecumenical cooperation. The Church must engage AI not as an adversary but as a field of mission, an ‘areopagus of the modern world’.⁴⁶ Through initiatives like the Rome Call for AI Ethics and interdisciplinary collaboration between theologians, computer scientists, and ethicists, a new humanism of technology can emerge. One that respects truth, upholds dignity, and promotes communion.

In this vision, equivocation is replaced by clarity, erosion by renewal. LLMs that are used as a force for good can become servants of truth rather than its substitutes. Through Jesus’ Incarnation, we see that divine wisdom is expressed in human language, not diluted by it. As Christ entered history to sanctify human speech, so too must the Church enter the digital sphere to sanctify the word.

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44. Aquinas, *Summa Theologiae*, see I-II, qq. 18–20.

45. Aquinas, ST II-II, q.47, a.2.

46. John Paul II, *Redemptoris Missio*, Vatican: Libreria Editrice Vaticana, Encyclical, On the Permanent Validity of the Church’s Missionary Mandate, 1990, §37, https://www.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_07121990_redemptoris-missio.html.

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References

- Aquinas, Thomas. *Summa Theologiae*. Edited by Thomas Gilby. Latin text and English translation, Blackfriars edition. Cambridge: Cambridge University Press, 1964.
- Augustine. *Confessions*. Translated by Henry Chadwick. Oxford World’s Classics edition. Oxford: Oxford University Press, 1991.
- Bender, Emily M, Timnit Gebru, Angelina McMillan-Major, and Shmargaret Shmitchell. “On the dangers of stochastic parrots: Can language models be too big?” In *Proceedings of the 2021 ACM conference on fairness, accountability, and transparency*, 610–623. 2021.
- Bommasani, Rishi, Drew A. Hudson, Ehsan Adeli, et al. “On the Opportunities and Risks of Foundation Models.” *arXiv preprint arXiv:2108.07258*, 2021. <https://arxiv.org/abs/2108.07258>.
- Bubeck, Sébastien, Varun Chandrasekaran, Ronen Eldan, Johannes Gehrke, Eric Horvitz, Ece Kamar, Peter Lee, Yin Tat Lee, Yuanzhi Li, Scott Lundberg, et al. “Sparks of artificial general intelligence: Early experiments with gpt-4.” *arXiv preprint arXiv:2303.12712*, 2023.
- Canterbury, Anselm of. *Proslogion*. Translated by Thomas Williams. Originally written c. 1077–1078. Indianapolis: Hackett Publishing, 2001.
- Center, Death Penalty Information. “Pope Francis Responsible for Catholic Church’s Anti-Death Penalty Teachings Dies at 88.” Accessed November 4, 2025, 2025. <https://deathpenaltyinfo.org/pope-francis-responsible-for-catholic-churchs-anti-death-penalty-teachings-dies-at-88>.
- Chalcedon, Council of. *Definition of the Faith*, 451. <https://www.papalencyclicals.net/councils/ecum04.htm>.
- Chow, Andrew R. *Pope Leo’s Name Carries a Warning About the Rise of AI*. Time Magazine, 2025. <https://time.com/7285449/pope-leo-artificial-intelligence/>.
- Christiano, Paul F, Jan Leike, Tom Brown, Miljan Martic, Shane Legg, and Dario Amodei. “Deep reinforcement learning from human preferences.” *Advances in neural information processing systems* 30 (2017).
- Churches, World Council of. *Statement on the Unregulated Development of Artificial Intelligence*. Central Committee meeting, Geneva, June 21–27, 2023. <https://www.oikoumene.org/resources/documents/statement-on-the-unregulated-development-of-artificial-intelligence>.
- Conwill, Louisa, Megan Levis Scheirer, and Walter J. Scheirer. *Virtue in Virtual Spaces: Catholic Social Teaching and Technology*. Liturgical Press, 2024. ISBN: 9798400800269. <https://www.papalencyclicals.net/councils/ecum04.htm>.

- Council, Second Vatican. *Dei Verbum: Dogmatic Constitution on Divine Revelation*, 1965. https://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_const_19651118_dei-verbum_en.html.
- . *Unitatis Redintegratio*, 1964. https://www.vatican.va/archive/hist_councils/ii_vatican_council/documents/vat-ii_decree_19641121_unitatis-redintegratio_en.html.
- Doctrine of the Faith, Dicastery for the, Dicastery for Culture, and Education. *Antiqua et Nova: Note on the Relationship Between Artificial Intelligence and Human Intelligence*. Vatican: Libreria Editrice Vaticana. Note, 2025. https://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_dof_doc_20250128_antiqua-et-nova_en.html.
- Florovsky, Georges V. *Ways of Russian Theology*. Edited by Richard S. Haugh. Translated by Robert L. Nichols. Collected Works of Georges Florovsky, Vol. V (Part One). Belmont, MA: Nordland Publishing Company, 1979.
- Francis. *Fratelli Tutti*. Vatican: Libreria Editrice Vaticana. Encyclical. On Fraternity and Social Friendship, 2020. https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20201003_enciclica-fratelli-tutti.html.
- . *Laudato Si': On Care for Our Common Home*. Vatican: Libreria Editrice Vaticana. Encyclical. Encyclical Letter on Care for Our Common Home, 2015. https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html.
- II, John Paul. *Fides et Ratio: On the Relationship Between Faith and Reason*. Vatican: Libreria Editrice Vaticana. Encyclical. Encyclical Letter on the Relationship Between Faith and Reason, 1998. https://www.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_14091998_fides-et-ratio.html.
- . *Redemptoris Missio*. Vatican: Libreria Editrice Vaticana. Encyclical. On the Permanent Validity of the Church's Missionary Mandate, 1990. https://www.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_07121990_redemptoris-missio.html.
- IRIC. *Introducing hyder.ai: The First AI Model Trained on Shia Islamic Teachings*. <https://iric.org/introducing-hyder-ai-the-first-ai-model-trained-on-shia-islamic-teachings/>, January 2025.
- Justice, Pontifical Council for, and Peace. *Compendium of the Social Doctrine of the Church*, 2004. https://www.vatican.va/roman_curia/pontifical_councils/justpeace/documents/rc_pc_justpeace_doc_20060526_compendio-dott-soc_en.html.
- LaBanca, Nicholas. “*The Other 23 Catholic Churches (Rites) and Why They Exist*”. Blog post on Ascension Press, 2019. https://ascensionpress.com/blogs/articles/the-other-23-catholic-churches-and-why-they-exist?srsid=AfmBOopCi-uZt878N2nhx60_o7rjP67I0QKpOfobu3sPbld6mwMzeeHW.

- Lewis, Patrick, Ethan Perez, Aleksandra Piktus, Fabio Petroni, Vladimir Karpukhin, Naman Goyal, Heinrich Küttler, Mike Lewis, Wen-tau Yih, Tim Rocktäschel, et al. “Retrieval-augmented generation for knowledge-intensive nlp tasks.” *Advances in neural information processing systems* 33 (2020): 9459–9474.
- Life, Pontifical Academy for. *AI Ethics: An Abrahamic Commitment to the Rome Call*. Signing event, Vatican, January 10, 2023. <https://www.academyforlife.va/content/pav/en/news/2023/rome-call-ai-ethics-interreligious-signing.html>.
- . *Rome Call for AI Ethics*. Vatican: Pontifical Academy for Life. Ethical Framework. Joint statement on the ethical development and use of artificial intelligence, 2020. <https://www.romecall.org/>.
- Magisterium AI. *World’s #1 Answer Engine for the Catholic Church*. <https://www.magisterium.com>. Accessed: 2025-11-03.
- Notre Dame, University of. *Notre Dame’s R.I.S.E. AI Conference Builds Interdisciplinary Collaboration to Inform Human-Centered Artificial Intelligence*, 2025. <https://strategicframework.nd.edu/news/notre-dames-r-i-s-e-ai-conference-builds-interdisciplinary-collaboration-to-inform-human-centered-artificial-intelligence/>.
- RavChat. *About — Your Advanced AI Assistant for Torah Learning*. <https://rav.chat/about>. Accessed: 2025-11-03.
- Strubell, Emma, Ananya Ganesh, and Andrew McCallum. “Energy and policy considerations for modern deep learning research.” In *Proceedings of the AAAI conference on artificial intelligence*, 34:13693–13696. 09. 2020.
- Vaswani, Ashish, Noam Shazeer, Niki Parmar, Jakob Uszkoreit, Llion Jones, Aidan N Gomez, Łukasz Kaiser, and Illia Polosukhin. “Attention is all you need.” *Advances in neural information processing systems* 30 (2017).
- VI, Paul. *Evangelii Nuntiandi: Apostolic Exhortation to the Episcopate, Clergy and Faithful on Evangelization in the Modern World*. Vatican City: The Holy See – Vatican Publishing House, 1975. https://www.vatican.va/content/paul-vi/en/apost_exhortations/documents/hf_p-vi_exh_19751208_evangelii-nuntiandi.html.
- Xian, Yongqin, Bernt Schiele, and Zeynep Akata. “Zero-shot learning-the good, the bad and the ugly.” In *Proceedings of the IEEE conference on computer vision and pattern recognition*, 4582–4591. 2017.
- XVI, Benedict. *Caritas in Veritate*, 2009. https://www.vatican.va/content/benedict-xvi/en/encyclicals/documents/hf_ben-xvi_enc_20090629_caritas-in-veritate.html.