

White paper

"Artificial intelligence in the service of the Bible"

These are exciting times in the development of AI. As Google says about Ai: "We believe that AI is a foundational and transformational technology that will provide compelling and helpful benefits to people and society through its capacity to assist, complement, empower, and inspire people in almost every field of human endeavor." As AI has all kinds of potential to contribute, to aid and to add to human endeavor, why not utilize this growing technology to help Christians discover, learn and grow as they follow Jesus in modern times?

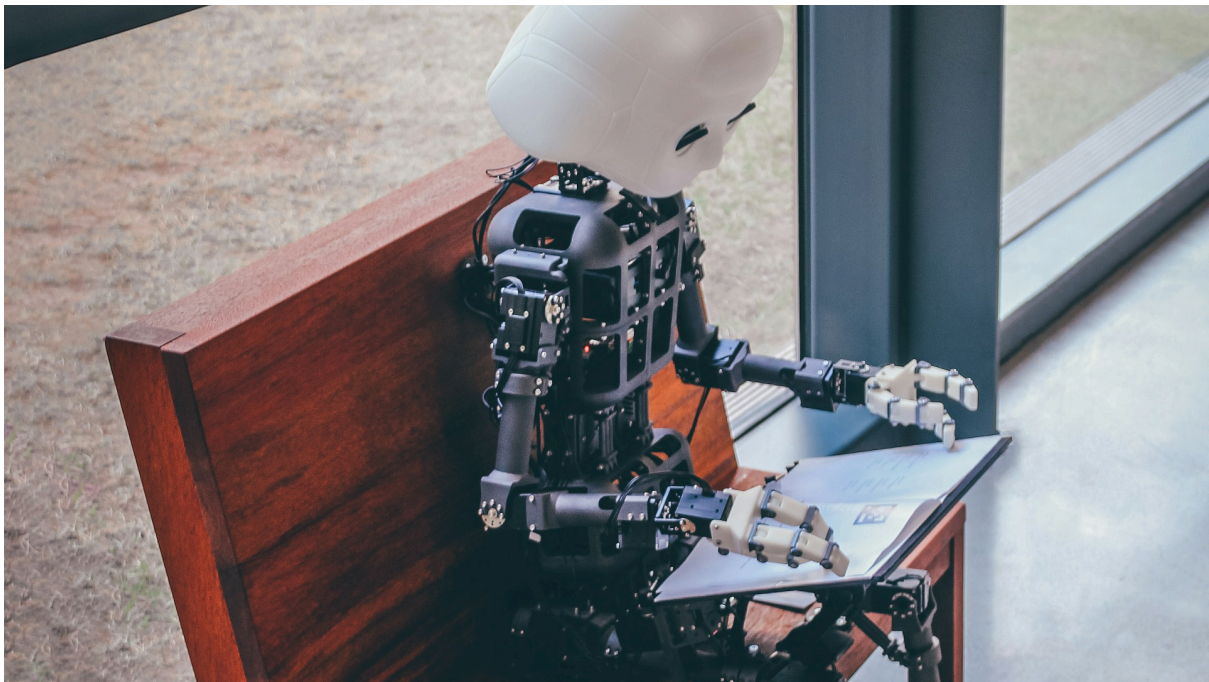


Figure 1 – Source: santesson89 @ unsplash.com

Chapter 1: Understanding AI

Artificial intelligence (AI) is a field of computer science that aims to create systems capable of performing tasks that normally require human intelligence. These tasks can include learning, reasoning, visual perception, understanding human language, and decision making. Artificial Intelligence (AI) is a vast field encompassing various types of intelligent systems in different degrees. Since AI is still in its early stages of development, there are many ways to categorize AI. Here are some of the strains of thought.

Stages of AI: ANI, AGI, ASI

In his TED Talk, designer and futurist Maurice Conti mentions three phases of AI. According to his perspective, the initial stage of AI development is referred to as the passive phase. Subsequently, the second stage is characterized as the generative phase, and finally, the third stage is termed the intuitive phase. Passive AI is designed to do exactly what we tell them to do and nothing more. The second phase is when, by utilizing algorithms, generative AI has the capability to autonomously generate content. Conti's third phase, intuitive AI, will work together with people on an equal footing.

Types of AI: ANI, AGI, ASI

Three main categories of AI can be described as Artificial Narrow Intelligence (ANI), Artificial General Intelligence (AGI), and Artificial Superintelligence (ASI).

1. **Artificial Narrow Intelligence (ANI)**

Perhaps not so visible in our day to day life, but very present nonetheless is ANI (Artificial Narrow Intelligence) or Weak AI. ANI-systems can perform a specific task or set of tasks that are narrow in scope and require specific human prompting. Examples include: speech recognition systems like Siri or Alexa, image recognition systems used in facial recognition or object detection, recommendation systems used by Netflix or Amazon and autonomous driving systems that can navigate roads and avoid obstacles. But it also includes chatbots and virtual assistants like ChatGPT. So it is important to realize that these seemingly new developments merely constitute a first wave of developments.

2. **Artificial General Intelligence (AGI)**

AGI or Strong AI is considered a form of artificial intelligence that would function at the same level of cognitive ability as a human. This includes tasks like understanding language, reasoning, problem-solving, and even creativity. It is important to mention that a fully operational AGI has not yet been achieved. Some AI research focuses on developing algorithms and architectures that can potentially lead to AGI in the future. This category lingers perhaps between the second and third phase of Conti, between generative and intuitive.

3. **Artificial Superintelligence (ASI)**

The third and final category is called Artificial Superintelligence (ASI) and represents the pinnacle of artificial intelligence research, transcending the capabilities of human intellect. ASI consists of systems that surpass human intelligence in all cognitive tasks and capabilities. This is a hypothetical concept that has not yet been achieved, but some experts believe that it could be possible in the future.

Learning methods of AI: Machine and Deep Learning

Another way of looking at AI is by ways it is learning. For instance, by machine learning and deep learning. The difference is most likely best placed between the second and third phases of Conti and between the first and second categories of AI manifestations mentioned above.

1. **Machine Learning**

Machine learning is a subset of AI that involves the use of algorithms that can learn and improve over time based on data inputs. Examples include the forms of AI mentioned in the segment about ANI.

2. **Deep Learning**

Deep learning is a step up and constitutes a way of machine learning that involves the use of artificial neural networks with many layers. Examples include tasks like image recognition algorithms used in self-driving cars or medical diagnoses, language translation systems that can translate between multiple languages or voice assistants that can understand natural language commands and questions.

Ranges of AI: weak and strong

And finally, AI can also be divided into two main types: weak AI and strong AI. Weak AI, or narrow AI, is designed to perform a specific task, such as recommending products or answering specific questions. At the other end of the spectrum, strong AI, also known as general AI, is artificial intelligence that has the ability to understand, learn, and apply its intelligence to any intellectual task that a human being can perform. To date, strong AI remains largely theoretical, without practical real-world examples.

Overlap

Of course, there is overlap between different phases, categories and learning methods and AI systems can fall under multiple types or use different techniques in combination to achieve their goals. However, it is most important to note that AI and its many applications are still in their early stages. The possibilities, and with them the ethical issues, are likely to increase rapidly and become more complex. For that reason alone it makes sense at this stage – also as Christians – to become proficient in this new field of work.

Chapter 2: Following in footsteps

We sincerely believe that God has given us technology throughout history to reach people with the good news of the gospel. Jesus' disciples and early Christian leaders used the technology and innovations available to them to spread the gospel and build a community of believers. While their methods may seem primitive compared to modern technology, their use of the resources available to them was innovative and effective in spreading the message of Christianity. For their time these innovative ways were pretty stunning! For instance:

1. **They used the Roman Road System:** early Christians traveled along the extensive Roman road system to all corners of the Roman Empire and spread the gospel. The road were built for evil purposes: The war industry, but this road system allowed for fast and efficient travel, making it easier for the early Christians to reach new communities and share their message.
2. **The Codex:** the codex was a book-like format that replaced the scroll and allowed for easier access to written material. The early Christians used the codex to create and distribute copies of the Bible and other religious texts, making them more widely available to the general public.
3. **Epistles:** The early Christians used letters and epistles to communicate with one another and share their beliefs. The Apostle Paul, for example, wrote letters to various churches and individuals, which were later collected and included in the New Testament. And he did this in Greek, not the traditional and accepted Hebrew language. The goal he had was to communicate in the language that searchers could understand.

Early adapters

Even in modern times, followers of Jesus Christ have been known to be early adapters of new technology when available. Where Paul used Roman highways and letters, TWR used radio, Billy Graham used television, Luther used the printing press and Life Church used online technology for multi-site celebrations, online communion and the Bible app YouVersion. In every era, the church has adapted new technologies to spread the message. Notable is also how Christians are almost always early adopters of new technology. No other group in history has felt such an urge to convey their message and realize their commission like Christians. They are, therefore, always looking for new means and opportunities to reach people.

We believe that technology is a gift from God, and we want to use it to reach people with the message of Jesus Christ.

Chapter 3: Our current project

Lately we have been rather busy developing our first tool in the area of AI: Ask Jesus.net. This artificial intelligence (AI) chatbot is a so-called GPT, a generative pre-trained transformer. Generative means this AI chatbot will create new content and is suited to do so from biblical sources – when prompted to do so by an outside source, like humans. Quite cutting-edge in itself, Ask Jesus.net also stands out in its form, where users will receive an answer in the first person – as how Jesus could have answered the person.

Advice and guidance

In brief the Ask Jesus.net chatbot is an innovative tool created by Jesus.net that utilizes Artificial Intelligence (AI) to offer personalized advice and guidance to those seeking answers to their spiritual questions. It serves as a conversation starter with instant answer, without delay of e-coach. In this whitepaper, we will explore the employment of the Ask Jesus.net chatbot by Jesus.net and its use by Christians.

Weak AI

In our project, we use a weak form of AI known as natural language processing (NLP). NLP is a technology that enables machines to understand, analyze, generate, and respond to human language in useful and meaningful ways. To do this, our AI analyzes texts from the Bible and interprets them to provide biblical answers to biblical or existential questions.

Machine learning

AI learns from large data sets through a process called machine learning. In our case, this data includes biblical texts as well as various commentaries and interpretations. It is important to note that AI only simulates intelligence; it does not understand the texts in the same way a human would. It relies on statistical models to generate relevant answers. The key in getting the right answers is to create the best prompt. By giving the right input to an AI system provides the right answer.

Identifying patterns

Finally, it is crucial to understand that AI is only a tool. It does not replace human judgment or the wisdom we draw from thousands of years of thinking, rather it builds on it and draws from it. Instead, it offers a new way to explore these questions, helping to identify patterns, connections, and interpretations that might otherwise go unnoticed.

Chapter 4: The Objective

The fundamental intention of our project is to create a bridge between the modern technology of artificial intelligence and the very old study of the Bible. The goal is in no way to replace the divine Word or to diminish the importance of the biblical texts, quite the opposite in fact. AI is used as a tool to help individuals explore, understand and reflect on the teachings of the Bible in new, innovative and personal ways.

What would Jesus say?

By making the Bible "speak" through AI, we seek to facilitate a deeper understanding of the teachings of the Bible in general and of Jesus Christ in particular. Regarding Jesus (What would Jesus say?), we do not claim that the AI "becomes" Jesus. Instead, the AI analyzes the words of Jesus as presented in the Bible, as well as the interpretations and commentaries of scholars and theologians, to generate answers that are consistent with those teachings.

Commonly accepted results

It is important to note that AI does not add new ideas or teachings that are not already present in the Bible or in the interpretations commonly accepted by scholars. Rather, it serves as a mirror, reflecting the teachings of Jesus in a way that can help users see connections and implications they had not noticed before.

Valuable tool

We believe that AI can be a valuable tool for Bible study, offering a new perspective and stimulating deeper reflection. However, we also recognize that AI is only one tool among others, and that it does not replace direct Bible reading, prayer, meditation, or discussion with other believers or churchmen and women (pastors, priests, etc.). Ultimately, our goal is to encourage engagement with the teachings of Jesus and the Bible as a whole, using modern technology to deepen our understanding of these ancient and precious texts.

Chapter 5: Transparency and Respect

The use of AI in the religious context must be guided by two fundamental principles: transparency and respect.

Transparency

Transparency means we are open and clear about how AI works and how it generates its answers. AI is not a mysterious "black box." Instead, it is based on well-understood algorithms that analyze and interpret biblical texts based on specific input data and statistical models. These algorithms are not influenced by bias or subjective interpretations, but are based on an objective analysis of the texts. We are committed to explaining these processes in a clear and accessible manner, so that users can understand how the AI arrives at its answers.

Respect

Respect means that we treat the biblical texts and beliefs of our users with the utmost consideration. We understand that religion and faith are deeply personal and meaningful aspects of people's lives, and we are committed to respecting that reality. The answers provided by AI are based on rigorous analysis of biblical texts and are presented in a respectful manner. We refrain from any interpretation that could be considered offensive or inappropriate.

Diversity of interpretations

In addition, we respect the diversity of interpretations and beliefs within the Christian community. We understand that the Bible may be interpreted in different ways by different groups and individuals, and we strive to respect that diversity. The AI is designed to reflect a range of accepted interpretations, rather than favoring one specific interpretation.

Not an authority

Finally, we respect that AI is a tool, not an authority. Users are encouraged to use AI as a means to explore and reflect on the teachings of the Bible, but not as a source of authority in itself. The true sources of authority remain the biblical texts themselves, as well as the interpretations and teachings of religious leaders and faith communities. By adhering to these principles of transparency and respect, we seek to use AI in a way that enhances Bible study and reflection on the teachings of Jesus, while respecting the dignity and faith of each individual.

Chapter 6: Ethical Issues

We recognize that incorporating AI into the study of the Bible and the teachings of Jesus raises complex and important ethical issues. In fact, ethics is at the heart of our project, as we strive to respect the biblical texts and the beliefs of the users while using cutting-edge technology never before used for this purpose.

Here are some of the ethical issues we have identified:

1. **Distorting the teachings of the Bible:** AI relies on algorithms and machine learning models to analyze and interpret texts. How can we ensure that this analysis does not distort or misrepresent the teachings of the Bible?
2. **Substitution for the Word of God:** By making the Bible "speak" through AI, we run the risk that some users will perceive AI as a substitute for the Word of God. How can we avoid this misperception and clearly ensure that AI is a tool for analysis and not a source of divine revelation?
3. **Diversity of interpretations:** The Bible is interpreted in different ways by different communities and individuals. How can AI respect this diversity of interpretations without favoring a particular interpretation or marginalizing certain beliefs?
4. **Respect for users' faith:** The use of AI in the religious context could be perceived by some as disrespectful or inappropriate. How can we ensure that our use of AI respects users' faith and their personal relationship with sacred texts?
5. **Data Protection:** AI requires processing data, which can include sensitive information about users' beliefs and questions. How can we protect this data and ensure user privacy?

These questions are not exhaustive, and we are open to identifying and exploring other ethical issues that may emerge. We approach these challenges with seriousness and commitment, and we are committed to finding solutions that respect the Bible, the diversity of interpretations, and the faith of users.

Chapter 7: Accountability and Long-Term Commitment

Our project, which combines artificial intelligence and the Bible, requires great responsibility. We understand the importance of the texts we are analyzing and the crucial role that the Bible and more generally religion play in the lives of many people. We therefore take this commitment with the seriousness it deserves.

Open communication

We are dedicated to maintaining open communication with our users and all stakeholders. Being an interactive organization, we value feedback, criticism, and suggestions like no other, for it allows us to constantly improve our approach and appropriately address ethical concerns.

Staying current

We also strive to stay current with technological advances and ethical discussions related to AI, to ensure that our tool remains relevant and ethically sound.

Improve by learning

Furthermore we understand that using AI in our context is a learning process. We expect to encounter challenges along the way, we are eager to learn from these challenges and use them to improve our approach. We are committed to being flexible and adaptable, while remaining firmly grounded in our core principles of respect and transparency.

Supporting the journey

Finally, we are committed to supporting our users throughout their journey of exploring the Bible with AI. We will strive to provide support, resources, and guidance to help users make the most of this technology, while respecting their faith and beliefs.

This project is a long-term commitment for us. We are excited about the potential of AI to enrich Bible study and reflection on the teachings of Jesus, and we have a firm resolve to work diligently on realizing that potential in an ethical and respectful manner.

Chapter 8: Openness to discussion and criticism

We recognize that the use of artificial intelligence in Bible study is a new and potentially controversial topic. There will inevitably be disagreements, criticisms, and questions, and we welcome these reactions. In fact, we believe that discussion and criticism can play a crucial role in improving our work and exploring the ethical implications of AI.

Listening carefully

It is our aim to listen carefully to all criticisms and concerns, whether they come from our users, religious leaders, researchers, or other community members. However, we recognize that we don't have all the answers and that we can learn a lot from the perspectives of others.

Respond respectfully

We will strive to respond to criticism in an open and respectful manner. We will not dismiss criticism simply because it is difficult or uncomfortable. Instead, we will seek to understand the underlying concerns and work to address them in a constructive manner.

Facilitating discussion

We are also committed to facilitating open discussion about the use of AI in the study of sacred texts. This could include organizing forums or roundtables, publishing our research, participating in conferences and debates, and other means of exchanging ideas and perspectives.

Finally, we recognize that openness to discussion and criticism is an essential part of ethics. We cannot act ethically if we act in isolation or if we refuse to consider the perspectives of others. We are therefore committed to maintaining an attitude of openness, listening and respect for all voices contributing to this important discussion.

Chapter 9: AI Evolution and Continuous Improvement

Artificial intelligence is an ever-evolving field, with rapid technological advances that open up new opportunities and pose new challenges. We are committed to staying at the forefront of this field, understanding these changes and incorporating them appropriately and ethically into our work.

Continuous improvement

This means that we are bound to continuous improvement of our AI system. We will seek to integrate the latest advances in machine learning, natural language processing, and other relevant areas to improve the accuracy, efficiency, and usefulness of our tool.

Staying involved

Keeping a keen eye on AI's evolution also involves a constant engagement with technology as it unfolds and to understand the ethical implications of these new technologies. For example, the emergence of more powerful deep learning techniques could enable AI to provide more accurate and nuanced answers, but it could also raise new ethical questions, such as algorithmic bias or data privacy. We are committed to understanding these issues and proactively addressing them.

Gathering feedback

In addition, we are committed to gathering feedback from our users and other stakeholders to continuously improve our tool. This already includes conducting surveys (we've polled thousands of users to understand how they govern the answers generated by the artificial intelligence). We are listening carefully to the comments and suggestions. This could also include organizing focus groups. We value the perspectives of those who use our tool and seek to understand how we can better meet their needs and expectations.

Finally, we recognize that the evolution of AI is a long-term process that requires a sustained commitment. We are willing to invest the time and resources necessary to keep up with the field, learn from our mistakes, celebrate our successes, and constantly seek to improve our work.

Chapter 10: Compliance with regulations and standards

Like any use of technology, the application of artificial intelligence to the study of sacred texts must comply with all applicable regulations and standards. This includes not only data protection and privacy laws, but also recognized ethical principles in the AI field.

Complying with requirements

In the area of data protection, we are steadfast in complying with all data collection, storage and processing requirements. We wholeheartedly understand that the information users share with us may be sensitive and we will make every effort to protect it. We will be transparent about the use of user data and comply with all applicable regulations regarding consent and the right to be forgotten. We offer clear terms of use and strong privacy policies on our website.

Montreal principles

With respect to ethical standards for AI, we aim to conscientiously follow internationally recognized principles, including those set forth in documents such as the Montreal Principles for Responsible AI. These principles include transparency, fairness, non-maleficence, accountability and privacy, among others. We will seek to integrate these principles into all facets of our work.

Seeking collaboration

In addition, we will seek to work closely with regulators, thought leaders, and other stakeholders to help shape AI standards and regulations in the religious domain. We understand that this is a new area and that many questions remain unanswered. We stand ready to contribute to these discussions and help develop standards that respect both the capabilities of AI and the importance of sacred texts.

We understand that compliance with regulations and standards is not only a legal obligation, but also a matter of respect for our users and for ethical principles. We are therefore committed to complying with all relevant regulations and standards and to going beyond them where necessary to ensure the ethical and respectful conduct of our work.

Chapter 11: Sources

The AI we use is based on machine learning models that have been trained on a wide range of textual data. The data sources are varied and vast, including books, articles, websites, and other forms of written text. However, it is important to note that these models do not "know" which specific documents were used in their training. They do not retain specific information from a document, but rather learn to identify and reproduce general patterns in the language they have analyzed.

Various sources

In the specific case of our use of AI for analyzing and answering biblical questions, we have also incorporated biblical texts and commentaries into the AI training material. This includes various versions of the Bible, commentaries by theologians and Bible scholars, and other academic and religious resources. Again, the AI does not have access to these specific texts when generating responses, but uses the language patterns it has learned to produce consistent and relevant responses.

Sources include many, many versions of the Bible: We have included several different versions of the Bible in our AI training to ensure a broad and nuanced understanding of the text. For example:

- The King James Version (KJV): This English translation of the Bible is one of the oldest and most respected. It was first published in 1611.
- The New International Version (NIV): This is a modern, easy-to-read English translation of the Bible that is widely used in many Protestant contexts.
- The New Revised Standard Version (NRSV): This English translation is widely used in academic settings for its accuracy and fidelity to the original languages.
- The New American Bible (NAB): This is an English translation of the Bible that is widely used in Catholic contexts in the United States.
- The New Living Translation (NLT): This is an English translation of the Bible that emphasizes clarity and modern understanding.
- The Jerusalem Bible: This is a French translation that is widely respected and used, especially in Catholic contexts. It is known for its detailed notes and commentaries.
- The Ecumenical Translation of the Bible (TOB): This translation was produced jointly by Protestant and Catholic scholars. It aims to provide an accessible yet academically accurate text.
- The Sower's Bible: This is a modern translation into everyday French that is widely used in evangelical contexts. It emphasizes clarity and ease of understanding.
- The Common French Bible: This translation was produced to make the biblical text easy to read and understand for contemporary readers. It is used in various Christian contexts.
- The New Second Bible (NBS): This translation is a revision of the Second Bible, one of the most respected translations in French. It aims to be accurate and faithful to the original texts.

- The Louis Second Bible: This is one of the most classic and respected translations in French, often used in Protestant contexts.
- The Word of Life Bible: This is an easy-to-read French translation for those who are new to the Bible or have reading difficulties.
- The Common French Bible: This is similar to the Common French Bible but includes the Deuterocanonical books often associated with the Catholic tradition.

Numerous biblical commentaries: We have also used commentaries from respected theologians and Bible scholars. For example:

- Matthew Henry's Bible Commentary: This is a comprehensive commentary on the Bible written in the early 18th century by Matthew Henry, an English theologian.
- John Wesley's Bible Commentary: This commentary was written by John Wesley, one of the founders of Methodism.
- William Barclay's New Testament Bible Commentary: William Barclay was a Scottish theologian and New Testament scholar.
- The International Bible Commentary: This is a multi-volume commentary series written by various authors.
- The biblical commentary of Jerome: Saint Jerome is one of the Fathers of the Church and wrote many commentaries on the books of the Bible.
- Calvin's Bible Commentary: These are commentaries written by the Reformed theologian John Calvin on most books of the Bible.
- David Guzik's Bible Commentary: David Guzik is a respected pastor and author who has written a comprehensive commentary on the Bible that is widely used among evangelicals.
- Warren Wiersbe's Bible Commentary: Warren Wiersbe was an American pastor and prolific author, known for his series of "Be" commentaries on each book of the Bible.
- Expositor's Bible Commentary: This is a multi-volume commentary series written by various evangelical authors.
- Craig Keener's New Testament Bible Commentary: Craig Keener is a professor of New Testament at Asbury Theological Seminary and has written a multi-volume commentary on the New Testament.
- Anchor Yale Bible Commentaries: This commentary series is known for its academic rigor.
- Word Biblical Commentary: This is a multi-volume commentary series written by various authors that covers the entire Bible.
- The Biblical Commentary of Thomas Aquinas: Thomas Aquinas, one of the greatest theologians of the Catholic Church, wrote commentaries on various books of the Bible.
- JPS Torah Commentary: Published by the Jewish Publication Society, this commentary focuses on the first five books of the Bible from the Jewish perspective.

These commentaries provide detailed interpretation and analysis of biblical texts that help the AI understand the context and meaning of these texts.

Understanding of Hebrew and Greek: Our AI understands the biblical languages and is able to interpret them.

Other academic and religious resources: In addition to Bible translations and commentaries, we also used other resources such as Bible dictionaries, encyclopedias, theology textbooks, sermons, pastoral letters, writings of the Church Fathers, etc. These resources offer a variety of perspectives on the biblical texts and help enrich the understanding of AI. These resources offer a variety of perspectives on the biblical texts and help enrich the understanding of AI.

Crucially, the AI does not "know" which specific documents were used in its training. It does not retain specific information from a document, but rather learns to identify and reproduce general patterns in the language it has analyzed. We comply with all regulations and ethical principles regarding the use of data, including compliance with copyright and appropriate licenses for the use of these resources. We take every precaution to ensure the confidentiality and security of the data we process.

Chapter 12: The Future of AI in the Service of the Bible

Artificial intelligence (AI) has already begun to play a significant role in how people study and interact with the Bible. As the technology continues to develop, we can expect even more profound changes in the future.

Deepening Bible study tools: AI-based Bible study tools, such as translation and text analysis programs, will likely become more sophisticated and accurate. This could allow for deeper and more detailed Bible studies, paving the way for new perspectives on biblical texts.

Personalization of Bible readings: AI could enable further personalization of Bible readings and studies, recommending specific passages based on the user's individual preferences, questions and interests.

Improved accessibility: With AI, the Bible could become more accessible to those who have difficulty reading or understanding the text, for example through enhanced audio versions or simplified translations.

Dialogue and interpretation: AI-based chatbots, such as the one described in this white paper, could become increasingly common tools to help people explore and interpret the Bible. These systems could be programmed to understand and answer a wide variety of biblical questions, providing a form of dynamic interaction with the text.

Biblical AI Ethics: As these technologies develop, it will be essential to continue to think about the ethical issues they raise.

Challenges and Opportunities: The future of AI in the service of the Bible presents both challenges and opportunities. As we continue to navigate this evolving landscape, it will be essential to remain mindful of the possibilities and risks, and to engage in ongoing reflection and dialogue about how best to use these technologies to enrich our understanding and engagement with the Bible.

The future of AI in the service of the Bible is bright. By keeping our eyes wide open to the ethics (and risks of AI) and actively engaging with the technology, we can hope that AI will continue to enrich our study and understanding of the Bible in profound and meaningful ways.