

Thesis Project Portfolio

A Meta-Study on Contemporary Computational Analysis of the Biblical Texts: Textual Criticism

(Technical Report)

Digitally Interpreting Scripture: How AI Tools Are Transforming Christian Engagement with the Bible

(STS Research Paper)

An Undergraduate Thesis

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Executive Summary

The Bible is revered by almost one-third of the planet. It has been studied and interpreted and analyzed for centuries, but it's only been recently when digital technology has entered into this sphere of religion. Many components of Computer Science have infiltrated the academic field of theology and scholarship. The main issue is getting these technologies to become increasingly more efficient at analyzing this holy text. My Capstone technical problem looked at how textual criticism has been slowly moving toward newer methods and models of determining what the autographs (the original manuscripts) of the New Testament were. My STS Research paper looked at how artificial intelligence is being used to analyze the Bible by those who believe in it—Christians. For both of these theses, I wanted to get a better understanding of the Biblical text, its original contents and thereby its original meaning, its cultural and historical context, etc. The overarching general problem between the two is how do the newest technologies such as artificial intelligence affect the public Christian population and how does it affect those in Biblical academia?

For my Capstone technical report, I did a meta-study on the modern computational methods that are employed, or are soon to be introduced, into the field of Biblical textual criticism. Every year new advancements are made in Biblical studies, but scholarship regarding Biblical history or archaeology overshadow the technological advancements in the field. To make further inquiry into this more niche category, I looked at various areas of study: artificial intelligence and machine learning, Bayesian phylogenetic trees, and recursive translation analyzation models. All those things help to increase the efficacy of the field of textual criticism. Before there were any computers at all, it was a slow and tedious process, but now it's speeding up extremely fast. Many of these newer computational methods and algorithms have been

worked out to reduce bias that would inherently be in any human agent. Probabilities, time clocks models, clustering algorithms, and much more were all introduced to find the most trustworthy manuscripts and their respective textual families. This would show us better how each manuscript is related to each other over time and geography until eventually one day we reach the point where we can know with great certainty the evolution of the Biblical text across the past 2,000 years.

For my STS Research paper, I investigated the online perceptions and interactions between Christian congregations, generative artificial intelligence, and the study and interpretation of the Biblical text. I mainly investigated my research within different threads of Reddit—an open, public, and social space where many ideas could be exchanged without much apprehension. From these studies, I found that AI can greatly increase the efficiency of one's personal Bible study if one engages it with intentionality. Creating outlines and summaries was quick, and receiving context and commentaries could bring new life into one's study of the Bible. There were many practical benefits. However, several concerns were put forth by many online Christians. Amongst these concerns was that of AI hallucinations. More than that, however, many were concerned that AI could become a crutch, biased toward your preferences, never going deeper into the areas that one might want to be because of its generality, etc. In light of this, many advocated for caution when receiving doctrinal instruction or teaching from AI. As a tool, though, AI shows itself to be a powerful contributor in how we can learn and teach from the Bible. Clearly, it is the responsibility of the Christian to pursue spiritual and ethical understanding through greater personal interaction with the text rather than feeding yourself whatever comes out of a machine.

In conclusion, I feel as though both projects illuminated my knowledge of how Computer Science and Biblical studies converge. I enjoyed the research that I did here, as Biblical and technological topics are some of my favorite to investigate. One thing I wish I could've invested more time into would be my STS Research paper—to analyze different areas of the social media world other than just Reddit. If anyone were to pick up where I left off, I would start there, and I would look into more niche Computer Science technical research that's going into the academic study of the Bible if that's the area of greater interest for future researchers.