Evan Hill

Professor Henderson

CSCI 325

1 April 2023

ChatGPT and its Consequences for Computing & Business Fields

Due to my personal areas of interest and resulting major, when I graduate college I will most likely be working professionally with computers and business and how they can be used together to enhance performance and increase efficiency. Based on my research and on my personal experience, I have determined that the biggest ethical dilemmas in my professional career will most likely surround the use of ChatGPT and other similar chatbot AIs, especially with regard to plagiarism. More specifically, by "plagiarism" I mean having the ChatGPT AI do creative work such as writing code or business messages and then using that work as one's own with little-to-no modifications. Plagiarism with ChatGPT is also an ethical issue in schools and universities such as the one I am attending currently, but this paper will largely focus on implications for the professional environment. As for my own ethical opinion on this topic, I believe that, in the professional environment, code generated from ChatGPT should generally, but not always, be avoided because the programmer can all too easily slip into a habit of having ChatGPT do everything for him/her and thus do no original work, which is lazy and thus unethical. This opinion comes from the Bible, for example: "Lazy hands make for poverty, but diligent hands bring wealth." (*NIV Bible*, Prov. 10.4) This sentiment is shared by esteemed online tech magazine MakeUseOf.com, which writes in their article "9 Practical Uses of ChatGPT in Programming", "Although you shouldn't treat the AI chatbot as a magic tool to write all your code, it provides an incredibly powerful way of getting things done significantly faster,

without reinventing the wheel.", and is shared by ACM Code of Ethics Tenet 1.5: "Respect the work required to produce new ideas, inventions, creative works, and computing artifacts." The Code also specifies that those who expend effort to create new things should expect to gain value from their creations. I would also interpret this to go the other way, meaning that those who create new things without putting in the effort, like if they create by stealing work done by ChatGPT, then they should expect to not gain value from their "creations". The same thing about plagiarism also applies to business messages. According to the Forbes article "6 Ways Business Leaders Should Integrate ChatGPT", "It's important to note that simply copying and pasting ChatGPT output directly into your company blog is technically plagiarism". Business messages also pose the unique problem of emotional and cultural intelligence, which are crucial aspects of crafting an effective business message, yet ChatGPT cannot understand how to incorporate them properly as it is an AI and as such is not fully capable of nuance and emotional and cultural awareness like a real human is. This can lead to misunderstandings at best and outright offensive statements at worst, both of which are unethical outcomes. Additionally, ChatGPT cannot easily understand the context of a program, so if a programmer has ChatGPT generate some code for a part of a program, implementing it without enough changes to suit the context of the full program can cause the entire program to break, which is also unethical. According to the same MakeUseOf.com article, "However, you should use AI-generated code with caution, even when it's free of syntax errors. Logic errors may prove very costly if you deploy AI-generated code on mission-critical software systems". Additionally, Tenet 1.2 of the ACM Code of Ethics reads "Avoid harm.", which they clarify to mean that "harm" refers to any negative consequences, "especially when those consequences are significant and unjust." Thus, using code written by ChatGPT without properly modifying it to work within the context of the whole program could

and probably would cause the program to not work properly and be very costly to fix, causing significant unnecessary harm. As such, this is in direct violation of the ACM Code of Ethics on Tenet 1.2 at least and is therefore unethical.

In order to navigate these ethical dilemmas, I have a few solutions to propose. Firstly, if the programmer has ChatGPT generate any new code or algorithms for him/her, then the programmer should cite ChatGPT as the source in both the program's code and in the program's user interface in order to avoid plagiarism, which is the act of taking another entity's work as one's own. However, this only applies if ChatGPT use in this case is allowed by the programmer's employer. In the professional environment, credibility is everything, so if ChatGPT use is allowed and the programmer decides to use ChatGPT then he/she should be upfront about what parts of the program were AI-generated and if they were modified by the programmer to improve said parts. If ChatGPT use is not allowed, then the programmer should never use ChatGPT while working for that employer. Both of these courses of actions allow for the programmer to be as honest and transparent as possible which bolsters credibility, which is ethical behavior according to the ACM Code of Ethics's Tenet 1.3: "Be honest and trustworthy," and the IEEE Code of Ethics's Tenet I: "To uphold the highest standards of integrity, responsible behavior, and ethical conduct in professional activities." Additionally, there are also few programming use cases in which ChatGPT can be used ethically and can even be beneficial by making rote and/or human-difficult tasks more efficient, such as debugging, making test cases, optimizing code, or translating code from one language to another, just to name a few examples from that same MakeUseOf.com article. I would argue that all these use cases are ethical because all they do is help make existing code better; they don't actually write new code for the programmer, so as such they are not plagiarism. Still, in the interest of transparency and

compliance with the ACM and IEEE Codes of Ethics, the programmer should disclose any and all ChatGPT use, even if said use is not, strictly-speaking, plagiarism. Armed with this knowledge and my worldview foundation of Christianity, I feel prepared to face these challenges and temptations regarding the unethical use of ChatGPT and be able to reject the temptations and stay true to ethical principles in my future professional career.

As for what the Bible has to say regarding these particular tenets of the ACM and IEEE Codes of Ethics, they actually align pretty closes. Tenet 1.3 of the ACM Code of Ethics reads a computing professional should "Be honest and trustworthy.", and Tenet I of the IEEE Code of Ethics reads that it is the responsibility of members "To uphold the highest standards of integrity, responsible behavior, and ethical conduct in professional activities." The IEEE Code Tenet is a bit more wordy than the ACM Code Tenet, but they basically mean the same thing, so they are in agreement with each other. Additionally, the Bible espouses integrity as a key virtue throughout the text, which can be exemplified by several verses from both the Old and New Testaments: "The integrity of the upright guides them, but the unfaithful are destroyed by their duplicity," (*NIV Bible*, Prov. 11.3); "The LORD detests lying lips, but he delights in people who are trustworthy," (*NIV Bible*, Prov. 12.22); "In everything set them an example by doing what is good. In your teaching show integrity, seriousness and soundness of speech that cannot be condemned, so that those who oppose you may be ashamed because they have nothing bad to say about us," (*NIV Bible*, Titus 2.7-8). Because both the ACM and IEEE Codes of Ethics and the Bible all espouse integrity as a central virtue to uphold, it is reasonable to assert that both Codes of Ethics and the Bible are in agreement on the topic of integrity. But, the Bible goes deeper than these Codes of Ethics. For Christians, the Bible is the ultimate source of authority on all moral issues because it is the inspired Word of God, while the Codes of Ethics are merely rules drawn

up by humans based on their views of what is right, which may not always align with what the Bible teaches. For Christians, these Codes of Ethics are only to be followed where the moral principles laid out are in agreement with the Bible. Thankfully, though, both Codes agree with the Bible on most topics, so there are no moral dilemmas for Christians attempting to follow either or both Codes of Ethics.

Works Cited

"IEEE Code of Ethics." www.ieee.org/about/corporate/governance/p7-8.html.

Leighton, Nick. "6 Ways Business Leaders Should Integrate ChatGPT." *Forbes*, 22 Feb. 2023,

      www.forbes.com/sites/forbescoachescouncil/2023/02/22/6-ways-business-leaders-

      should-integrate-chatgpt/?sh=1cb237476c61. Accessed 2 Apr. 2023.

"Read the Bible. A Free Bible on Your Phone, Tablet, and Computer." www.bible.com/.

      Accessed 2 Apr. 2023.

"The Code Affirms an Obligation of Computing Professionals to Use Their Skills for the Benefit
      of Society." *Code of Ethics*, https://www.acm.org/code-of-ethics.

Timothy, Maxwell. "9 Practical Uses of ChatGPT in Programming." *MakeUseOf.com (MUO)*,
      20 Mar. 2023, www.makeuseof.com/chatgpt-programming-practical-uses/. Accessed
      2 Apr. 2023.