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Ethical Programming

Ethics is an important topic to address in any field of study. Every subject, especially ones that are particularly advanced or impactful, brings with them the question of morality of its research. Technology is among the most widely talked about fields of research in the modern day, largely due because of how widespread it is and how much it evolves each year. It is something that affects every person on the planet, and with this power, there also comes great responsibility. Computer science can be used to help the world in endless ways, yet there is also room for people to abuse it.

The power of computer science should not be abused in ways that destroy the privacy of others, whether this is a person or a company. Stealing people's private information results in victims who unjustly lose valuable material far more often than corrupt secrets being revealed by self-proclaimed vigilantes. Furthermore, this very type of thieving technology can oftentimes be sold to other nefarious individuals; the more that organizations have access to private data that should not be seen by a wide audience, the more opportunities they have to potentially scam or blackmail these very people. As stated by Wanbil W. Lee, the problem "arises when considering the potential breach of corporate and personal confidentiality."

I believe privacy concerns are a necessary topic to address in any computer science career. As for myself, privacy will likely remain a constant theme running throughout any

computer science jobs I have in the future; there will be questions of who should have access to what, how to keep certain information confidential, and what suspicious activities are to be avoided. Some ways I hope to avoid ethical concerns with privacy is to use any information I have responsibly. Only give out what I need to and only give this data to people I know should have it, do not follow suspicious people or websites on devices that can lead back to private information, and do not seek out a surplus of private information.

Hacking has a very poor reputation, and rightfully so. Hacking is one of the first thoughts that any conversation involving ethics and computer science brings up. Hackers are widely popularized as evil people who use their skills with malicious intent to jeopardize the virtual safety of innocent bystanders. Yet, despite these technology abusers who have sullied the name of hackers everywhere, there are many benefits in being a hacker, ethical reasons included. One of the most obvious reasons is that, by knowing hacks, this skill leaves a person in a much better position to fight against opposing hacks. As Georg Thomas says, the purpose of hacking in an ethical setting is to "test and validate the security controls of an organization." The strongest opponent against malicious hackers is ethical ones; a hack is only effective if the victim does not know how to fight against it.

Everyone on the internet will run into hackers at some point, whether they realize it or not. There are always going to be scam emails, dirty links, and even dangers with so much as simply messaging people. A career in computer science opens up even more safety concerns than usual as this field is heavily involved in the management and care of technology. The way I believe disruption can be avoided is to know the essentials of how hacks operate- understanding how they work is the first step to avoiding confrontation with them. Additionally, basic technology etiquette, such as knowing how to stray away from odd messages and links, defeats hacking before it becomes a problem.

Artificial intelligence has exploded in popularity in the last couple years. AI is a tool that is meant to assist humans in whatever actions they are taking, and this goal has been more than successful, to the degree that it, in some ways, is beginning to become the creator rather than the assistant. As it has become more mainstream, it has also been controversial in many areas. According to Harvard's Christina Pazzanese, "Given its power and expected ubiquity, some argue that the use of AI should be tightly regulated." With the possibilities AI presents, it is essential to work with this product with care and ethical reasoning. People can use AI to lie, fake results, and cheat. As someone in the field of computer science, it is important to regulate this system responsibly so that AI is not overly powerful. Creating this technology with the worst-case scenarios in mind may be essential to making it as safe as it possibly can be.

The IEEE Code of Ethics states a universal truth of treating everyone with fairness and respect. One of the most popular verses in the Bible states that "whatever you wish that others would do to you, do also to them" (Matthew 7:12). These foundational moral codes are essential in creating and keeping an environment of equality and fairness. Workplaces will only thrive if they follow the bare minimum capacity required for functional relationships.

One of the ACM Code of Ethics is to "Be honest and trustworthy." This principle is founded in avoiding the spread of misinformation and being true in whatever program or job a person partakes in. To not lie, even if it is to the benefit of the liar, about qualifications or quality of work or otherwise, is to be moral according to this code of conduct. This sort of trustworthiness is paralleled in the Bible when speaking about the most trustworthy being of all- "For I know the plans I have for you, declares the Lord, plans for welfare and not for evil, to give you a future and a hope" (Jeremiah 29:11). This verse portrays the unending trustworthiness, and the promises God gives to all of us. This type of truth is the kind we should all aspire to achieve in our career fields as God is the perfect example we should frame our actions upon.

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