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Dear Papa,

How is everything? I know I have been a busy bee lately but I wanted to write to you about some things I learned in my computer programming class, using some additional resources. With you being a programmer, I know you'll understand most of the concepts I'm explaining, but you'll sure be proud that I know all these things! Recently, I have been learning about computer science (CS). I didn't know it even had so many different fields! Those fields could even be applied to everyday life, like number theory and pattern recognitions. We even briefly touched upon software engineering (SE) and information technology (IT). Technology is actually pretty cool!

Beginning with computer science, it can actually be applied to many different areas. CS is how decisions are made with respect to technology. It involves the gathering of information, which is thus analyzed, to provide answers to someone who needs them. It's the use of a wide range of math to make codes for a computer to understand and be able to deliver answers to those with a lack of knowledge (Gurevich and Zhuravlev 333). Informational technology is

similar, both having to gather data and analyze it. However, in IT, people make connections between the data with the purpose of attaining relationships around the globe, allowing for new innovations and services (Berisha-Namani 104). Almost like your old work, where the company collected data from around the nation, and used those statistics to categorize individuals so new products could be made with them in mind. On the other hand, software engineering is focused on creating new approaches, i.e. programs, databases, and languages, for software to run more efficiently. Osama Shata actually states software engineering as being “a robust approach to the design, creation, and operation of software systems” (232). I’d like to think CS and IT can be used to find solutions to performance and maintenance issues of software. One would definitely need to use research to analyze different ways to solve a problem.

Moving forward with computer science, there are actually several fields but I’ll only cover three to keep this letter on the shorter side! One field is graphics. Graphics are visuals, such as movies, video games, and pictures. With the help of image analysis through patterns and the use of math, new creations occur. Animated movies are a popular part of this field, as visuals are recorded, stored and then manipulated to create successful, family fun movies. Another is artificial intelligence, which focuses on implementing human intelligence on computers and allowing problems with tough constraints to be solved (Gurevich and Zhuravlev 341). AI is used to make robots, for example, those that manufacture cars. It is also useful in rebuilding the ruins of ancient times. We saw that commercial for IBM, when the guy talked about rebuilding places by taking extensive amounts of photos and compiling it with the help of AI. Lastly, programming, a.k.a your job. Programming is refreshing languages in order to increase productivity in making new algorithms, for the purpose of making technology more efficient. By refreshing, I mean optimizing and creating new features for languages One example is

maintenance, since some languages have been around for decades (Gurevich and Zhuravlev 336).

Even with all that knowledge, I still don't believe I'll be majoring in Software Engineering. Instead, I've gone into Political Science, but no worries, I can still use CS within my field! For example, if I were to start my career in a government agency, such as the FBI, they use information systems every day. When they run a face through "the system", it is basically hundreds of databases being searched through, cross referencing the image inserted against thousands. This goes into image analysis and being able to find patterns within images on the screen by the computer.

See, even if I'm not majoring in a field of computer science, technology is all around us, and most people will have to use it at some point in their lifetime. Don't worry, I'll still try to be making bank. Call me when you get this, I'll be back in town then!

With love,

Yevheniya

## Works Cited

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