**Computer Science Trends**

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Part One:

5G

When I read about 5G all I think about is the amount of data to be generated. It will make everything faster which will lead to use of the internet for new and different things all of which will generate more data. I read a PC Magazine article about 5G. The bulk of it focused on cell phone providers and the different types of 5G because that is where we are now. 5G in its current form will allow more devices to connect because of the increased speeds. They wrap up by talking about other uses which focus on the low latency of 5G, things that require immediate response such as driverless cars and virtual and augmented reality. (Segan, 2020)

All of this will change how we use and experience technology. I would give just about anything to have my daughter’s tablet respond faster in the car. When something takes a long time to load, she just keeps hitting the screen trying to get it to do something which just causes more problems. 5G could help with that. I found it interesting that in many cases AT&T and T-Mobile cell phones will show as using 5G when they are actually on 4G. (Segan, 2020) It makes me wonder if some users are experiencing something of a placebo effect. I’ve heard of people talking about how fast their 5G service is but, in fact, at this time it is possible there is little difference. (Segan, 2020)

5G could mean big things for industrial use. PC Magazine mentions virtual reality physical therapy, smart bandages that monitor healing and automating seaports. (Segan, 2020) Right now, when everyone is focused on physical distancing and telemed is surging in popularity, virtual reality medical applications would be amazing. The idea of a smart bandage could prevent infections which could lead to amputation or death. I’m imagining something that maybe records size and color of a wound to be sure that it is getting smaller, not bigger and possibly looking for a color that would indicate infection. I’m sure the possibilities go far beyond that, but this is what my non-medical thinking comes up with. Automated seaports would likely follow some of the components of driverless cars, including real time communication between vehicles and sensors. (Segan, 2020)

As internet computer connections and speeds have improved so have the systems that use those connections. This will continue to be the case with 5G and beyond. I imagine with the amount of video conferencing and remote working happening right now, the call for wider and more reliable 5G will be strong.

Data Science:

Data science as an emerging trend is important to me. It is the field I hope to work in. Over the years I have seen different statistics about how much data is generated in a day. In April of 2019 it was projected that the digital universe would reach 44 zettabytes by 2020 and that by 2025 463 exabytes of data will be created each day. (Desjardins, 2019) It is easy to create data. The challenge is in analyzing and using that data. I read once that companies collect and store many terabytes of data in hopes that one day it will be useful. The job of a data scientist is to turn meaningless field after field of data into useful information.

Data science affects what we experience and how we experience it. The data we generate tells companies what we want and need which directs both the products they develop and how they market to us. It can also help companies predict what their clients and customers need. Several years back there was that well know incident when Target sent pregnancy related advertisements to a teen girl who had not told her parents yet that she was pregnant. They had an algorithm that generated a pregnancy score and based on that score they would send out advertisements. (Hill, 2012) It was determined that people found it creepy that Target knew they were pregnant without being told and this practice ended but the theory is a sound one. By looking at buying history, predictions can be made about future purchases.

When I worked as a Realtor, we would look at the amount of time an average homeowner remained in their home before reselling and we would start marketing to homeowners the year before they reached the average selling point. This was very imperfect, but it was also free and enabled us to cut down the number of homes we mailed to and called there by reducing cost and time. As I started learning more about data and what kind of information was available to me, we started to narrow our list even more. I looked at condition of the house when purchased, sales price and type of financing to see how they affected the amount of time a homeowner remained in their house. At the time I really had no way to measure the success, but it was a fun and informative exercise. Knowing what I do now would enable me to run some of the same analysis on a much larger data set because I could write a program to pull out the information and do more complex calculations.

References

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