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CSCI 101 – Section D

November 22, 2019

Homework #9: Data Centers and the Future

To answer the first question in this assignment, I do have hope that innovations will transpire in the near future that can offset the growth in demand for data centers. However, I think with the current momentum that the industry has invested in technologies that develop and need more data processing there will still be a foreseeable problem. My main concern being that we keep exponentially expanding the amount of technologies that are not only processing a lot but storing an even larger amount of information that is all being interconnected. Although this kind of computational thinking benefits everyone by being better at predicting a lot, we may have to change the way we use data in general as well in order to avoid how much needs to be consumed.

For the second question, I’m really interested in seeing what happens more with hyperscale centers in the future. The concept of stripping components down to only the necessary parts seems really desirable in terms of overhead costs of hardware, space that’s allocated for the servers, and hopefully with the amount of energy that gets used. It may also effectively change the trend in how well companies can optimize their data centers and promote better alternatives that will generate public interests in how the companies can handle this growing dilemma. From the research I explored, there is room to focus on transitioning to hyperscale facilities due to no only their lower PUE scores but their ability to scale up and down in a pinch. This could benefit how versatile the space allocation may become and tackle other problems mentioned in the article like dealing with old or outdated server systems that are lying idle in a facilities due to their integration with the whole ecosystem (https://www.vxchnge.com/blog/power-hungry-the-growing-energy-demands-of-data-centers).

In response to the third question, in my own opinion, I have a lot of questions regarding the rising popularity of autonomous vehicles and how we would manage a large scale shift in autonomous traffic that could replace how traffic currently works. More than anything I think it would drastically effect the amount of data being processed due to the sheer amount of sensing and onboard computing that will need to be utilized by every vehicle that opts into the network to ensure that it’s safe and running effectively with the rest of traffic. I think this could effect all vehicle manufacturers that are invested in the market for autonomous cars and force many different organizations to scale upwards with the rising popularity. However, again, I do have hopes that we will meet the scaling with innovating technologies that can help optimize the growth and work to diversify how we are computing to meet the needs of the future data processing.