Remarks for Commencement, May 2024

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Last October, as part of our 125th Anniversary celebration, Trinity presented a symposium on artificial intelligence, or AI.

I'm sure there are graduates sitting before me who know a lot more about artificial intelligence than I do, but allow me to share my simplistic understanding with you.

Which is: artificial intelligence is based on finding patterns. Artificial intelligence is really good at finding patterns.

As an example: if you have location detection on your phone, it might detect that on most mornings Monday through Friday you move from Point A to Point B, and on most evenings Monday through Friday you move from Point B to Point A. And the AI on your phone analyzes your movements to detect this pattern, and it also analyzes the movements of all of the other people with phones and detects patterns in their movements. And based on this pattern detection, your phone can conclude that Point A is probably home and Point B is probably work.

This set of data, all the trips that all the people take, is called training data, or the training set. AI analyzes the training set to detect patterns and make conclusions based on those patterns.

Now, if you worked the overnight shift, like if you usually went from home to work at 7 pm and went from work to home at 7 am, the AI in your phone might get mixed up, and think work was home and home was work.

But if there are enough people in the training set who work the overnight shift, or a swing shift, then AI can detect these more complex patterns—maybe it also takes into account whether you sometimes spend several days in a row at Point A or Point B without traveling to the other point—and based on that expanded training set, with people who work various shifts, it can make better and more accurate conclusions.

Of course, AI is not the only thing that analyzes patterns and makes conclusions based on those patterns—we do that, people do that, too.

And sometimes we take those conclusions and build whole systems around them, sometimes even literally build brick and mortar buildings around them.

Which is why, for example, when I was a graduate student in mathematics in the mid-1980s, there was no women's restroom on the floor where my office was.

This was because when the building was being designed, the training set of graduate students in mathematics was almost entirely male, so there was no reason to put two separate bathrooms on every floor of the mathematics building.

Even though by the time I was a graduate student, although the training set was still mostly male, there were a number of women graduate students in math, but the building was already there and we had to fit ourselves into that structure, a structure that was not built for us, so we were able to *be* in the building but we did have to go up and down the stairs several times a day to go to the bathroom.

Obviously, that is a pretty minor inconvenience, but incomplete training sets can have much more dire consequences.

You might be aware that early facial recognition software, which uses AI, was trained primarily on white, cisgender males and as a result, had trouble recognizing anyone falling outside of that demographic, including people of color, women, and transgender individuals.

And for decades, the diagnosis of heart attacks was based on symptoms experienced by men. It turns out that women tend to experience different symptoms, so their heart attacks more frequently went undiagnosed, sometimes until it was too late.

So it is important for a lot of reasons, for big and small reasons, to diversify the training set. Because AI, and people generally, are going to rely on the patterns they can see. And whole systems get built around those patterns. And sometimes we end up in structures that were not made for us. We can sometimes fit ourselves into those structures, but it would be better if those structures were built with us in mind.

As many of you know, I came to Trinity not quite a year ago. One of my favorite things to do is to get to know the students.

Recently, I attended several award ceremonies where I heard stories from students about the journeys they have taken to get to this moment, of earning a college degree. Many times these journeys are not at all straight paths. Students talked about navigating through systems that were designed based on training sets that did not include a lot of people with similar life experiences and life circumstances to theirs.

I have also recently attended several student research presentations, where I have heard the questions students ask, sometimes about why the systems we have built do not serve all of us well, and do not serve all of our children well.

So I am excited to see you now taking your place on the training set of college graduates and college-educated professionals, so you will add your voices, your experiences, your questions, your strengths, your wisdom, and your ideas, to the training sets. And I look forward to see you change the world, both in big ways and in small.

Congratulations, class of 2024!