

Engineering within a new prospect

Do you remember the joy of discovery as a kid, sitting next to a rock pool and discovering that actual animals lived inside the shells, all the mind-blowing enormity of realizing that the light from the stars started its journey billions of years ago? Small creatures we were, hungry little ghosts in imaginative societies of our own.

I am ali, a computer engineer to be and what I want to do today is to encourage all of you to think about who might be the prospective engineers in the world around you, and I want to do that by completely repainting the picture you have in your mind about what an engineer is, and what it is we do. And this is crucial because with time coming, it's going to be about the engineering of us, of our society.

What we heard were stories about roads and bridges? What we should have heard were stories that spoke to the idea of technology and service to people, all stories of moments of profound creativity? What we should have heard was that engineers are creative professional problem finders motivated by making a difference?

And we live in a highly interconnected world and technology has been democratized, being distributed in completely unprecedented ways, and so that means that the opportunities for all of us are enormous as well as other risks and it turns out that's what engineers are good for. We are the people who balance technological opportunity with technological risk.

So now more than ever we need engineers. But as a matter of fact, most people are getting knocked onto other career paths.

And this is not about employability and career prospects, this is about the world in which we all live. So think about all of the transformative periods in the interaction between technology and society:

- Civil engineers gave us clear water, roads, bridges.
- Mechanical engineers brought us the boats, trains, cars.
- Aeronautical engineers gave us access to the globe.

- Electronic engineering followed by computing brought the world to us through television and internet.

And everyone of those engineering disciplines interacted so profoundly with the society that in which it was located, that it actually gave rise to a new discipline of engineering.

Now, the combination of the IOT (internet of things), AI (Artificial intelligence) ... leads us to a core discipline of what our connections to others and to things shaped and changed. Slowly getting us inside this machine.

It has been always a control loop, the way we behave, the precise detailed real-time data, but up until now control engineering has been used to engineer things.

So what we need is a new type of engineers but before we do that, we actually need to create a new engineering discipline which is going to be about the safe design and operation of an engine that's composed of all of us.

We don't need to fuel the same stereotypes but rather go find the next great wave of engineers who are willing to engage in the complexity of bringing together people technological systems and science in a highly interconnected distributed world.

Let's be clear about one thing, you don't have to choose between changing the world and being an engineer, you don't have to choose between being a creative and a tech. Engineers understand that this is about service to people and technology, not creating cool stuff using math's and science.

As a kaleidoscope, I want you to take this hue of the picture repainted of what an engineer is and go out, talk to as many people as you can find, and pay attention, we can't look at their genetics but their lives, minds. On that light encourage them to completely rethink the way that they rebuild the world around them.