UAT Commencement Speech

Honorary Doctor of Technology

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[PT_Goof.mp4]

Good evening graduates, parents, faculty, and the University of Advancing Technology family. The clip you just saw was a behind-the-scenes view of my time filming Prototype This for the Discovery Channel, which I'll show more of later.

It is an absolute honor to receive this Doctor of Technology degree and it is a great privilege to be part of a University that truly fosters the mindset and practical hands-on skills that are required for the real world.

When I first stepped foot into UAT, I was amazed at what I saw. Groups of students working together on projects. Artwork and exhibits created by all of you lining the halls. Computers and technology resources everywhere I looked. Faculty mingling with students and helping them build projects. There is an energy here that I haven't found in any other academic environment.

PAUSE

I'm going to share a few stories with you, starting with one about passion:

In the early 1980s, a somewhat outcast, chubby kid spent hours in a small storage room on the top floor of his parents' house. Using an Atari 400 computer and an acoustic coupler modem, he discovered a world of bulletin board systems. He figured out how to make free telephone calls to extend his reach into this virtual world. He became part of an underground community of people just like him - curious about technology that was barely understood outside of their circle. In the 5th grade, when he dressed up as a "computer hacker" for Halloween wearing a blue sweatshirt with matching blue sweatpants carrying a 5-1/4" floppy disk, he ignored the giggles and taunts from his peers. He stayed true to what he loved regardless of what other people thought.

More than 25 years later, that same kid is standing here before you as a proud and confident electrical engineer, hacker, husband, and father. My experiences throughout the years have been wide and varied, some of them even questionable, but my passion has remained laser focused.

Remember that whatever life throws at you, stay true to what you love and don't let anyone try to take that away from you.

PAUSE

Strive for change. Push the limits. Say what needs to be said.

Throughout the 1990s, I was a member of L0pht Heavy Industries in Boston, Massachusetts. Starting as a clubhouse for local hackers to store their computer equipment, tinker with projects, and just hang out, the L0pht ended up as seven close-

knit friends changing the face of vulnerability research and disclosure. We would

discover security flaws in software applications and hardware products and challenge

the vendors to not only acknowledge the problems, but fix them, which was practically

unheard of at the time. There were no "accepted practices" of disclosure like there are

now. We made it up as we went along and took the brunt of the criticism from those who

disagreed with our methods. We would write exploit code to demonstrate a practical

attack. We would publicly release the information after giving warning to the vendor. We

were threatened with legal action. But we continued to do what we felt was necessary to

force vendors to take responsibility for their products and we stood our ground. We

were stubborn in our ways and we think it worked.

 Little by little, we changed how large companies like Microsoft handled security

threats. Previously, they would blow off our discoveries and call them "theoretical," but

eventually they welcomed our work, and the works of others, and even set up response

teams to investigate the problems further. Smaller vendors followed suit.

 Because of the waves we were creating in the security community, in 1998 we

were invited to testify before the U.S. Senate Committee on Governmental Affairs on the

poor state of computer security. We had an unexpected response to our testimony and

even the mainstream press had something to say about it...

[Conan.mp4]

The battle is far from over, but the technology industry, and some may say the world, has changed for the better because of those early days of trying to make companies acknowledge problems in their products and forcing them to be fixed.

So, if you have something to say, say it. If you believe strongly in a cause, fight for it.

PAUSE

Share your knowledge and inspire others.

Prototype This, which began airing in October 2008 and is currently being shown around the world, was centered around four engineers building prototypes of crazy products. We were given limited time and limited money to create things that had never before existed. It was an opportunity to share my love of electronics with millions of viewers who had never seen a circuit board, or even thought about how the engineering process actually happens. Here's an example...

[PT_Tour.mov]

When I first got involved in the show, I had no idea that the most satisfying part would be educating and inspiring others. Every time the show airs, I receive e-mails from kids, aspiring engineers, or parents asking questions about how to get involved in engineering, what my favorite microcontroller is, or just looking for some guidance or encouragement.

You have all gained knowledge during your time at UAT that many people will never have the opportunity to obtain. Take advantage of that by sharing your skills with others.

PAUSE

Failure. Failing happens to everybody. It's what you take out of the experience that sets you apart from others.

In my role as an electrical engineer for my company Grand Idea Studio, almost every project I work on has some sort of failure or challenge that I must face. Failing is the most frustrating part of engineering, but it can also the most satisfying. I try not to get overwhelmed with the fact that there is a problem, rather I focus on the root cause and work day in and day out until the problem is solved or I've come up with a workaround. Stay dedicated, stay determined, roll with the punches, and learn from your mistakes.

While we had our share of successful builds on Prototype This, we had quite a few failures, much to the shock of Discovery Channel executives who expected everything we built to work the first time. Some failures made it to air, some were relegated to the cutting room floor, and others were captured by our own personal cameras...

Here's one from our Personal Airbag episode:

[PT_Airbag.mp4]

That airbag was supposed to open before the dummy hit the ground!

Here's one of my favorites I like to call the Forklift Rodeo:

[PT_Forklift.avi]

As Gordon Moore, the co-founder of Intel, once said: "If everything you try works, then you're not trying hard enough" Failure is often a necessary bridge towards growth. Though it's never fun while it happens, embrace failure and use it as a stepping stone towards success.

PAUSE

So, remember these things: Stay true to your passion. Strive for change. Share your knowledge. Accept failure.

PAUSE

Thank you for allowing me to be a part of your important day and good luck with your future endeavors!

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