

He Believes That Quantum Computing Means Endless Impossibilities | Clips | Dad Saves America

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SUMMARY

Quantum computing is poised to disrupt various fields imminently, particularly in areas like cryptography and material science. The speaker emphasizes the transformative potential of combining quantum computing with artificial intelligence, likening the technology to a mysterious, almost alien force that could redefine our understanding of the universe.

- *Quantum computing is in a competitive race with AI and cryptography advancements.*
- *Shor's algorithm could potentially reverse encryption keys, posing a threat to current security measures.*
- *The technology is still in its infancy, akin to the early days of classical computing.*
- *Quantum computing is described as a "God-like" technology that connects us to the universe's fabric.*
- *The speaker finds quantum computing to be the most intellectually challenging endeavor of their career.*
- *There is a broad interest in mentorship and collaboration within the quantum field.*
- *The intersection of quantum computing and AI could lead to significant breakthroughs, reminiscent of sci-fi narratives.*
- *The speaker views this era as a pivotal moment in human history, full of potential and innovation.*

(engine revving) - Where is quantum computing gonna be most disruptive soonest, in your opinion? - Well, it's a race. So will we have, you know, Shor's algorithm which is an algorithm designed by Peter Shor in 1994 to effectively reverse private keys, right? So you have a public encryption key and I can basically guess your private key, right? By doing some really complicated math. Okay? Will that happen before one of these machines gets combined with AI?

Will those two happen before one of these machines does some sort of one-to-one model that is the next great material science and now you have an invisibility cloak or whatever like what I like to call it, and this is one of the books I've been working on the entire time and probably for another five years, is called, "Endless Impossibilities," right? And I think that that really describes you know what these machines, it's like we don't even know let's go back to the first computer.

Like let's go all the way back to like Babbage right? Okay, what's it gonna do? Oh, it's gonna do some, the census machines, right? Kind of move forward through history. - Yeah. Basic math problems. - Think back to the ENIAC and like, you know of course there was a lot of government

research and stuff around it so they knew what they were gonna do with it. But what if I just said, "Oh there's a thing called the computer John."

You're like, "What does it do?" That's the phase we're in
- Yeah. - of quantum computing. You know, these machines aren't about the past they're about the future.
(fingers scrapping) This is God-like, alien like technology. If you listened to somebody like Geordie Rose who was one of the D-wave founders, he said, "you know being at a quantum computer is like kneeling at the foot of an alien God," or whatever and
(John chuckling) all these crazy things.

It is this complete mystery. It is putting us in touch with the very fabric of the universe to calculate things on. I mean, right? - Yeah.
- Like no wonder you don't understand it. I don't understand it. Like I'm writing software and working with it and I'm working with physicists working on the hardware around the world and there are tons of areas where they'll be like, "Don't know." For me as an entrepreneur, I was wanting a really big challenge.

Robotics, bio hacking, something. I fell in love with quantum and and what I think is the eventual emergence of, of quantum and AI as an area I could apply the skills I have to that has plenty for me to learn. Did not have a problem finding who could be a mentor, right? Pretty much anybody. Are you a college professor who knows about physics? I'd like to learn from you, right? Like everybody. And has been one of the biggest intellectual challenges of my career and I just every day kind of struggles away with it.

My wife calls it my science fiction company. She calls it my sci-fi company. She's like, "After this, no more sci-fi companies." (friends laughing) But you know, she's always like it's funny 'cause you know, one of my friends, you know we were somewhere the other night. She goes, and she'll tell you when people ask me "Well what does this company do?" She's like, "Oh, sci-fi stuff." But it is quantum computing
(friends chuckling) and artificial intelligence represent everything we've seen in every movie about utopian dystopian futures.

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