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Brains behind artificial intelligence

OREN ETZIONI TAKES UP PAUL ALLEN'S CHALLENGE TO MAKE MACHINES LEARN



Oren Etzioni is CEO of the Allen Institute for Artificial Intelligence (AI2).

ANTHONY

Oren Etzioni is the man behind Paul Allen's push to create fundamentals of artificial intelligence. Etzioni is the original computer geek, being the first person to major in computer science at Harvard. He's also a longtime University of Washington professor, an entrepreneur and a venture capitalist, and he recognized the opportunity of a lifetime when Allen reached out to him about running the Allen Institute for Artificial Intelligence, or AI2.

What was it like being the first computer science major at Harvard? I felt pretty cool! I felt like, "Welcome to the 20th century – It's 1982, '83, you caught up!"

How did you become interested in artificial intelligence? I became interested in AI in high school because I read "Goedel, Escher, Bach," a book by Douglas Hofstadter. He showed how all their work in some ways fit

together and he talked about artificial intelligence. I thought 'Wow,' this is what I want to be doing.' For example, this machine learning thing – what is now called big data – my Ph.D. thesis was with Tom Mitchell, one of the great people of machine learning. I like to say I've been working on big data for so long, it used to be small data when I started working on it.

And that led to Forecast? We started

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with small data sets, and when I started Farecast we were increasing the number of data sets and we ultimately reached almost a trillion data points.

How do you commercialize something like that? I like to start with what's called a pain point. Something that people really, passionately care about. In the case of Farecast, it's airfare, something people really care about because they feel like 'Oh, they're tricking us. The price is fluctuating'. And then you say: well, is there a technology that can help this pain point? And if the answer is yes, you start to have something interesting. It's still hard to create this magic elixir where people line up to use the product.

How do you make yours take off? I feel like I really have to be modest here. When I look around and see companies that have taken off like Twitter or Instagram in terms of the users, companies like Zillow and Isilon in Seattle...I can't claim mine have taken off. But, the next one!

With the Allen Institute, are there concerns that come from being funded by one source? Absolutely, in that, I think that Paul Allen has very high standards and he expects to see progress. He was very clear with me, "I'm not funding a retirement home for academics." Paul Allen has put a lot of resources and a lot of faith in us and the last thing I want to do is let him down. We could fail. I find that little bit of spice gets me up in the morning and gets me energized to succeed.

What is the ultimate goal? So, I'm old. I've been working on AI for decades. I feel like so often people make very tiny steps and are satisfied with very incremental contributions. I took some technique, I made it 5 percent better. I wrote a paper about it, aren't I great. And I've done that arguably for too long. Overall I look at my career and I say: I'd like to do more. I'd like to make a fundamental impact on one of the most exciting intelligent questions of all time. Can we use software and hardware to build intelligence into a machine? Can that machine help us solve cancer? Can that machine help us solve climate change?

What would you say to Bill Gates, Elon Musk and Stephen Hawking, who have expressed concerns about the danger of artificial intelligence? Obviously I have a lot of respect for these people, but I disagree with them. They're taking a conceptual notion that someday there could be superhuman intelligence in a machine. And then they say, when that happens wouldn't it run amok? I do agree that there's a remote, long-term possibility of some very frightening scenario. But when I look at the next 25 years, I see the probability of that happening as vanishingly small. The probability of beneficial artificial intelligence happening in the next 25 years is 100 percent. We have driverless cars around the corner, which will save lives and increase fuel efficiency.

Is the region a promising hub for AI research? We're fantastic for that. I would say there are three things. It's

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Previous jobs: Co-founder and CTO at Decide, founder at Farecast, computer science professor at the University of Washington

Age: 50

a very strong component to have a strong computer science department and we have a phenomenal one here at the University of Washington. A second key component is people like Paul Allen with a tremendous knowledge and passion for it. He's also funded companies around it, some of which get acquired. We have vibrant startup ecosystem here and AI is a part of that today and even more so tomorrow. I would say that we definitely do not have a monopoly. Certainly in the Bay Area there are some fantastic, fantastic things going on. We are witnessing an AI spring. The difference is that Paul Allen brings a focus on semantics, on deep understanding on texts and that's a quite different emphasis than some of the other regions.

What is your dream? My dream is to do this kind of high-impact AI research specifically that can make sense of texts so that they can help us. My dream is to achieve AI for the common good.

– Rachel Lerman