

Nobody 'poaches' talent from CMU

A free market of brilliant people enriches not only corporations, but also universities and society at large

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Uber

Uber's self-driving car, which now is being advanced, in part, by computer scientists hired away from Carnegie Mellon University.

By Andrew W. Moore

When Uber decided to develop its own self-driving car, it went big. The company came to Carnegie Mellon University, the epicenter for autonomous driving research for three decades, and hired away four professors and 36 technical staff members.

A lot of news reports described that as "poaching." I call it embracing the free market for brilliant people.

As dean of CMU's School of Computer Science, I don't take lightly the loss of 40 valued employees. We in academia are in a fight with industry for top computer scientists — and the competition gets more bruising by the year. But ultimately this is great for our school, for academia and for industry: The best scientists in the world have the freedom to pursue their careers as they choose.

Let's face it: There's no way to hire professors in dynamic fields such as computer science and robotics and expect them to stay put for three or four decades. In our school, we typically see five to 15 faculty members take leaves of absence each year and disappear into industry for a while. Our most recent such departure was a highly successful machine learning researcher who decided he wanted to deploy some of his ideas in industry.

Some never return, but many do. I did. Ten years ago, Google recruited me to establish its Pittsburgh engineering center. Two years ago, I returned to CMU as computer science dean. If we in academia play our cards right, many faculty members will be following that same career path — teach and perform research in academia for five or 10 years, then launch a startup or work for a tech firm for a few years, return to academia for another five or 10 years, and so on.

Stiff competition

People often ask me how a university can compete when industry compensation for brilliant people is so high, but money actually is a secondary concern. Yes, researchers send their kids to college and save for retirement just like everyone else, but money is less of a motivator than most people think.

What tech innovators in both industry and academia want even more is to change the world. In academia, they can explore and develop disruptive ideas; in industry, they can make that technology available to millions of people. Who wouldn't want a career that included both?

An academic researcher who moves to industry can represent a big win for society. The federal government makes significant investments in academic research, and local governments provide crucial support for nonprofit universities; both should expect a return on that investment. One of the most effective ways to capitalize on the innovations spawned in academia is for the innovators themselves to carry their knowledge into industry. This is of immense importance to our tech-driven economy and to our national interest in general.

Losing faculty and staff can mean that the university loses the research grants and contracts that supported those people. But we're nonprofit institutions. Financially, it's largely a wash if we lose the money, because we're no longer paying those salaries.

So finances are not my biggest headache if a professor takes a leave of absence. The thing that's top-of-mind is making sure that the school still fulfills its existing research obligations to the government agencies and companies who depend on us to explore critical technologies. Happily, our faculty and staff pitch in to complete work when colleagues leave, as occurred at our National Robotics Engineering Center last year following the Uber hirings. With much pitching in all around, nothing was dropped. For example, the celebrated participation of CMU's rescue robot in DARPA's Challenge competition went ahead as planned.

In and out of academe

With departures come opportunities to bring in new blood and new ideas, which are essential to academia. Last year, even as those four professors were heading out the door to Uber, we were hiring 27 new robotics and

computer science faculty members. Our teaching mission never missed a beat. With the announcement of more large projects, funding has never been higher.

Of course, we need to make ourselves as attractive to top researchers as possible. When people depart, what we hear most often is “I love what I do here, but there are too many bureaucratic obstacles to getting things done.” So we’re making it a priority to ease those administrative headaches.

This is where money — federal money — actually would help. To keep top researchers in or coming back to academia, we might follow the lead of Japan and Europe. Both have been able to retain talent by identifying the best researchers, regardless of institution, and providing them the equivalent of “genius grants.” These are substantial monetary grants with few strings attached, reserved for researchers with proven track records.

Decades ago, a similar approach from the Pentagon helped Carnegie Mellon and a handful of other institutions establish the field of computer science. Our early work includes innovation in computer operating systems, handling of files by shared servers, speech recognition and even an autonomous vehicle in the mid-1990s. Those projects helped create the internet and other important technologies now driving our economy. And they underpin research into the future of self-driving cars, artificial intelligence and machine translation.

So at a place like CMU’s School of Computer Science, I expect to see more and more ebb and flow of the planet’s top roboticists, theorists and algorithmists. I don’t see the “ebb” part of this as defeat. It just means we’re living in a free market for brilliant people.

Andrew W. Moore wrote this for [The Conversation](#), an online forum for academics and researchers.