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Cryptocurrency has hit the mainstream, but has it hit Duke yet?

By Shannon Fang (<http://www.dukechronicle.com/staff/shannon-fang>) | 01/31/2018

Headlines in recent years have been saturated by mentions of the cryptocurrency Bitcoin, with the price of the digital currency rising over 1,000 percent in just one year.

Bitcoin’s price hit an all-time high in December, when it was valued of one Bitcoin at just below \$20,000. On campus, it is unclear how many students are after cryptocurrency.



([http://engine.adzerk.net/r?](http://engine.adzerk.net/r?e=eyJhdii6MTQwMzE5LCJhdCI6NSwiYnQ0J2asIhbnJ2OEdyMDhlpublijyMDybcwya260int9sCjly6NDt0NDIedwZGkiOjJMz)

central authority and is more secure.

“If I were a student, if I had the capital to get started, I would definitely think about doing it,” said senior Dhruv Luthra, president of the Duke Blockchain Lab, an organization focused on technology also used in cryptocurrencies.

What is cryptocurrency?

Cryptocurrency is digital currency that utilizes cryptography to secure monetary transfers. It is praised for its decentralized nature—in other words, there is no bank or middleman that mediates your transfers when you purchase something.

Instead, in the case of Bitcoin, individuals called miners solve math puzzles to confirm monetary transfers, in which blocks are added to the existing blockchain. Imagine the blockchain as a type of electronic ledger or receipt of all previous transactions that is

Miners are able to make money because each time they solve a cryptographic puzzle, they earn a specific number of Bitcoins.

Are students mining at Duke?

Luthra stated that he is not aware of mining at the University, but he believes it is possible students are mining. If students were mining, he said that they are likely mining Ethereum and Bitcoin because they are the easiest to set up, have the most online resources available and are the most popular.

Mining on a college campus is more profitable compared to mining at home because the energy bill goes to Duke and not the individual. According to Forbes (<https://www.forbes.com/sites/christopherheman/2018/01/16/bitcoin-mining-uses-as-much-power-as-ireland-and-why-thats-not-a-problem/#4714192f4589>), mining Bitcoin has consumed 20,000 gigawatt hours of electricity per year—which is similar to the power demand of Ireland—and costs up to \$1,800 to mine a single coin. Relaying the costs to the University can save the miner these electricity costs.



Luthra said the two reasons mining is not common at Duke is because mining rigs are nontrivial to set up and are costly. It is difficult to profit as a single miner because the mining industry is dominated by large corporations, Luthra noted. These corporations contain thousands of miners, making it challenging for a single student to compete.

However, Campbell Harvey, J. Paul Sticht professor of international business, hopes that there are no students mining on campus.

“It’s not a good idea to mine in North Carolina, it’s not worth it when you factor in the cost of the power,” Harvey said. “It’s abusive of the free electricity as a student on campus.”

He thinks mining on campus is acceptable if the student pays for the power or if the school pays for the power. Harvey said that the school should not pay for the power, but if the school does, it should be a fair price for the power.

believes the school should make the student pay the energy cost. While the student may believe they are not bearing the cost, they are effectively paying it through increases in tuition and decreases in faculty salary, Harvey said.

Stephen Bryan, director of the Office of Student Conduct, wrote in an email that “Student Conduct has not encountered possible disciplinary issues with cryptocurrency and mining at Duke.”

Luthra noted that if he were mining on campus, he would be worried about getting in trouble by the administration, which has not yet released guidelines about mining cryptocurrency on campus.

“It should be allowed because right now it’s primarily a really great intellectual exercise,” Luthra said. “It’s only going to be more and more important, the skills are only going to be more and more valuable. What I would like to see is Duke to create opportunities for students to work with miners with the administration.”

He believes mining is a way for students to get involved in an exciting space that will be critical to computer science in the next few years. For example, professors should sponsor student projects to build their own mining rig and split the profits with Duke, Luthra said.

How is blockchain technology incorporated at Duke?

Blockchain technology is “the most disruptive technology since the internet,” Harvey said.

“The University needs to be ahead and prepare students for future, as a result, it’s crucial that we undertake both research and give students the training that they need to be disruptors rather than disruptees,” he noted.

Duke’s Blockchain Lab opened in November of 2016 and is housed under the Innovation and Entrepreneurship department. The idea stemmed from the lack of resources for students to learn about blockchain technology and participate in blockchain research.

The lab’s goal is to be a platform for students to learn about and be involved in blockchain technology. It is currently focusing on education initiatives, such as hosting speakers in the industry. It has also run a day-long Ethereum crash course event and a blockchain house course taught by Harvey.

Luthra wants the lab to work toward sponsoring student projects and organizing networking events in hopes of helping Duke students earn jobs at large cryptocurrency and blockchain companies.

“I’d like to see Duke students, after they graduate, be leaders in the space,” Luthra said. “I would like to see researchers, academics and people in industry view Duke as a leader in cryptocurrency and blockchain technology—both from an education perspective but also from a research perspective.”

Currently, Duke does not have faculty that specialize in blockchain technology and research. But given the impact of blockchain technology, Harvey asked, “Does it seem right that students should have to teach themselves?”

He added that he believes it is critical Duke ensures their students are instructed in the new technology. Harvey, who is teaching a full load, is the only professor teaching a blockchain course, and he says other faculty need to step up.

Both Luthra and Harvey hope that the University will hire more faculty working in the blockchain and cryptocurrency fields. Utilizing the interdisciplinary nature of Duke, Luthra notes that Duke should focus on researching how to build these systems, as well as the impact and possibilities of the technology.

Duke does not currently accept cryptocurrency as a form of donation, Luthra noted. However, he expects that the Blockchain Lab would receive considerable cryptocurrency donations if the University were to accept such currency because he said many Duke alumni work in the field who are willing to help new projects. For example, Coinbase, one of the largest cryptocurrency exchanges in the United States, was co-founded by Duke alumni Fred Ehrsam, Trinity '10.

Luthra emphasized that the Blockchain Lab is open to all students with any level of technical background because this technology will be important in their future.

Duke has had blockchain instruction for the last four years—an advantage over other peer institutions—and Duke should leverage this track record by introducing more courses year-round, Harvey said.

“In the next few decades, this technology is going to be critical to reimagining the systems that our economy is built on. We want Duke students and the Duke community in general to be prepared for that revolution and actively lead it,” Luthra said.

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