

# How will AI affect our Future?

A youth perspective

# FORWARD

**AI is changing every part of our society. We need to hear the voices of those who will be affected.**



**Denys Linkov**

TU20 Lead

Everyday we hear of new innovations unfolding in the world of AI. Self driving cars, AI phone calls, game champions falling in previously unbeatable games. The push for innovation is remarkable, but sometimes we need pause and think, what's next? This year as part of TU20, we hosted an AI case competition to help dive into important issues society is facing. We asked 12 teams of students, "How will AI affect the future of work?". Students had 2.5 hours to brainstorm 10 problems, solutions and create a 500 word policy recommendation for one of their problem solution pairs.

Below we've attached three teams' policy recommendations. Under the time constraints, these gr 11 and 12 students have produced some excellent ideas, and are working on making them more complete going forwards. We welcome you to review the ideas and view the work of our bright future ahead.

# JUDGES

**Our future is bright, the work done by the students is unbelievable**



**Leyden Martinez-Fonte**

Senior Manager, Data Management and Reporting



**Guy Pearce**

Global award-winning IT Governance expertise



**Cathy Cobey**

Partner, AI Advisory Services

On November 17th, as one of the judges for the TechUnderTwenty competition on Technology and Policy, I felt our future is in good hands. Teenagers from Town of Oakville presented their views on the impact of Artificial Intelligence on future jobs. Their cases looked wide and deep into issues, their solutions went beyond technology to include the need for regulations and social measures. Impressive indeed.

**- Leyden Martinez-Fonte**

# An Overlooked Effect of AI: Disparities of Control and Ownership



Arushi Wadhwa



Alice Chen



Diya Ahmed

## Executive Summary

Large technology firms and social media platforms are currently the only actors with the economic means to collect large volumes of data to use towards machine learning. This leads to market shares disproportionately concentrated in very few firms, attributing to disparities in the distribution of wealth and limiting the growth of artificial intelligence. The solution to this issue is by encouraging or mandating companies to give developers more control over their work. This includes the shift from companies owning the inventions of their developers, towards developers having significant ownership of their work, as well the creation of universal technological databases which would allow developers to share their algorithms and authorize other individuals to build upon the information provided.

## Next Steps

After an initial review of our written report, we will identify the key elements of our proposal (intellectual property and ownership, application of anti-trust laws to artificial intelligence development, the democratization of technology) for further research. In conjunction with our research, we will reach out to industry professionals and seek out multiple perspectives for a nuanced understanding of the issue.

## Policy Recommendation

In 2018, one of the most significant problems that the development of AI has on the future of work is an asymmetrical distribution of wealth, particularly due to the ownership of technology. Google, a major player in developing exponential technologies, is one example of the technology ownership being concentrated in a few, large firms. In the past two decades, Google has spent \$20,000,000,000+ in buying out companies to gain the rights for their ideas, innovation, and people, all three contributing to furthering their pursuit of developing artificial intelligence, other technologies, and their applications (Reynolds, 2017). Forbes Magazine recently reported that Google, Facebook, Amazon, Microsoft, and Apple have formed a “technology oligarchy”. By 2030, it is projected that only 30 large tech firms will remain (Andriole, 2018). This leads to huge disparities in wealth, and as the value placed on technological innovation rises, these few firms will be the only ones to capitalize on these investments. Additionally, industry domination gives industry pioneers the power to block competitors by monopolizing key information, leveraging their own platforms (i.e Google disabling ads by Yahoo), and consolidating market share through takeovers of startups. Power is concentrated within select individuals in select firms, harming the prospects for all other actors and their ability to create, innovate, and develop.



## *An Overlooked Effect of AI: Disparities of Control and Ownership*

Our proposed solution is a shift from companies owning the inventions of their developers, towards developers having significant ownership of their work. Right now, developers at technology firms sign away the rights to their programs and contributions to advancing exponential technologies. The loss of control and influence of creators of algorithms results in wealth being concentrated within certain firms. Pursuing a route in which developers own greater shares of their work leads to various positive externalities. The use of universal technological databases is an action that can only be pursued if the rights to technological developments are not condensed in large companies. Universal technological databases allow developers to share their algorithms, as well as authorize other individuals to build upon the information provided. Universal sharing of technology advances the growth of artificial intelligence. To illustrate, IBM Q, IBM's public access quantum computer, enables interested individuals and experienced developers to explore quantum computing and eventually contribute to more discoveries of the applications of quantum computing. If developers are given the opportunity to license out their programs, the developer will have monetary gain and the sharing of information will incentivize others to further their projects. With this in mind, developers employed by large firms, interested developers, and people pursuing intellectual projects can all enjoy a more even distribution of wealth as the ownership of technologies is determined through a value-input approach.

Implementing this solution creates a productive, innovative, and mutualistic future of work. This solution ensures the future of artificial intelligence is one in which individuals are rewarded based on the value of their work, and the overarching mission of all contributors is to further the progress of exponential technologies.

amazon



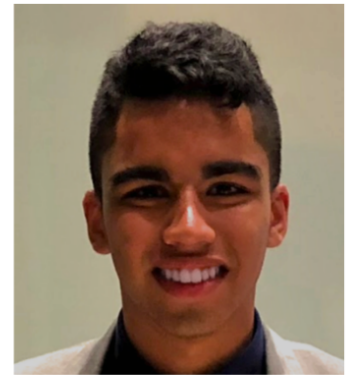
Microsoft



# Fake It Till You Break It: How AI Can Impact the ICO Space



Hassan El-Essawi



Dylan Ratti

## Executive Summary

Due to the formulaic nature of creating a cryptocurrency, the ICO space is well-poised to AI creating fraudulent coins at a large scale. Algorithms can then trade the fraudulent coins amongst themselves in exchange for more respected cryptocurrencies, creating fake volume in the market of the initial fake ICO. This defrauds investors and shows that certain markets have more volume than in actuality.

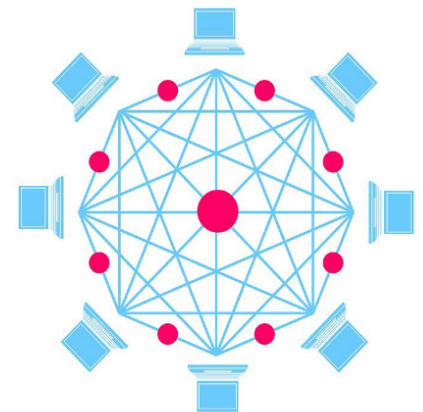
## Next Steps

Through further research and interviews, and by diving into the technical aspects of cloud encryption and blockchain, we plan on releasing a formal paper outlining the issue and CASB solution for January 2019. From here we plan to work with leaders in the blockchain space in configuring and implementing a viable solution.

## Policy Recommendation

With the rise of the sharing economy witnessed through blockchain and the creation of cryptocurrencies, artificial intelligence enables individuals to create fraudulent ICO's and can then further manipulate trades between these fraudulent coins in order to mislead investors into thinking these fake Coins have any intrinsic value. The trades can be listed on public coin exchanges which will broadcast the information of these trades occurring to anyone looking on the exchange. At a rudimentary level this will look like an algorithm that will create new cryptocurrencies, trade those cryptocurrencies in exchange for Bitcoin or another more recognized cryptocurrency amongst each other several times over, and then once the public investors start flocking to the fake coins, dumps their entire position in the fake coin in exchange for a more recognised crypto. This level of market manipulation has never been seen before because with the Blockchain, the sheer amount of Coins that can be created is so vast that any regulatory body would have no chance at controlling in any traditional manner.

Fraud is not something new when it comes to trading. The Great Depression was caused, largely in part, due to rampant fraud in company's financial reporting. This led to the public being misled and investing in companies on false information. This is similar to the coin fraud issue because fake ICO's can manipulate their trading volume, and show to be more valuable than the coin actually is.



Paul Dughi, 2018



## *Fake It Till You Break It: How AI Can Impact the ICO Space*

In order to prevent this event from occurring at an exponentially larger scale, prevention methods, including cybersecurity implementations such as a CASB+ solution, must be activated. A cloud access security broker is able to recognize anomalies across any industry platform, leading to the recognition of fraudulent Initial Coin Offerings. By recognizing false ICO's, the Cloud Access Security Broker is then able to encrypt all monetary and personal data and prevent the false trading of cryptocurrencies. The CASB is a key utilization in the fintech industry, as it allows for the secure sharing of data, exponential reduction of risk due to the identification of anomalous behavior, allows individuals to comply with regulations, and using AVAM scanning, helps keep data safe. Therefore, the Cloud Access Security Broker is the innovative solution needed to solve the issues faced in fraudulent ICO trading devised by artificial intelligence programs.

The widespread securities fraud that was so influential in causing the Great Depression, resulted in the creation of the SEC. An organization dedicated to the regulation of public companies, and markets for all securities in the US. This was pivotal in the regulation of the stock market, as well as markets for derivatives products, commodities, and other securities, and is what allowed the financial system to exist as it does today.

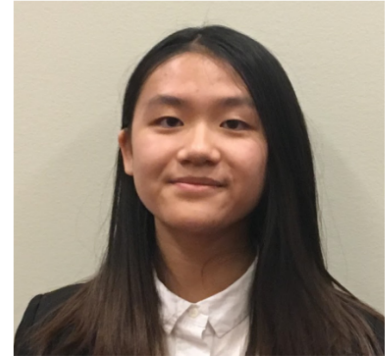
This will result in the regulation of the cryptocurrency markets and the establishment of Crypto as a viable asset class to be traded with intrinsic values. This will institutionalize the Blockchain and be the next step forward in bringing the Blockchain to mainstream use.



# Balancing Business Needs & Employment in an age of AI



Vinuthna Vemireddy



Briana Tang

## Executive Summary

Over the next few decades, Artificial Intelligence will be integrated into many aspects of the working force. Businesses will benefit immensely as they will be able to make many jobs redundant, increase efficiency and achieve top quality. Particularly, jobs that have repetitive aspects or require minimal skills are at the greatest risk of being replaced by AI. Without these minimum wage jobs, which are often the only source of sustenance for some people, it could greatly increase economic inequality. The proposed solution suggests a mandatory quota of the human workforce that is protected from layoffs regarding automation. Additionally, training and employee workshops have to be provided by all companies to ensure that workers have a sufficient understanding of the new machines, and are able to work alongside AI to transcend their performance.

## Next Steps

After examining the original report, several key aspects emerged. Firstly, the initial report analyzes mostly the view of the firms and workers. While these two actors are definitely important, there was another market actor missing: the consumer. How would the consumer react to technological changes in their favourite stores or restaurants?

Another that will be discussed is the difference in demand for human labor throughout different industries. To which industries exactly would the developed policy apply to? If the workers are paid above the minimum wage, do they qualify to be protected under the policy? Factors like this will be developed more thoroughly during the final report to ensure that the impacts brought forward are the most likely and probable for the near future.

## Policy Recommendation

As proven by history, any major breakthrough within our society has always most heavily burdened the poor. Take for example the Industrial Revolution- countless middle to low-income factory workers were replaced due to the development of automation. Machines replaced countless workers, but also managed to turn businesses into more efficient, profitable companies. At the end of the day, those who worked the lowest paying jobs were the ones that were laid off, forced to begin the job-searching process again to find some way to provide for themselves.

Today, with the emergence of artificial intelligence (AI), the same fears remain: what of the low-skilled, minimum wage workers?

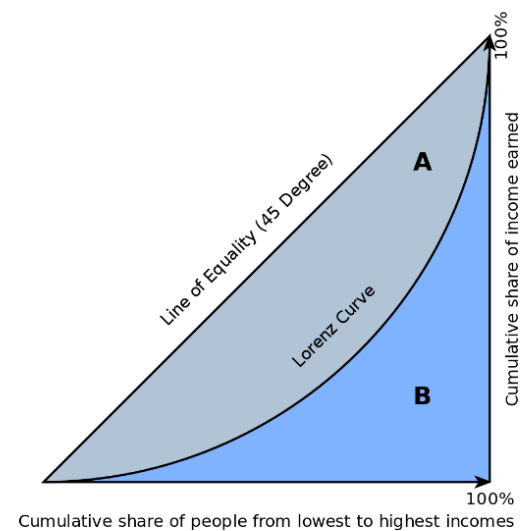
# Balancing Business Needs & Employment in an age of AI

Regardless of the circumstance, businesses ultimately operate for one reason: profit. In today's free market, the business that earns the most money and generates the most revenue is the one that stands on top of the chain. The end goal for any business will be to last as long as possible in the market, while simultaneously providing for their customers. AI enables corporations to do just that, by replacing jobs that require low skills or have repetitive aspects. This immensely decreases operational costs and areas of error. Think about the self-order kiosks at fast-food chains: they replaced cashiers because kiosks can do the same job for a much lower cost.

If AI is driving down costs and making service faster, what's the problem? The main issue with jobs being taken over AI is that it is pushing the most vulnerable groups of our population out of employment. Let us take a look at the two types of people who work minimum wage jobs. The first type are workers who associate value to their positions. A customer service clerk may seem like an unimportant job, but to the clerk themselves, seeing customers smile when their problems are solved may bring them fulfillment. Should AI replace this job, the clerk is ripped away from an occupation that makes them happy.

On the other hand, there are people who work low-skill jobs because they have no other choice. For these people, their job is their only means of income, and thus, they are the ones who are most heavily impacted. These people do not have the qualifications for higher-skilled work. When the job market for low-skill occupations shrinks because of AI, this causes a decrease in their quality of life, and an increased strain on governmental social services, because the previously employed workers now have no means to support themselves.

An ideal solution would maximize business performance, while also retaining the human factor of low-skilled jobs. The proposed solution is a policy that requires for all minimum wage positions to be 50% human filled, should a company decide to replace workers with AI. The company would have to provide training to this 50% in regards to AI. This would help develop their knowledge and understanding of the technology, which could make them look more impressive to potential employers, and would also ensure that business output is still maximized. If the employees have an enhanced understanding of AI, they will be able to better work with them in the workplace. Not only that, but customers who are not comfortable with technology (e.g. seniors) will still have other humans around if they need help, hence low-skilled workers will still be needed.



Wikipedia

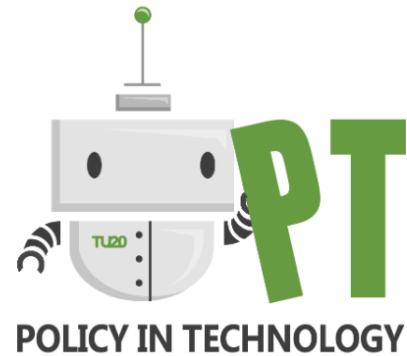
Therefore, to satisfy both parties, the policy must allow companies to eliminate some redundant positions, while also giving opportunities for individuals to support themselves. By doing this, innovation within workplaces is encouraged and simultaneously upholding social responsibilities.



# What is Policy In Technology?

Policy in Technology is an annual AI Case competition. Students are tasked with brainstorming problems and solutions related to AI and the yearly prompt. Based on their brainstorming they are asked to write a short policy to address their most impactful issue and offer a solution and implementation.

Students are given the challenge on the day of the event and work in small teams to understand and address issues facing society.



# What is TU20?

TechUnderTwenty or TU20 for short, is focused on building Halton's student tech, business and entrepreneurship community. We host events such as Policy in Technology and the TU20 Cup, connect students with job opportunities through our coop and Learn2GetHired programs and provide an innovate curriculum for schools.

We are part of Silicon Halton, and currently have 400+ students part of our community with 8 school chapters. For more information visit our website at [techundertwenty.com](http://techundertwenty.com)



# Connect with us



[techunder20@gmail.com](mailto:techunder20@gmail.com)



[@techunder20](https://www.instagram.com/techunder20)



[@techundertwenty](https://www.twitter.com/techundertwenty)



[techundertwenty.com](http://techundertwenty.com)