Improving Economic Hardship and Poverty in a Modern Society:

Using Artificial Intelligence to Manipulate the Stock Market for a Universal Basic Income

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Global extreme poverty has seen a rapid decline since the early 1990s, falling from 1.9 billion people suffering to 836 million in 2015 (UN, 2015)[1]. As tempting as it is to celebrate the work that humans have done to recede global financial hardship, it must also serve as a reminder that we are not finished. People in the western world often look to places like Africa in order to prove how individuals are struggling severely. However, this often causes the western world to overlook its own problems and iniquities. According to the Canadian national website (2020), between the years of 2015 and 2018, the percentage of individuals living below the poverty line fell from 14.5% to 11% [2]. Nonetheless, many more are still living paycheque-to-paycheque, with constant fret and strife that seem to increase the likelihood of domestic abuse, suicide and other detriments that only worsen the situation. There have been many individuals in recent times (most prominently being politicians) who suggested we take a look at Universal Basic Income (UBI) in order to dissolve the tension and stress that come with working for a regular wage. This is not a new idea, however, as there have been studies that have shown that a basic income can allow individuals to have a better well-being, and give them the opportunities to pursue other endeavours (Haagh & Rohregger, 2019) [3]. This being put in perspective, I will introduce a novel solution that improves economic hardship with a basic income supported by Artificial Intelligence (AI), countering the mainstream notion of government-subsidized UBI.

A major hurdle for modern society will be the way in which we adjust to technological change. Naturally, things will become easier for us physically and technically, but at the expense of our wallets (the change we must really adjust to). Given this challenge, it becomes a civil rights issue as more people need to stay in trend with technology and keep their *opportunities* and chances of survival afloat. In Hamilton, Ontario, it seems that more and more individuals are losing the ability to pay their monthly rent. According to the City of Hamilton (2019), chronic

homelessness was experienced by an estimated 820 individuals, with 16,400 being at-risk due to paying more than 50% of their incomes on rent and utilities [4]. Again, an issue arising from this new wave of (at-risk) homelessness is a civil rights one. If individuals are not able to afford their rent, they will not be able to raise their children properly and send them to school. A lack of education brings forth ignorance; ignorance brings forth socio-economic problems that are harder to solve when one is uneducated and underqualified for better paying positions; those problems, in turn, cause poverty to continue and therefore the cycle repeats. This setback only delivers another blow to those at the bottom of the financial line of inequality, which is cause for concern for the middle-class given the growing economic divide between upper and lower classes. In order to give children and future generations the opportunities to thrive, we would need to give them good homes with food on the table, where they can have technology that will only familiarize them with what the rest of their lives will look like. In order for this to happen, their parents' incomes must be guaranteed in a way where the government and future of the nation is not going to suffer an (inevitable) economic crisis.

As always, however, there is more to the situation than meets the eye. Another issue given this entire ordeal would be the fact that the government, particularly Canada's government, is in deep waters in terms of debt (as are many other places worldwide). According to Statistics Canada (2021), the federal accumulated debt went from $695 billion in January of 2020 to $993 billion in January of 2021: a total of roughly $298 billion added over one year [5]. Naturally, COVID-19 had a massive impact, forcing the federal government to subsidize CERB and CESB, the emergency benefits for citizens and students. The grants that were offered were certainly beneficial to most Canadians, but at the government's expense. There is only so much the government can do in terms of helping its own people. A common misconception arises amongst

most individuals where they believe the government can solve all (or most) of their problems. Firstly, this is a false hope given the fact that the government is not meant to fix everything, but rather to reallocate the taxpayers' money in different ways to be able to fund things like public elementary and secondary education, the healthcare system, and (unfortunately) the pockets of our local, provincial and federal politicians. Secondly, in order for us to tackle this specific issue, we would need to look back to the previous paragraph mentioning how equal opportunities in today's society require a financial boost. Naturally, a form of basic income would serve well in a nation - but under what parameters? We would require a solid foundation for this to work in a capitalistic society that cannot take on any more losses. In other words, we cannot rely on the government's money - that is, your and my tax dollars.

According to Tim Dunlop (2016) and his book, *Why The Future is Workless,* the future is entirely automated by robots and machines that do our jobs for us, and we have a UBI from the government that allows us to do (practically) whatever we want [6]. Although the book discusses this idea of a Utopian future, this is not new. Time and again we have been bothered by the idea of a Utopian society, one that lets us enact what Heaven might be like. Although this sounds nice, it is too good to be true. One of the most obvious problems concerning a UBI is the fact that everyone assumes it will be subsidized by the government (even the government assumes they will subsidize it given the fact that many nations worldwide are looking for ways to make this a reality). The problem with a government-subsidized UBI is the fact that the nation will incur innumerable gains in national debt. The United States estimates that a UBI in their nation would take on an additional $3 trillion in debt *annually* (Minogue, 2018) [7]. Moreover, we can look back to the previous examples I gave with regards to Canada's overall debt levels (CERB and CESB spending that only added on to the national debt of over $993 billion). We can draw parallels to

the CERB and CESB funding, given the fact that they each covered just about the same amount of money anyone could use to afford the basic necessities (roughly $2,000 per month for 7 months for CERB [8], and $1,250 per month for 4 months for CESB [9]). Another problem with a government-funded UBI is the fact that even though UBI is intended for everyone (including the less-fortunate), it would only end up making the less-fortunate worse off since they would not be able to retain their benefits (in the United States, this could be as much as $19,000 annually; Minogue, 2018) [7]. Lastly, having a fixed (constant) solution rather than a variable one will only incur more (national) debt in a capitalistic society. We have learned time and again that developing and developed nations alike require a fluctuating market that will allow them to grow. Think of direct current (DC) vs alternating current (AC): DC was not used in large electric circuits (like city grids) due to how much power is required to push the electricity through - it just melted the wires due to constant overheating. Thus, AC ended up being the go-to solution because it constantly fluctuates and changes direction. The same thing can be applied to the economy regarding UBI. So, what would a good solution with a solid foundation (without the need for government subsidies) look like?

A unique solution that can be implemented is a technological one that runs on a decentralized network (i.e. blockchain). There are currently many ways that individuals can have monetary gains online, particularly through playing video games professionally or making videos on YouTube. Most of us, on the other hand, are less likely to be good enough at video games to play at a professional level, or be confident enough to be in front of a camera for thousands (if not more) of people. However, there have been other individuals who have been doing quite well financially: day-traders. Of course, there are many day-traders who take on regular losses and give up on the idea of winning the riskiest stock market on Wall Street (these are mostly the

kinds of stocks that day-traders end up picking as they have the highest reward for such a short period of time). However, a lot of their losses simply boil down to a lack of knowledge of how to pick stocks - or bad luck. In recent times, software engineers have teamed up with stock brokers in order to understand the market better and develop programs that can predict its next move. This is called "Artificial Intelligence (AI) trading". Naturally, the idea seems to give individuals an edge in the stock market (statistically speaking). As there are already AI trading algorithms and bots that are open-source, I am proposing a unique (and open-source) project that connects AI trading bots on a single decentralized network that can use each other's algorithms for different parts of the market, and can act as one brain to allow different traders a slice of the winnings at different intervals. This kind of trading can help individuals create monetary gains that only affect the market, but never at the expense of the government. With the growing demands for cryptocurrency in a modern society, and a constant push for decentralization, now would be the perfect time to introduce a decentralized and open-source network that allows anyone to chip in with their own code or software to secure a strong trading algorithm that allows millions of citizens to have access to a solid basic income. This project would be formally known as the Decentralized and Open-Source AI Trading Allegiance (DOSAITA).

Furthering the proposal above, the network would work in a way where individuals can add a bot of their own with their own code, through their own account. They can also use the bot that someone else created in order to help achieve their financial goal. Using the different trading algorithms on the network, individuals can better familiarize themselves with how the market works. This would promote constant education and relearning of important materials that can inspire them to do bigger things outside of this environment. Moreover, individuals without any knowledge of coding can join the network, as well, and make more informed decisions with the

AI guide that directs them. The program would then be tweaked and strengthened by software engineers that would essentially solve the platform's own deficiencies (bugs). Over time, as more individuals register to the network, the AI network would recognize better and better the areas where it can improve and guess the next pick. To add on to the gravitas of this idea, there is evidence that AI software can make futuristic guesses better, particularly in terms of Einstein's Theory of Relativity. In other words, there are physicists working on ways to guess the future - and AI is getting better at doing it (Heaven, 2020) [10]. My proposal is not too far from this, the only difference is that I wish to implement it for a better economic future for all of humanity.

The sheer human force of driving constant change, innovation and socio-economic equality worldwide is what inspires the idea of a UBI. Without a form of basic income, we could be stuck in an asymptotic state of improvement, one where we infinitely get closer to the goal of universal financial relief, but never actually reach it. There are many things one can take away from this paper, but the thing that is most important, from my point of view, is that we must solve our western economic problems prior to fixing the rest of the world's problems. There is only one Canada, and so we must make sure that it prospers.

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