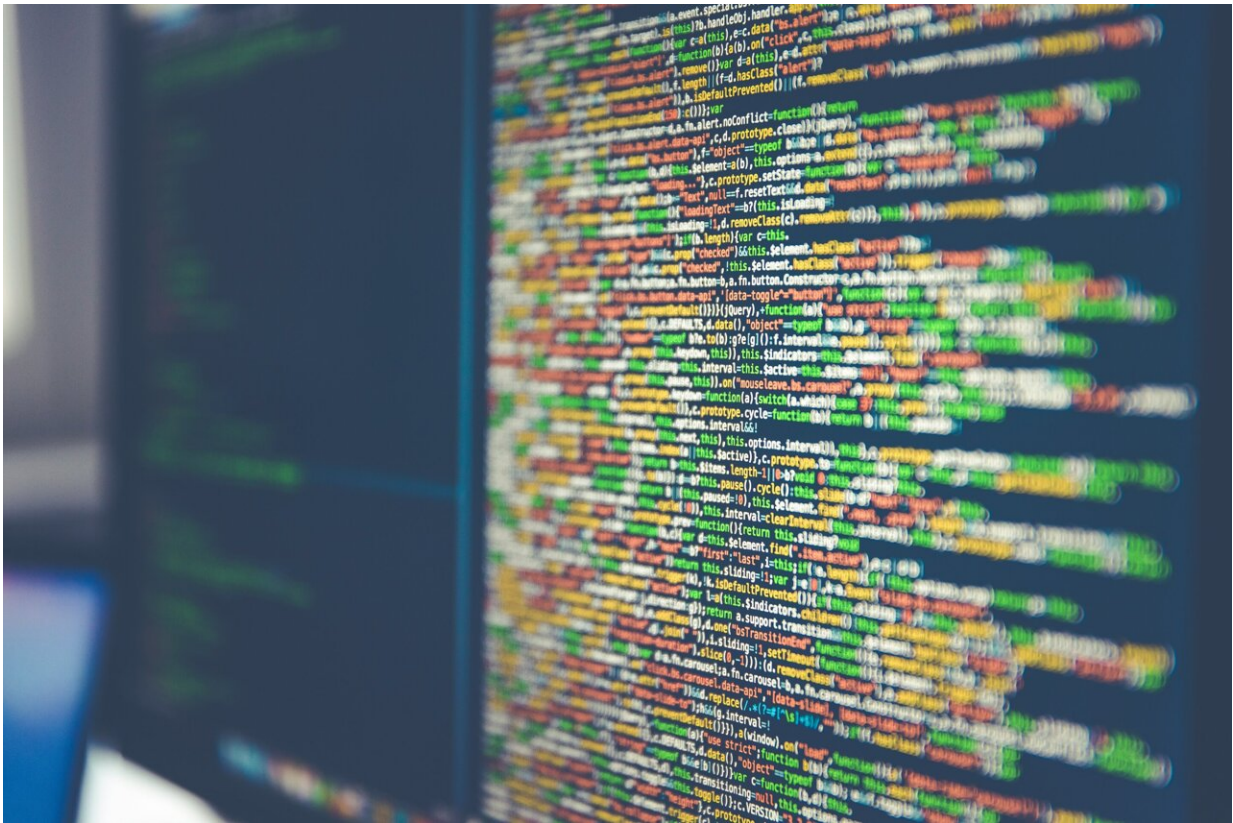# How open source tech can make Canada's immigration system fairer

March 1 2024, by Joshua M. Pearce

Credit: Unsplash/CC0 Public Domain

Federal immigration minister Marc Miller recently announced the government is implementing a two-year cap on the number of international students admitted into Canada.

This comes amid the government's broader changes to the immigration system to streamline the types of people who can settle in Canada. Last year, Immigration, Refugees and Citizenship Canada introduced [category-based draws](#) for permanent residence applicants. The new requirements are designed to prioritize applications from health-care and STEM professionals, and other in-demand workers.

While Canada has plans to welcome [485,000 permanent residents this year](#), these recent policy shifts signal the government wants to restrict the type of people who can come here.

However, does Canada's immigration system unfairly exclude the people who could make meaningful contributions to our society and economy?

Immigration policies favor the rich

Governments, businesses and universities might be tempted to roll out the red carpet for richer immigrants who bring their wealth to Canada and benefit the country by simply spending their money here. However, policy should be focused on attracting smart and innovative people, regardless of their net worth, [as they are far more valuable in the long term](#).

Research shows that [skilled workers](#) [boost the productivity of their local peers](#). It is also well known that immigrants play an important role in creating value for firms and can also [attract foreign companies](#) to a country.

Research from the United States indicated that more than [25 percent of tech companies established between 1995 and 2005](#) had an [immigrant](#) as a key founder. Similarly in Canada, semi-skilled and high-skilled immigration have a [positive effect on our economic growth](#).

Canada has a number of immigration streams. Perhaps the most straightforward is [Canada's investor visa](#), which allows foreign entrepreneurs to gain permanent residency and, eventually, citizenship. Immigration programs [like Express Entry](#) require applicants to demonstrate they have a minimum amount of money. Others like the [skilled worker program](#) favor those who have attained certain levels of higher education.

This means that current immigration policy can often favor the rich because it is easier to assess a person's bank statements than it is to assess their talents or intelligence.

Despite [Canada's points-based system that ranks potential immigrants](#), smart, capable people can easily fall through the cracks if they don't meet financial, employment or formal educational requirements. These are people who lack the money and educational certificates to earn a lot of immigration points.

Yet some of them may have already created millions of dollars of value with their contributions to open source (OS) technology that you and I use every day.

Open source to the rescue

[A new study](#) by my colleague Jun-Yu Qian from Western University and I shows that there is another way to find the value of contributions of people wishing to come to Canada. Immigrants could be assessed based on their contributions to open source development.

[Free and open source software](#) (FOSS) refers to programs that can be used, studied, copied, modified and redistributed with few or no restrictions. The core idea of open source development is that if you make an improvement in software or hardware, you must share it back

with the community. The result is often rapid churn in [innovation](#) in a [wide array of areas](#).

Open source tech developed by people from all over the world has enormous impact on the economy. Today, [open source software](#) is in [supercomputers](#), [90 percent of cloud servers](#), [82 percent of smartphones](#) and [most artificial intelligence](#).

More than 90 percent of Fortune 500 companies [use the open-source software](#). To put it plainly, if you use the internet, you use open source technology every day.

On the hardware side, there are now [millions of free designs](#) that consumers can download and [3D print](#) or [digitally manufacture](#) to save money compared to conventionally manufactured products.

In our paper, we calculated the value on an individual open source project based on how many times it was downloaded and multiplied that by what the substituted cost is on the open market. Similarly, we calculated the fraction of the total value an individual contributor made to a massive collaboration project, like [Linux](#), [Android](#), [Arduino](#) or [RepRap](#).

We found that even modest contributions to open source technology can result in substantial value and high societal return on investments. These values could be used to determine the contribution an individual has made to open source tech development when assessing their ability to live in and support themselves in Canada.

Investing in immigrants

[Studies have shown](#) how immigrants are [consistently](#) providing [positive return on investment](#) for their adoptive countries. Simply put:

immigrants bring more economic value than they cost.

In the study, we found the median contributor to [Open Office](#) (a free office suite that can replace Microsoft's offerings) made only a tiny contribution to the code (0.00716 percent) but provided significant financial savings.

The [mechanisms we introduced](#) could serve as tools to utilize contributions by potential immigrants. Making this kind of change to immigration policy would go some way to benefiting smart people willing to work hard and make open source contributions, and the countries lucky enough to attract them.

With the help of the open source development, countries like Canada can widen the net and attract highly innovative people to come and live here, even if they don't have the formal qualifications.

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