OPINION

Canada's planned $2.4-billion artificial intelligence investment is already mostly obsolete

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Prime Minister Justin Trudeau speaks during an announcement on innovation for economic growth in advance of the 2024 federal budget in Montreal on April 7.

GRAHAM HUGHES/THE CANADIAN PRESS

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In the rapidly evolving world of artificial intelligence, a month can change everything. Since the federal government announced its $2.4-billion investment in AI in April, Meta Platforms Inc. launched its best-in-class open-source large language model (LLM) Llama 3 and Microsoft Corp. committed €4-billion ($5.9-billion) to boost France's AI capabilities. These major developments demand that Canada reassess its AI strategy.

From the start, Ottawa's planned $2.4-billion investment was problematic in its lack of scope, with the majority of it – $2-billion – allocated to purchasing computing power. Then, just two days after Finance Minister Chrystia Freeland tabled the 2024 budget, the AI plan became largely obsolete as Meta released Llama 3.

The release of Llama 3 was a game changer for two reasons. First, because of the sheer computing power required to develop and train the model. By the end of this year, Meta will have amassed about US$30-billion worth of computing power, roughly matching total spending on the Manhattan Project in today's dollars. A $2-billion investment is no longer sufficient to compete in the sector.

Second, Llama 3 reshaped the landscape by being a best-in-class model that is open source, and thus free for anyone to use or build on. As a result, it is attracting many software developers, ensuring an acceleration in its usage and development.

Canada's aspirations of building homegrown LLMs that can generate revenues while promoting Canadian values need to be re-evaluated. Not only is $2-billion woefully insufficient, but it is also difficult to compete with free LLMs.

It's not just Canada that will find investments in LLMs less worthwhile. Would-be LLM makers everywhere might find venture capital more reticent to fund their activities in the space. The parallels with Google's development of the Android operating system are obvious. The company's decision to open-source Android increased development by third parties and ensured that there would be no further significant entrants into the space.

The good news is that Canada can still win in the AI space. But to do so, Canada

must shift its focus to the application layer of the AI stack. We can succeed by leveraging AI to increase the efficiency of our businesses and by building startups that reimagine entire industries around AI.

This is going to require investing in three key pillars: AI education and literacy, adoption by industry and AI-centred entrepreneurship. We are in the age of AI for all, in which the technology has quickly moved from the research centres and back offices of the largest companies to the fingertips of all Canadians. The deployment of AI in our businesses, far from being driven by top-down directives, is bubbling up through the experimentation of regular Canadian workers. If we want this process to accelerate and create millions of potential AI entrepreneurs, we must invest in mass AI literacy.

Crucially, most of the adoption will not require building LLMs from scratch. Most businesses will be able to leverage the power of AI through simple prompt engineering, while more ambitious companies may choose to start with an open-source model such as Llama 3 and fine-tune it for their purposes.

While some computing power will be required to fine-tune and distill models, it will be orders of magnitude less than that required to train a model from scratch. In fact, most of the required computing power will likely be focused on inference, which is the process of using the model.

Having data centres and cloud-computing capability within our borders is a laudable goal. France has largely achieved this at minimal cost by partnering with Microsoft. But far from being a narrow partnership focused on AI infrastructure, they are also making investments in the three pillars of application layer success. They have set the goals of building AI fluency for everyone, training more than one million people over the next three years and accelerating 2,500 AI startups.

As Canada reviews its AI investment focus, we should not only emulate the breadth of investments being made in France, but also leverage private partnerships to amplify the impact and reach of our efforts. Canada's AI competitiveness depends on it.

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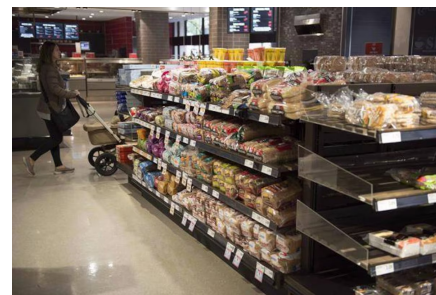### Where to look beyond the Magnificent Seven for exposure to AI

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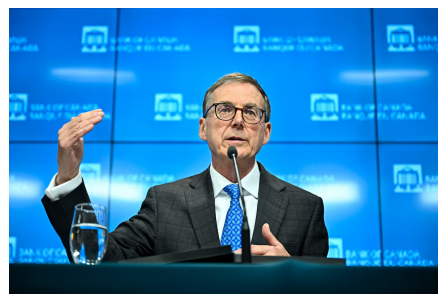### What is the grocery code of conduct, and how could it impact food prices for Canadians?

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