Artificial Intelligence and us, Ethiopians

In 2012, a historic and groundbreaking result was published by a team of Artificial Intelligence (AI) researchers in Canada. They demonstrated a computer program that achieved a near human vision capability, a computer that can almost ‘see’. That was the vision problem, as it is known in the industry, and it is one of the human capabilities Artificial Intelligence(AI) researchers have always been trying to ‘give’ to computers but no one expected it would happen so soon.

So, what is it anyway? What is *Artificial Intelligence*?. The first word is easy, it's the second word that takes up all the attention. Oh no, this article is in no position to answer the question ‘ *What is Intelligence?*’. It is a question that is still being studied similar to the century old questions we humans had like, ‘ What is the purpose of life?’ or ‘ Are we alone in this universe?’. But the question is domesticated as ‘can we create and build an intelligent machine?’. That is the fundamental question whose answer is being chased by everyone working in AI, everyone. All research is assumed to take us,humans, a little closer to the answer. One of the biggest and fundamental answers was the realization that it's not necessary to mimic the human brain to build intelligence just like it was not necessary to mimic the bird to be able to fly. In its current form, Artificial Intelligence can be simplified as *Abstract Intelligence*. The word *abstract* is to mean the *abstract* qualities we humans are characterized by like learning, uncertainty, vision, creativity and language. Currently, all AI solutions are trying to ‘give’ one or more of these human traits to computers with a collective effort of diverse disciplines.

To understand the gravity of the quest for AI, it helps to imagine what the world would look like if a company or some programmer in his garage finally managed to build an application that is at least as ‘intelligent’ as we humans are. Well, it is unimaginable, but for starters within the next few

seconds it will be able to read every book ever written by humans. And then within those same few seconds it has already watched every video, listened to every sound, observed every portrait, read every literature, scientific paper, magazine, comment, etc we humans ever wrote. And it will be able to make sense out of every little thing at the same time:no forgetting or distraction. Within a few seconds of being ‘alive’, the intelligence difference between the smartest of humans and the AI is already similar to the intelligence of a cat and a human. We are not even sure what it will learn or do after a few seconds. Researchers refer to the very microsecond it happens as the ‘singularity’. It is the moment the current AI technology will reach the human level ‘intelligence’. It is conjectured that it is the last thing humans will ever inventas it will do everything better than us one it is on. That is why there are too many opposing words even from elites like the physics Nobel prize winner Stephen Hawking and Ellon Musk calling for a regulation before it's too late. Beyond safety, there are other almost equally critical issues in AI. In Fact, AI is probably the most paradox filled discipline ever. Accountability, ethics, philosophy, etc are all topics of hot discussion but the power it promises keeps funneling fundings towards its research.

Back to the present day scenario, what has happened? Well, from the perspective of achieving the human traits, the vision happened: the computers surpassed human vision capability in specific tasks. From the perspective of learning too, AI has come a long way. In 2015, an AI software developed by Google won the worlds best Go human player without knowing the rules of the game. The task would have taken billions of years for a normal non-AI computer program and even for an AI it was not predicted to happen before 2020. Countless major breakthroughs have already happened. It is discovering new types of medicines, optimizing energy grids, assisting marketing decisions, accelerating mining efforts, recommending actions, predicting weather conditions far ahead, monitoring agricultural fields, assisting in education, driving cars, etc. Its general purpose nature is better summarized by the infamous researcher Andrew Yang as, ‘ AI is the new electricity’.

Fortunately, we, Ethiopians, are in the best position to take advantage of it. Beyond the obvious Digital Ethiopia 2025 initiative, we have all the right resources the current AI technology requires: computing power, data, and expertise. Computing means running a software or application on a computer. More computing needs more power. It is simply an electric power issue. Ethiopia has one of the cheapest electric price rates in the world. On the other hand there is data. Data is a piece of reality. It's how the AI perceives the real world. Anything registered is data: age, name, location, etc. Data wise, sure we don't have the local data we need but still we are not behind most countries in our economic, social, and political vicinity. At least we have a large population to provide us with enough local data. In a way, we humans are teaching AI through our data and who is a better teacher than emotionally and culturally rich people. When it comes to building human capital, there are active measures taken. The initiation of AI focused graduate and undestraduare programs in higher institutions is a huge step forward. The biggest achievement is the establishment of the Artificial Intelligence Agency by the prime minister himself, H.E Dr. Abiy Ahmed. Not too many understood it or only gave it less attention but now is the time to give that decision the credit it deserves. Judging by the work presented by the agency at the first AI conference in the country, there are hopeful projects underway.

Despite fruitful efforts by the government, ironically the last to take action in such scenarios, the private sector stayed adamant. The private sector better give in, and strategize for adopting the technology. The country can only benefit from the harmonized adaptation of all stakeholders. Especially, for the time we are in right now, I strongly believe no economic solution alone with conventional economic measures and milestones is going to push us through the economic strike yet to hit us. Particularly, our energy, finance, agriculture, education and health sectors can easily be transformed even with the present day AI capabilities. We need to take the AI shortcut to the fourth industrial revolution to make an economic leap.