

# DIGITISATION AND INCLUSIVITY: TAKING EVERYONE ALONG

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## Reporting live from the future, Circa 2021, 2031 and 2041

AI-powered Digital Bangladesh has finally taken off



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Imagine you're aboard a time machine and have just been whisked first to the year 2021, then to 2031, and finally to 2041, marking the 50<sup>th</sup>, 60<sup>th</sup> and 70<sup>th</sup> anniversaries of the independence of Bangladesh. What's more, you're able to toggle the machine's settings to be able to travel across 2021, 2031 and 2041 in no time at all. Amid the golden, diamond and platinum jubilee celebrations across the country, what would you report about the state of Bangladesh, especially on the scale and scope of her adoption and adaptation of advanced technologies, such as artificial intelligence (AI), towards realising the dreams of a Digital Bangladesh for all? That's exactly the thought experiment we're about to embark upon here. Are you willing to join us in this awesome journey where your observations are, conveniently enough, in the present tense for you to be able to report live from the future?

Welcome! First, a few ground rules: Since we're deploying a very old technology called "poetic license" inside this time machine, we're allowed to disguise the actual names of individuals and institutions and replace them with fictitious ones to protect the innocent; and equally important, we cannot comment on highly specific developments or events, such as the winning numbers for certain lottery jackpots in 2021, 2031 or 2041, without forfeiting the precious privilege of our poetic license here.

On the occasion of her golden jubilee (affectionately known as "subarna jayanti") in 2021, the people of Bangladesh joyfully celebrate the achievement of several milestones put forth in the country's Vision 2021 manifesto, which was the political manifesto of the Bangladesh Awami League before winning the National Elections of 2008. Several golden jubilee celebration programmes have been held in many countries worldwide, including India, Russia,

Germany, Sweden, Hungary, Poland, Nepal and Bhutan. Highlights include the fact that Bangladesh is among seven Asian countries whose gross domestic product (GDP) grew around 7 percent through 2020. In real terms, this means Bangladesh's GDP per capita is expected to surpass India's by 2031.

As one of the fastest-growing economies in the world, Bangladesh is now dubbed the next Asian tiger by the World Economic Forum, *The Economist*, and others—a far cry from the "basket case" that the-then US Secretary of

Bangladesh, which now includes universal access to personalised self-education and AI-augmented preventive self-care as the preferred form of healthcare throughout the country. Thus, when AI meets digital in Bangladesh, the impact is nothing short of miraculous.

The vintage 2021 version of AI is typically defined as the ability of a machine to perform cognitive functions we associate with human minds, such as perceiving, reasoning, learning, and problem solving. Examples of

to navigate novel environments. Deep learning is used at Google today in more than 100 services, ranging from Street View and driverless cars to Gmail Inbox Smart Reply and voice search.

More than 75 percent of trading on the New York Stock Exchange is automated, fuelled by high-frequency trades that move into and out of investment positions in fractions of a second. Deep learning is getting better and better at making more money as hundreds of algorithms are deployed and the best ones are continually

game. AI experts often describe AlphaGo's stellar performance at this ancient Chinese strategy board game of Go as "AI's version of man's landing on the moon."

Another breakthrough came in 2017 when Google's DeepMind subsidiary took a bold leap to creating an AI software akin to general human intelligence with AlphaZero, which learned three computer games, namely Go, chess, and shogi, on its own. Unlike AlphaGo Zero, which received some instruction from human experts to beat its human counterpart, AlphaZero learned strictly by playing against itself, and then went on to defeat its predecessor AlphaGo Zero at Go (after eight hours of self-play) as well as some of the world's best chess- and shogi-playing computer programmes (after four and two hours of self-play, respectively).

AI experts have been so impressed with AlphaZero's superhuman performance that some have declared this accomplishment as momentous as if "the aliens have just landed and the earth will never be the same again."

Throughout the 2020s, AI has been fine-tuned by applying machine learning to very large data sets. Machine-learning algorithms are able to detect highly complex patterns and learn how to make predictions and recommendations by processing data and experiences, rather than by receiving explicit codes or programming instructions from human programmers. The algorithms are also adapted in response to new data and experiences to improve efficacy over time. When applied correctly to the right problems, AI feels like pure magic!

It was the British futurist Arthur C Clarke who once noted: "Any sufficiently advanced technology is indistinguishable from magic." Well, what do we see when we watch a magician pull a rabbit out of a hat?

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State Henry Kissinger described it as in 1971. This rapid economic growth has contributed to a substantial decrease in extreme poverty from 40 percent in 2005 to less than 20 percent in 2021. A dynamic, growing middle-class of nearly forty million people has propelled Bangladesh to "middle-income" status, according to the World Bank.

Of course, GDP is not the only, or even the most relevant, metric of progress toward the dreams of a Digital

technologies that have enabled AI to solve business problems are robotics and autonomous vehicles, computer vision, language, virtual agents, and machine learning.

Deep learning is a branch of machine learning that has its roots in mathematics, computer science, and neuroscience. Deep artificial neural networks learn from data the way that babies learn from the world around them, starting from fresh eyes and gradually acquiring the skills needed

combined to optimise financial returns.

People are still talking in 2021 about Google's multiple accomplishments in AI dating back to 2016, one of which is known as the Google DeepMind Challenge Match. This was a five-game Go match between 18-time world champion Lee Sedol and AlphaGo, a computer Go programme developed by Google DeepMind, played in Seoul, South Korea between the 9th and 15th of March in 2016.

AlphaGo won all but the fourth