

MACHINE LEARNING

Pushing the boundaries of AI

Setting yourself up with the skills to work with smart machines is a good move—no matter what stage of your career you are in

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SOMEWHERE IN A remote town at an indoor vertical farm, sensors and cameras are installed to gather data on growing environment conditions; capturing everything from the moisture and nutrients to the availability of light and oxygen. This information is then sent to the processors through the cloud to be analysed and to suggest immediate action that is performed under strict vigilance. In another instance, data scientists are mining satellite images of parking lots of shopping malls to predict foot traffic for major retailing corporations. Taking things a notch higher, deep learning algorithms are applied to get data for investors to buy, who then make stock allocation decisions based on this information.

That is the future of thinking and the wonder of data science. Those who are already aware, predict that the umbrella term artificial intelligence (AI) and its computing models (machine and deep learning) are at the heart of much of today's technical innovation. Above all, it is the only way forward. By 2030, AI is projected to drive \$15.7 trillion of global GDP gains. So if your organisation is already not making decisions with machine learning, they are going about it the wrong way.

Coming to think of it, these buzzwords are, in fact, decades-old technologies that

are now beginning to take off. There are multiple reasons for this surge, some of which include the mainstreaming of advanced computing power, making it available and affordable for a larger audience. Besides, now there is a lot more data available to fuel AI, creating an opportunity to quickly identify trends and patterns that otherwise would be difficult and time-consuming to detect. From investment predictions to building smart cities and discovering new drugs, machine learning is guiding the future, all in the convenience of your private cloud.

Paradigm shift

As we speak, machine learning solutions are extracting hidden value from millions of enterprise data and non-traditional data sources to apply predictive analytics and potentially useful patterns to come up with desired results. In the current scheme of things, machine learning is setting off every sphere of our lives from email to smartphone apps to marketing campaigns. So does it mean that the human mind will become redundant or less required in the near future?

Not really. A recent report by Hfs Research proclaims that, by 2021, the IT sector in India will lose about 6.4 lakh jobs of menial and redundant nature. However, the same report suggests a 56% increase in high-end, skill-intensive jobs, which would ideally mean a migration of jobs from the bottom of the skills pyramid to the upper reaches. Think IoT architects, industrial data scientists, robotics coordinators, and managers. Machine learning would, in fact, require an increasingly large number of data scientists, analysts and engineers who can col-



ILLUSTRATION: SHYAM

laborate to explore, model, predict and deliver results more efficiently. It is going to require a lot of research, engineering and design, among other expertise, to use machine learning because in every area, from smartphones to chatbots, the demand for machine learning and AI specialists is only going to increase.

These new-age jobs will require newer skill-sets to work towards a wide range of algorithms and capabilities such as text analytics, geospatial analysis and optimisation to gain insights that were previously out of reach. Machine learning blends technology, mathematics and business analytics into one job and will soon be the most in-demand career. That is why setting yourself up with the skills to work with smart machines is a good move—no matter what stage of your career you are in; it is a great time to get in on the ground floor. We, at NIIT, believe in empowering IT professionals in a way they can seamlessly integrate into the IT industry of the future by contributing to it effectively. Our digiNxt programs train people in future skills to help create a job-ready talent pool for the fast-evolving global economy.

Where to begin

For starters, understand what machine learning is, and make sense of the basic mathematics behind it. Hands-on experience is always good. A background in data analytics would always be a plus, and if you can create nice visualisation of the numbers, you are good to go. Know that since machine learning and AI are forever evolving with newer techniques, technologies, languages and frameworks, what you learnt today could be passé tomorrow. Therefore, keep the research on and do not hesitate to take an online or offline course. Get your thinking hat on and keep your intellectual curiosity levels high. Your ability to convert business problems into mathematical ones will take you places.

The author is chief digital officer, NIIT Ltd. Views are personal