Why now is the time for organisations to upskill their IT workforce in AI

Many skills that exist today may not be needed soon. While jobs are lost in traditional IT, they are being created by new age technologies, which means jobs in the future will demand completely different skill sets mostly driven by AI and ML, Industry 4.0, digital transformation, augmented reality-virtual reality, blockchain, Internet of Things, says Prof U Dinesh Kumar, Chairperson Career Development Services & Chairperson, Data Centre and Analytics Lab, IIM Bangalore

By U Dinesh Kumar

According to the World Economic Forum (WEF), 65 per cent of the children entering middle school today will get into jobs that do not exist. Based on an extensive survey, the WEF identified that data analysts and specialised sales representatives are two job types which will be in high demand across industries and geographies in the future. Many predictions are being made by experts regarding disruptions in skill likely to be caused by AI in the future.

Salesforce.com claimed 62 per centof hiring managers believed AI would substantially change the nature of the workforce. Adapting to this change will be challenging for both industry and academia. Traditional IT skill sets will see a significant demand reduction and thus the current workforce, especially in the age group of 25-40, will require upskilling. The workforce in the Indian IT sector was estimated around 4.36 million in 2020. This workforce is deployed in domains such as software development, software testing, software management, business process management and IT consulting.

Many skills that exist today may not be needed soon, thanks to Robotic Process Automation (RPA) driven by AI that will eliminate and automate many processes, thus taking away jobs. For example, software testing is increasingly becoming automated. Test engineers account for 7-10 per cent of the IT workforce. An Indian IT giant trained their test engineers in AI and Internet of Things (IoT) to automate AI and IoT testing. However, they were able to up-skill only about 15-20 per centof test engineers, and about 15 per cent of the test engineers were laid off.

While jobs are lost in traditional IT, they are being created by new age technologies, which means jobs in the future will demand completely different skill sets mostly driven by AI and ML (Machine Learning), Industry 4.0, digital transformation, Augmented Reality-Virtual Reality (AR-VR), blockchain, Internet of Things (IoT) and so on. Many of these new technologies are closely connected to one another.

An important question is: Where can we expect jobs to grow, and how can the IT industry reskill their workforce? AI has three main components:

1. Understanding of business

2. Technology

3. AI and ML algorithms

Business understanding helps organisations ask the right questions and target impactful projects, instead of focusing on Moon Shot projects. For IT companies, it becomes easier to get projects if they demonstrate domain expertise.

Knowledge of AI combined with sectoral knowledge is what brings in money, thus skilling the workforce in AI along with applications across sectors will be beneficial for the IT industry.

Today, the industry demands very good knowledge of cloud platforms such as Amazon Web Services (AWS) and Azure, which enable companies to scale up and operationalise solutions. AI and cloud are a combination which will be in high demand in the future.

The industry today is looking for problem-solvers, which necessitates good understanding of business, technology and algorithms. Of course, there are a plethora of other technologies such as Python and TensorFlow which help build machine learning models. The problem with technology is that it has a very short shelf life and thus one must reskill frequently to stay relevant or become outdated and risk being replaced. Knowledge of algorithms is important to generate correct insights and solutions. It is expected that future employees should have the ability to generate end-to-end solutions using at least one cloud platform. Mathematics plays an important role in AI/ML algorithms, especially if one would like to generate new algorithms. Automation driven by deep learning is another big area for upskilling.

Gamification is another technology changing the business landscape significantly. Entire call centre operations are gamified today, supported by chatbots. The MIT Sloan Management Review reported that high-performing companies are also analytically sophisticated,

whereas low-performing companies lack analytical sophistication. To remain a high-performing company, there is no option but to upskill the workforce to remain relevant.

Covid has created new challenges for tech companies. Up to 99.8 per cent of the workforce in the IT sector is not capable of working from home; only 0.2 per cent is capable of working from home effectively, according to a study. Many companies are looking at technologies to manage lockdown like situations, and an attractive option is automation driven by AI.

My interaction with IT industry leaders revealed that they are actively upskilling their staff in the age group of 25-35 in AI and aligned technologies. In many cases, their career progression is linked to the successful completion of certification programmes in AI. A frequent dilemma for the IT industry is the make (upskill the internal resources) and buy (recruit from outside) decision when it comes to AI talent. According to an IT giant, they are able to upskill about 65 per cent of their current work force, whereas 35 per cent is recruited from outside.

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