

Challenging AI led cognitive world



Artificial Intelligence or AI, though seen as a major threat to job market in next 5 year time for its ability to create a cognitive world devoid of manual intervention, may not replace some key human skill in a long term horizon. We will continue to work with machines as we always have, and be valued for unique human skills such as creativity, judgement, collaboration and interpersonal communication.

In fact, there are four major AI lead enabler which helps in the creation of cognitive world. They are the power of understanding, reasoning, learning and interacting. In understanding, cognitive systems understand imagery, language and other unstructured data like human do. It can reason, grasp underlying concepts, form hypothesis, infer and even extract ideas. The most interesting part is that the AI systems never stops learning. With each data point, interaction and outcome, they develop and sharpen their expertise. The other notable point of an AI system is its ability to see, talk and hear which enables cognitive systems to interact with human in a natural way.

With these feature, a cognitive system optimises a business to business (B2B) network to bring value to the customers. Take the example of hundreds of documents which is related to a Purchase Order. With the help of AI, a cognitive system can understand each of these documents and consolidate the same to a higher level business process view. In case a business network is challenged by non-performance of

vendors, cognitive world can compare performance with Service Level Agreement (SLA) and raise alert before it is late. In case a user is confused with the myriads of option in his dashboard, AI based systems can learn and reconfigure the dashboard with what the user looks at to bring in clarity and focus. Confusion of users can also be cleared in the cognitive world with the power of AI to interact with user. Natural language search would allow the user not to learn the software but get the answer.

Historically, machines replaced only physical labour, enabling us to move into professions where we make greater use of our minds. Once machines do mental work better and cheaper than us, corresponding jobs will disappear. The analogue for the pessimists is the great wave of business process and software development outsourcing that occurred in the past 20 years, benefiting India and other developing countries. The difference this time is that instead of the developing world taking jobs away from the developed, machines will take away jobs all over the world.

A three- to four-year university degree education at the outset of one's career, often followed by a two-year higher degree, will start to feel like a wasteful indulgence at a time when professions risk radical upheaval every few years.

However, a degree may still be honoured for its merits. Continuous education throughout our lives, whether through formal certifications or informal self-learning, will be the norm. Already today, many young professionals recognize this, and learn many more practical skills from online courses delivered by distant professors and industry experts, than they did in their time at college. Experienced professionals in rapidly evolving fields like technology, don't pay as much weight to college degrees when hiring, but gives in to evidence of sound judgement in complex situations, and an open mind that is capable of and willing to learn.

There appear to be two clear choices ahead for us. One is to check out of a life of constant adaptation, and

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Upcoming Event

- [Evening Talk](#)
- [December 7th](#)

To enroll, email at iimmcal17@gmail.com.

Details in page 4

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Automation may not be relevant for Indian Supply Chain

Automation, though a buzz word for the Indian industry, is not a widely practiced phenomena as of now. With more acceptability at the senior management level, industry is hopeful that automation can provide a panacea to the repetitive jobs which scores low with manual intervention. However, current automation practices which aims to step into the non-repetitive jobs also is an area of concern as it may replace even the skilled manpower.

To understand this concern, Automation Forum organised a debate on “Automation may not be relevant for Indian Supply Chain” on September 28th 2018 where persons from industry and academics put forward their views for mutual learning.

The debate was opened with Mr D.K.Acharya, Past Chairman of IIMM Kolkata Branch and Course Coordinator, IIMM Kolkata Branch giving his opinion on the degree of automation in the Indian Industry at present.

The 1st speaker for the motion was Mr Rajkumar Mitra from mjunction who with various live examples stressed the need of process which needs to be set right before embarking on an automation project. In case automation project is tried to be implemented where the process is not robust enough, the yield might not be as expected. Unfortunately, this has been the general scenario in the industry as of now. Therefore, expectation management is an important area in implementing automation projects as cost reduction in terms of manpower reduction, if not



Mr D.N.Chakravarti making his point in the debate for the motion



Mr D.K.Acharya making his point in the debate



Mr Sajal Das making his point in the debate

achieved within committed period, dwindles the motivation of top management to pursue the project.

The 2nd speaker against the motion was Mr Sajal Das, DGM procurement, Linde India who took the examples of popularity of Ola and Uber cabs and strongly placed his thoughts to prove that Automation was currently relevant in Indian Supply Chain. He stressed on improvement of skill set of the current workforce to remain relevant.

The 3rd speaker was the Past Chairman of IIMM Kolkata Branch, Mr D.N.Chakravarti, who spoke for the motion in his speech. The food supply chain, which governs a chunk of Indian GDP, as per him is not yet ready for automation and depends more on manual labour.

The 4th speaker of the event was Mr Saptarshi Mukherjee, who had automation project experience in his past stints with Maruti, Tata Motors and Tata Teleservices and he spoke against the motion with his powerful deliberation. He opined that if automation projects are not undertaken for non-repetitive jobs immediately, the companies concerned might lose its competitive advantage in the market place. Accordingly to him, once the cost of procurement of automation tools falls, such projects would gain wider

acceptance.

The session was concluded with the evaluation of the jury, Mr Sudhin Mitter, Past Chairman of IIMM Kolkata Branch. According to him, all speakers have explained well to prove their points. He analysed all view points and gave a befitting conclusion to the debate program.

All speakers and jury were handed over a memento from the Institute for making the event a grand success.



Mr Saptarshi Mukherjee being handed over a memento by Mr Koushik Mukherjee while Mr Sudhin Mitter watches the proceeding from behind

IIoT can predict machine failure in more than 2 weeks

Industrial Internet-of-Things or IIoT is poised to take operation and maintenance in industry to the next level with the help of Subject Matter Expert and Data Scientists in a cloud based platform. Post its inception in 2015, this emerging technology has won the hearts of maintenance engineers for its innate ability to predict machine failure on shop floor, in more than 2 weeks in advance and powered by these 2 pillars, it is currently preventing unplanned downtime of critical equipment through early warnings, advisories and alerts based on priorities.

The nuances of this innovation was explained by Mr. Abhishek Chakraborty of Tata Consultancy Services Ltd (TCS), in an Evening Talk organised by the Automation Forum of the Kolkata Chapter of Indian Institute of Materials



Mr Abhishek Chakraborty of TCS presenting on IIoT

Management (IIMM) on 26-10-2018. Mr Chakraborty had Hands-on Experience in the field of Industrial IOT or IIoT and is himself a Subject Matter

“In order to give an Equipment Prognostics, a perfect amalgamation of Subject Matter Expert (SME) and Data Scientist is essential”

Expert. While talking to a packed audience, he recounted the days when as a fresh B.E. Mechanical Engineer, he had joined Haldia Petrochemicals Ltd and found its different plants were dependant on power supply from a single power plant. A failure of a bearing in a critical motor of the power plant was enough to put entire production process of the unit to a halt. Thanks to IIoT, such situation can now be averted as the technology can alert the maintenance department in more than 2 weeks in advance.

In fact, corrective actions which includes procurement of spares can be better planned if 2 weeks prior alert is given. Prediction happens when a deviation is observed in the modelled data and the actual data. “At least one year historical data is required for comparison,” Mr Chakraborty said. The platforms such as Microsoft’s Azure and GE Predix are versatile to capture the current data from the machine and sent to cloud for analytics. Aided by real time analytics, the deviation reveals how soon a part of the equipment nearing failure and a timely alert to the maintenance team helps to plan and prevent surprise failure.

The above mentioned platform is entirely subscription based. Clients availing the service may opt for a period of six months as a Proof of Concept (POC) and in case the offer makes business sense, the subscription may be extended, Mr Chakraborty said.

“In order to give an Equipment Prognostics, a perfect amalgamation of Subject Matter Expert (SME) and Data Scientist is very essential,” Mr Chakraborty said. The SME would not know how this data can be translated into prediction. For this, role of a data scientists is vital. “They would build models on which the prediction would happen,” he added.

Post building the model, the user can find out which part of the machine is going to be faulty with the help of SME. With an Augmented Reality (AR) technology, the machine can be thoroughly analysed and drilled down to subparts interactively. Such view helps the plant maintenance engineers to analyse a machine in remote and thus save valuable time to replace the defective part, Mr Chakraborty said.

After Mr Chakraborty ended his session amidst flurry of questions from the audience, he was handed over a memento and gift on behalf of IIMM by Mr P.K.Ghosh, in-charge of placement cell.



INDIAN INSTITUTE OF MATERIALS MANAGEMENT

IIMM Kolkata Branch

8B, Short Street, Kolkata - 700 017.

Contact person : K.Gupta, Administrative Officer, Kolkata Branch



Tel: 033-22876971/ 2290-4530

Mobile: 098309 52363

E-mail: iimmcal17@gmail.com



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www.iimmkolkata.com

Upcoming Event of Automation Forum

December 7, 2018— Evening Talk

Topic— Warehouse: Simulating for optimum performance

Venue—IIMM Hall

Speaker—Mr Sugato Chanda

Mr Chanda brings in his years of logistics experience in Phillips & Dow Chemical

To participate as audience, please take your seat by 6.45 pm on December 7th.

Letter of Appreciation to the Editor

Dear Rajkumar

At the outset I must record that the Automation forum under your strong and sincere guidance is doing more than its excellence.. Your e-bulletin is also very much comparable to any other professional e-journal .I record my appreciation for this.

So far as last evening 's debate is concerned, topic was very much relevant,contemporary and befitting to the present era.Your speakers were the admixtures from present and past. Three past chairmen from our branch were present. Discussion was very much fruitful. Chairman of the session and past chairman Mr.Sudhin Mitter had done his job including summing up very much meticulously and methodically..

I once again appreciate you and your team members for the entire thing.

All the best

DNChakravarti

Past Chairman and Past National VP

Fellow and Distinguished Member IIMM

Email : Sat, Sep 29, 2018 at 7:56 AM

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distance ourselves from the massive trends that will alter our lives. One can sympathize with this instinct for sanyaas (giving up the world). As a species, we did not evolve for rapid change, nor is it the right environment for everyone. For most however, stepping out of mainstream society is not a tenable option. Living a life of curiosity, working on the assumption that no change is beyond one's powers of adaptation, shedding one's fear of the new and mysterious—indeed, finding joy in gaining new skills—these will be the new mantras of human intelligence in future.