

TRANSFORMING DIVERSE INDUSTRIAL SETTINGS – EMBEDDING ARTIFICIAL INTELLIGENCE INTO THE WORKPLACE

Anant Malik

Research Scholar

Enrolment No. 19009

Department of Management Studies

Kanya Gurukul Campus

Gurukula Kangri (Deemed to be University), Haridwar

Abstract

Perhaps the most pronounced outcome of artificial intelligence is automation. As machine learning eventually begins to exert more influence than ever, it will become progressively more crucial for an innovative workplace. Numerous common tasks, for example, can be executed in a superior way by machines than by people. Automation and artificial intelligence would, in the course of time, metamorphose the workplace itself.

Several specialists and business leaders have argued that we need to advance towards a workplace where people and machines work in synergy. In the same way as robots have become vital to assembling, algorithms and machine learning may become crucial for the digital enterprise.

Today, we can't ascertain how intensely artificial intelligence will penetrate and automate the contemporary working environment, still, one thing is sure – the future workplace will emerge to be characteristically differentiated from the one we know today. Work processes upgraded by artificial intelligence and machine learning will exceedingly alter the ways in which we work, presenting fascinating experiences for clients as well as employees.

In its early designs, A.I. wasn't about usability. It was about the algorithms. Nevertheless, today, diverse A.I.-empowered applications are increasingly focused around ease of use. In an ideal world, consumers won't be required to recognize that they're utilizing A.I. by any means – it will be seamless.

This paper would provide a deeper look into the digitalization of the workplace and how A.I. and related technologies can facilitate the journey of humanity into an increasingly automated world.

Keywords: - *artificial intelligence, machine learning, automation, workplace*

1. Introduction

Artificial Intelligence has matured and is positioned to reconstruct every dimension of our lives. It is the “Age of With” where humans and machines function in sync. It is a future where humans are assisted, augmented, and improved by A.I. steering towards an era of digital–human symbiosis. The potential of automation and A.I. lies in remodelling the methods in which the conventional businesses operate. This is particularly applicable concerning the future of work. In the coming years, common everyday tasks will become fully automated. With recurring tasks handled, employees can target their activities towards high-value client-oriented tasks and services. The layouts of workplaces and ventures will consequentially become more advanced with the increased materialisation of A.I.

Frictionless A.I. and M.L. are at present a component of diverse kinds of enterprise solutions. In Business Intelligence (B.I.) applications, A.I. and M.L. are providing perception and insight for end users with nearly no friction. Diverse applications are progressively able to perceive what the consumer is demanding, and thereafter automatically vindicate it with A.I. This accessibility will be incredibly valuable to users who do not have any technical background.

Concurrently, the advancement of Natural Language Understanding (N.L.U.) will make bot-to-bot transmission so dynamic that employees can be freed from diverse enterprise operations. In the near future, employees will have their personal A.I.-controlled chatbots to operate as personal assistants, booking business tours, planning conferences, and ascertaining the everyday schedule. The whole workplace

will utilise chatbots as a component of their larger digital transition blueprints.

Artificial intelligence-based applications and services are propelling cloud recognition. Similar to innumerable lesser alternative virtual services, A.I. is more productive in the cloud, and businesses will keep on reaping its advantages.

Artificial intelligence is being swiftly unified into vast enterprise cloud applications, beside large cloud providers offering A.I. and M.L. services intrinsic to the workplace environments of the said enterprises. For businesses that maintain considerable data in the cloud, agile access to A.I. and M.L. will stimulate utility and quality in an advanced manner. Further, businesses that are fixated on in-house structures will either have to spend in their discrete A.I. equipment, or else remain inhibited against the rivals.

Over the course of a few years, haptics and robotics technology will bring us closer to making use of augmented reality at a relatively greater dept; not only observing a virtual environment, but actually interacting with it. Additionally, to handle information from Lidar and such other diverse advancements, various applications and cloud platforms will continue to arrive; with local A.I. capabilities. The progress of 5G will allow edge-based processing, exceedingly shrinking the necessity for localized hardware.

The continuous spread of I.o.T. accessories, combined with swifter microprocessors and the arrival of 5G will, in the near future, actuate an aggressive augmentation in the field of Big Data — and A.I. and M.L. engineers will reap the advantages of this situation towards their businesses.

1.1. Finance

A.I. and the finance industry are a match made in heaven. The financial sector depends on precision, real-time coverage and dealing with great amounts of quantitative data to draw conclusions, all areas artificially intelligent machines have an advantage in.

As the businesses discover A.I.'s effectiveness and authenticity, they are expeditiously putting into action automation, chatbots, adaptive intelligence, algorithmic trading and machine learning into commercial operations.

These technologies use A.I. and algorithms to scan data in the business and predict the best assets or portfolio positioned according to the parameters pre-set as per the priorities of the business. Wealth management firms are moving towards digital assistants, not only because it economises both the firm and the clients time and resources, but it also creates some amazing yields.

Here are several instances concerning in what manner artificial intelligence is transforming the financial industry.

1.1.1. BETTERMENT: ROBO-ADVISOR PIONEER

Industry: Fintech, Impact Investing

Location: New York.

How it's utilizing A.I.: Betterment is an automated financial investing platform and a pioneer of robo-advisor technology that uses A.I. to acquire information relating to an investor and construct an analytical profile custom-built for him;

recommending optimal financial strategies for him.

Betterment's robo-advisor technology uses algorithms to automate a bird's eye view of the taxation landscape, trading, transactions and portfolio management, all functions that used to need great human acumen.

Betterment handles assets of \$10 billion valuation and 250,000 clients.

1.1.2. ALPHA SENSE: A.I.-POWERED FINANCIAL SEARCH ENGINE

Industry: Fintech, Search Engine

Location: New York.

How it's utilizing A.I.: Alpha Sense developed an A.I.-powered financial search engine to advise investment firms towards acquiring an informational advantage.

Utilizing a blend of linguistic search and natural language processing, the program can dissect crucial data elements traversing 35,000 financial institutions. The system's capabilities to scan millions of data elements and create an actionable summary based on relevant financial data frees analysts from innumerable hours of effort.

Industry impact: According to the company's website, more than 800 financial firms utilize Alpha Sense, inclusive of several Fortune 500 businesses.

1.1.3. NUMERAI: AN A.I.-POWERED, CROWDSOURCED HEDGE FUND

Industry: Hedge Fund, Artificial Intelligence, Blockchain

Location: San Francisco.

How it's utilizing A.I.: Numerai is an A.I.-powered hedge fund utilizing crowdsourced machine learning from thousands of data scientists around the world.

The firm delivers dispersed financial data to its crew of data scientists, all of whom are utilizing distinct machine learning models to anticipate the stock market.

The models are set against one another in a weekly event where the model architects contend for Numeraire (N.M.R.), the firm's cryptocurrency. The best and most precise forecasters make it through to the peak of the leaderboard as well as are allotted more tokens. However, Numerai isn't really about rewarding winners or underdogs. The event is only a method to accumulate newer models. The firm's actual breakthrough is in what manner it incorporates all the diverse approaches towards a "Meta Model."

The variety of the models within the "Meta Model" develops diversity in the portfolio, lowering risk and creating greater earnings. Simply put, the more algorithms running, the better improved the performance.

Industry impact: The firm keeps the composition of the fund under wraps. Nevertheless, it retains upwards of 35,000 data scientists devoting in to its platform. Also, it has paid out its cryptocurrency valuing some 15 million USD.

1.2. E-Commerce Industry

Ever scrolled through a website only to discover a picture of the same appliance you were viewing at one another site pop up only a while back? You can praise artificial intelligence for that.

Operationalizing machine learning into e-commerce allows businesses to establish individual rapport with clients. A.I.-driven algorithms customize the shopping experience, boost purchases and develop stable and continuing customer relations.

Businesses utilize artificial intelligence to set up chatbots, anticipate shopping behaviour and assemble data to build a better client-centric e-commerce experience. Here's how a leading e-commerce pioneer has put A.I. into action to increase business and customer retention.

1.2.1. AMAZON: A.I.-POWERED... EVERYTHING

Industry: E-commerce, Media, Food, etc.

Location: Seattle.

How it's utilizing A.I.: Amazon is the leader of e-commerce A.I. Whether it's the firm's on-site suggestions on which commodities to purchase; the machines at the distribution centres that collect, place in order as well as dispatch merchandise; or the on-site utilities that handle the functioning of the website itself; Amazon makes use of artificial intelligence in nearly all its operations.

In 2014 the firm brought in its A.I.-powered voice assistant, Alexa. An imagination taken from the fictional machines from Star Trek, Alexa heralded an influx of efficient, chat-driven virtual assistants.

Amazon has virtually remodeled its operations using artificial intelligence, including a slew of A.I. projects. Simply put, provided that you've carried out possibly anything at the Amazon website in recent times, an algorithm has aided you in executing that activity.

1.3. Travel and Transportation Industry

Artificial intelligence is becoming a great craze in the travel and transportation industries. Starting with preparing tour plans; through to offering the best and the most effective path back to one's apartment after job, A.I. is making it effortless to move around.

Travel firms are particularly taking advantage of the pervasive smartphone usage. A.I.-powered chatbots are very quickly remodeling the travel industry by facilitating human-like communication with clients for rapid response times, reduced booking expenses and travel suggestions.

Here is how a leading search giant utilizes artificial intelligence in the travel and transportation business.

1.3.1. GOOGLE: SMART MAPS

Industry: Search Engine, Artificial Intelligence, IT, Video Streaming

Location: Mountain View, California.

How it's utilizing A.I.: Google utilizes A.I. in many fields. Although, the technology's distinguishing advancements in the field of mapping in the form of Google Maps makes our outings a bit smoother.

With A.I.-enabled mapping, the search giant's technology scans route data and utilizes algorithms towards ascertaining the ideal path to destination. In the future to come, Google intends to further accelerate the implementation of artificial intelligence in the Google Maps app through integrating its voice assistant as well as generating augmented reality maps in real time.

1.4. Social Media Industry

Exceeding 2.77 billion live profiles across platforms like Facebook, Instagram, Linked In, Messenger, Pinterest, Quora, Reddit, Slack, Snapchat, Steam, Tumblr, Twitter, Telegram, WhatsApp, etc. social media exists in a perpetual struggle towards which social media site provides its users better options to better customize their profiles, better express themselves as well as develop worthy narratives and stories worth sharing for the end users. Artificial intelligence might make or break the social media industry.

With its Big Data capabilities, that is, to recognise patterns, sifting through tremendous volumes of information, picture recognition systems, chatbots with natural language processing capabilities and anticipate the developing trends in culture, A.I. is decidedly relevant to the social media industry for which its userbase with billions of users is fundamental to its sustainability and which is also at the same time an industry generating upwards of 45 billion USD in annual revenue. Furthermore, state-of-the-art machine learning is expected to turn out to be pivotal in the social media; which is evidently an industry that has to constantly endure pressure to shield against fraudulent stories, hate speech as well as ever newer actors with questionable intents in real time.

Here are some examples of how some of the social media giants are utilizing artificial intelligence.

1.4.1. SLACK: COLLABORATION VIA THE 'WORK GRAPH'

Industry: Software, Messaging, Collaboration Tool

Location: San Francisco.

How it's utilizing A.I.: Slack's A.I. utilises an informational framework which the firm calls the "Work Graph". This artificially intelligent framework directs itself towards congregating information about the manner in which every one of its clients; who happen to be independent firms in themselves; utilise Slack.

Information derived from the "Work Graph" is in turn utilised for conducting the iteration training of the A.I. models that assist Slack's User Experience Teams towards how to make Slack a more pleasing experience to the end users. Slack's User Interface Teams have built many versions of the app from the ground up with the user experience at the centre of the design philosophy of the app. For instance, the firm estimates that a typical end user is bogged down by more than 70 messages a day. This simple pattern recognised by A.I. proved to be a critical feedback for the Design Teams at Slack. As a result, Slack re-created the next version of the app from the ground up with one single point agenda to create a tighter, better notification system embedded in to the app since the first day of the version getting built up.

Slack utilises machine learning as well as natural language processing in one other fine feature; a feature it calls "Highlights" to sort more relevant messages towards its cover page.

As an extension to "Highlights," Slack's search utilises A.I. to assist its end users locate and get in touch with the various subject specialists as well as the various avenues and channels where they can be reached.

1.4.2. FACEBOOK: IMAGE RECOGNITION BREAKTHROUGHS

Industry: Social Media

Location: Menlo Park, California.

How it's utilizing A.I.: Whether it's Messenger chatbots, algorithmic news feeds, picture tagging recommendations or advertisement targeting, A.I. remains thoroughly embedded in Facebook's platform. As far as advertisement targeting is concerned, Facebook's targeting rivals that of Google Ad Sense.

Facebook's artificial intelligence group a while ago did iteration training on a picture identification prototype software training it to exhibit upwards of 85% precision in image recognition utilizing billions of Instagram pictures in the public domain tagged with hashtags. This approach has been a leading advancement towards creating artificially intelligent systems capable of correctly identifying and classifying images; ideally, one day to a cognitive level equivalent to or better than humans.

Facebook is as of now utilizing a fusion of artificial intelligence combined with human intervention in the fight against spam and abuse. Alongside advancements towards ever better picture identification methods and an increased focus covering A.I. research, Facebook is relying on artificial intelligence to assist it in keeping earth's largest social media platform secure.

1.4.3. TWITTER: WEEDING OUT BAD ACTORS

Industry: Social Media

Location: San Francisco.

How it's utilizing A.I.: You can praise A.I. for the tweets you view on Twitter. The social media giant's algorithms recommend personalities to follow, tweets as well as news positioned according to the end user's individual inclinations.

Further, Twitter utilizes artificial intelligence towards the tracking as well as the contextual classification of broadcast feeds according to the subject matter. Likewise, the firm's picture-centric tools, specifically, its cropping tool utilizes A.I. towards ascertaining in what manner to crop pictures to target the most appealing details.

The natural language processing capabilities of Twitter's A.I.; specifically, after 2017, for explanations not relevant to this research paper; were brought to identify hate speech and terroristic dialect in tweets. In the first half of 2017, the company discovered and banned 300,000 terrorist-linked accounts, 95% of which were found by non-human, artificially intelligent machines.

1.5. Artificial Intelligence: Rejuvenating HRM

Like finance; electronic commerce industry; travel and transportation industry; social media industry etc.; artificial intelligence is also undoubtedly rejuvenating HRM (Human Resource Management). As a sincere accomplice, it supports the business to acquire a position of prominence among its rival firms. From a Human Resources perspective, artificially intelligent systems have been

and will continue to play a critical role in selecting and bringing high-potential talent with better skill sets as well as retain the already existing staff. Streamlining the adoption of artificial intelligence will continue to act as an approach directed towards the evolution of HRM towards ever greater efficiency, further pronouncing the centrality of HR in any business, even more so in light of an extremely competitive work environment and to accord an even more human face to HRM.

2. Methods Used

The secondary data has been used sourced from the official online locations of some of the most relevant service providers in the areas of HRM, Social Media, Finance, E-Commerce, Travel and Transportation Industries analysing the examples of how artificial intelligence is changing how the employees and teams handle their work and how ultimately, artificial intelligence is transforming the entire workplace of any industry which leverages it.

3. Results and Discussion

3.1. Artificial Intelligence and the Workforce - The Implications

The goal of artificial intelligence is directed towards reconstructing a broad range of industrial settings and how they operationalise their day-to-day work. When artificial intelligence enters the domain of human resources, it stands to augment it. The shift towards A.I. will bring advancements of fundamental nature into the field of HRM. Streamlined enterprise-grade solutions will assist the HR specialists draw better informed conclusions than ever. Artificial Intelligence is unlikely to supplant humans

in the workforce entirely. On the other hand, the transition headed for artificial intelligence becoming fundamental to HRM is expected to be the source for the economy; one which is directed towards giving birth to newer professions that facilitate this metamorphosis.

Operationalising better Customer Relationship Management (CRM) systems which are more in line with the currently engaged technologies has been the other priority of the leading businesses worldwide but; these technologies are merely the foundation of the true potential of artificial intelligence. Without A.I., CRMs can be exhausting as well as obligate serious human intervention. Alongside A.I., CRMs can be more systematic, self-amending as well as self-regulating.

4. Conclusion

In the background provided by progressively dynamic and better automated technologies, the future of the workforce is expected to be transformed forever. Enterprise-grade automation is already a reality. Its further integration with artificial intelligence will give rise to a very near future where automation systems which are currently limited to merely executing commands would then be able to take decisions without any human intervention.

References

1. **Dialani, P. (2021, January 22).** Artificial Intelligence and Machine Learning in Workplace: Major Trends for 2021. *Analytics Insight*. <https://www.analyticsinsight.net/artificial-intelligence-and-ml-in-workplace-major-trends-for-2021/>
2. **Lall, V. (2021, February 08).** How A.I. Will Change the Face of Workforce in E-Commerce. *ETCIO.com*. <https://cio.economictimes.indiatimes.com/news/next-gen-technologies/how-ai-will-change-the-face-of-workforce-in-e-commerce/80747967>
3. **Daley, S. (2021, April 09).** 23 Examples of Artificial Intelligence Shaking Up Business as Usual. *Built In*. <https://builtin.com/artificial-intelligence/examples-ai-in-industry>
4. **Lidhoo, P. (2021, April 14).** The Future of Work in the Age of A.I. *Fortune India*. <https://www.fortuneindia.com/multimedia/watch-the-future-of-work-in-the-age-of-ai/105399>