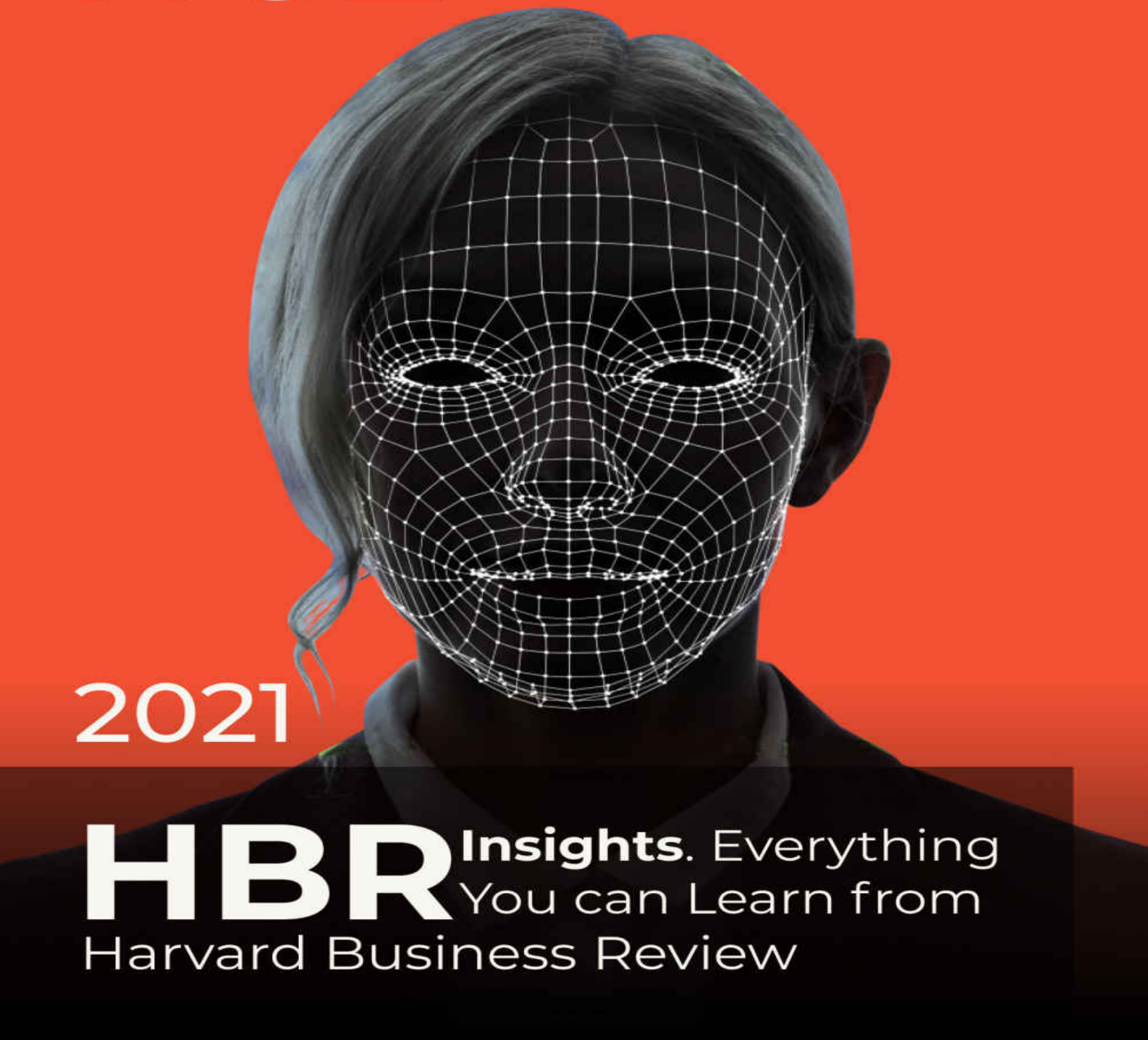
ARTIFICIAL INTELLIGENCE



2021

HBR Insights. Everything You can Learn from Harvard Business Review

Artificial Intelligence:

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I hope it will be useful for you.

Introduction

With technology making new strides, one thing’s for sure that we’ll be seeing more and more of in the future.

Machine learning.

Specifically, AI and machine learning.

Both of these factors will help to automate and make things easier for you as a user. But, what do you know about AI and machine learning?

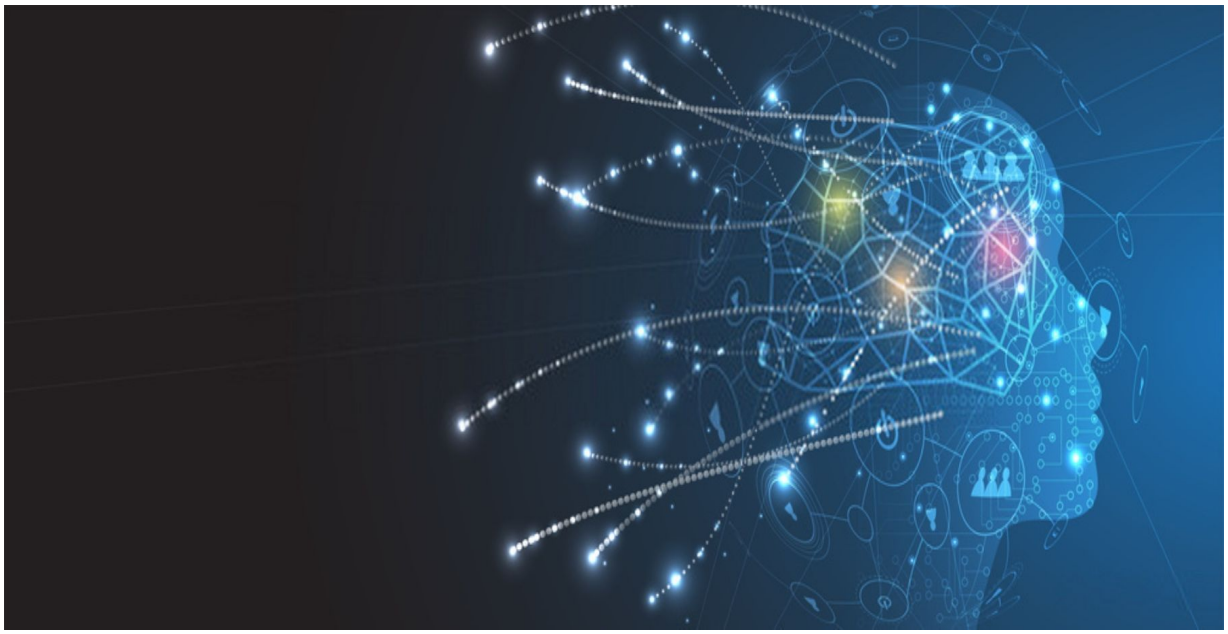
In this, we’ll go over the need for machine learning, the benefits of such, and how machine learning can really make a difference in your life.

By the end of this, you’ll be able to understand machine learning, and really make it the best that it can be. You’ll also be able to, with machine learning and AI, be able to truly make this really work, and build the business of your dreams.

A lot of people benefit from machine learning simply because of the changes that came along with it, and there is a lot that can really improve the way your machine learning goes.

Technology and machine learning is power, and we’ll go over what it is, and why it’s the future.

Chapter 1: AI and Machine Learning



Did you know that most startups and companies don’t use AI technology? And not only that, but a lot of companies actually don’t also use machine learning the right way, and instead take way more time to get what they need completed, rather than using an AI to help enhance the experience of different customers.

Part of the reason is because most people don’t know the difference between both AI, and machine learning. They’re often considered synonymous, and while they may seem similar, they really aren’t. in this, we’ll go over what both of these are, the connection between them, and the benefits of thus too.

First, Why do We need it?

Well there are a few reasons for this. For starters, with AI, you can learn new steps and integrate this into the company in most cases. In a lot of cases, you can use AI to help different industries get competitive advantages against other people in the industry. Most people don't use this, and part of the issue with AI and machine learning is of course, people not taking the time to know the difference, or not using it correctly to use AI to your advantage.

These are used in a lot of cases. They help create appealing products to customers, can make your product overall better, and even improve the operations of this. It does involve using inputs that help predict with this, and there are some challenges to this, including feedback and the algorithm, which is used to manipulate and make better predictions as you go along.

What is Machine Learning

Machine learning is essentially a computer system that learnt to govern itself and improves it over time as it gets all of the experience that's there.

Essential, machine learning and AI are similar, but machine learning is a branch of the artificial intelligence that is used to help build algorithms that allow for programs to be better over time, and improve your experience. You can use ML to help with datasets, putting them all together and then working to compare these to find both patterns and nuances too.

So let's take an example. Let's say that you make a music app. You want to build a model for people to have the relevant music played based on different statistics, such as maybe genre listened to, highest-tempo songs, the instruments that they enjoy, or whatever. You put these datasets in, and of course, you create a "recommended" system to help users have the same experience.

You ever listen to Spotify? You ever use Netflix or Hulu? You've probably seen the recommended tab s before? That's literally machine learning at its core, and it's used by many companies to properly advertise the next show, song or whatever to you. Of course, if you dislike it or something, or don't want that, you simply click on that, and then the algorithm changes manipulating it so that you're able to have a different music experience for yourself.

But this isn't just even used for music. This is used in the medical field as well. You can have thousands of X-ray pictures with a description of the type of symptoms that they have, and you can from there look at and understand automatically what's' going on, based on the machine finding commonalities in each of these different pictures. When you do add new data and such of course, the model automatically analyzes it, to find more similarities and differences that you can use to better understand symptoms and the like.

you've got two types of machines, and they include:

- Supervised learning that helps you understand the relationships and dependencies between each of the different features, and will help provide proper output values
- Unsupervised learning, which uses pattern detection and modeling descriptions as well

There is also reinforcement, which offers you a chance to look at the results of the interactions of this data to help you with this risk. This can be in the form of an algorithm. For example, computers that can automatically find information and beat humans at chess is an example of reinforcement learning.

So What else can it be used for? Well computations, neural networks for the brain, the whole nine yards can actually apply machine learning to help you better get the results that you want from this.

So what Is AI then?

AI and machine learning are similar, but AI has a lot more generalizing that goes along with it. You can use AI to automate your business, improve insight with data analysis, and you can use it to engage with employees and customers better.

Most people use AI to automate things. It's the robotic processes that allow for you to handle the back-office activities without needing a body there. This is essentially server code that handles the IT tasks. Transferring email data to changer customer addresses, replacing credit cards when you need to for a customer, fixing billing concerns for medical and other bills, and also "reading" contracts to help with provisions are all forms of AI that are used in our world constantly, since this is something that's done a lot faster than of course, with a body.

These are called RPA AI, and they usually use machine learning to help improve, and the learning is updated constantly. It's essentially your "back end" system to work for many customers.

Then there is cognitive insight, which is essentially using algorithms to help customers buy products. It's basically analytics, but with more than just looking it over to see what's popular. This can predict and provide different items that customers will buy, find fraud before it gets bad, help with warranties to make sure that they're perfect for customers, and also automating targeted ads.

This is typically where machine learning is used more than anything. They usually are detailed models, trained as part of a singular set, and as the models learn, they end up making better predictions to different categories as well over time.

Machine learning is also amazing because it can recognize speech and images, help look for data matches, and even extract data and terms for contracts based on the different invoice numbers there. It helps enable audits to happen as well, without requiring a human body to be there.

The final type of this is cognitive engagement. This is usually those chatbots that you see when you open sites online.

Have you ever opened one of these up, and it takes you through a series of prompts, only to give you an answer through an article, or maybe an answer to popular topics? That’s essentially what cognitive engagement AI is.

All of this is done in a way that doesn’t sound like a foreign language, and it can offer better engagement and sales too, since in a lot cases it helps people provide feedback and the like. This is also done when there is a chance that the patient had prior treatments, and you need a specific health record. The AI brings this up immediately, offering engagement to people.

What can AI and Machine Learning do For Me?

So what are the benefits of machine learning for your business? Well, besides the algorithms used to help you with getting recommendations, there's a lot that machine learning can do for you. Here's just a few of them.

The first, is production. You have a ton of data that is hard to analyze and give insights. When you're dealing with thousands of customers, it's just not possible or feasible to just hire someone to take care of all of it. That's where machine learning and AI come in. they can give targeted products to customers in order to help with the different purchases that they make, of course based on what they looked at previously.

So what does this mean? Well, let's say that sally is looking for curtains to buy. She searches certain keywords. Maybe, because of the machine learning algorithm, she's then given not just curtains, but the accessories too!

Or, maybe sally had something in her cart, and she ended up putting it away. Well, when she looks down at her recommended products, she not only sees those, but other similar products, and they're usually followed by a "recommended for you" tag. That means that this was recommended based off the handy little algorithm that's offered. Pretty cool huh?

But think about how much data entry this eliminates too. Inaccurate data causes a lot of flagrant issues in the world of business, but with machine learning and predictive actions, you'll be able to look for erroneous data, so you can properly utilize these tasks, improving your business's values as well.

There is also the benefit of predictive management. This is especially helpful for manufacturers that are looking to make sure that they can look into the meaningful patterns that are within the data that's there. For example, maybe there is certain feedback that's associated with the rest of the feedback at hand. This of course can mean that if there is erroneous data, or maybe something changes, you can of course, eliminate this risk associated with it. This also takes out the expenses associated with these too.

But it isn’t just for wrongful data. If there is spam this can also cause a lot of issues down the line when getting the proper data. For example, if your email didn’t have machine learning for it, imagine how cluttered and terrible the email would be? Think of all of the spam and other promotional email that would be thrown in there, littered amongst the actual messages. Would be obnoxious, right?

But with Machine Learning, it essentially will have rules put in there, to make sure that there isn’t’ too much spamming or inappropriate data added. So if you get an email that isn’t really relevant to any of your inboxes, such as primary or otherwise, it’s tossed into the spam. Of course, you may remove it from there, and the algorithm learns about this too, so that next time you get an email from a similar place, it’s provided to you.

It also is really good for financial sectors, especially trading and stocks. You can put in a bunch of data into a machine learning model, and from there, use algorithms to help with trading. This also is used for underwriting loans, since it analyzes some previous financial information from a person in order to make the proper choices for the person who is giving out the loan. It also is being used for chatbots, especially on stock sites, since it can help provide the proper security and customer service to the people who are being helped.

Then there is the medical field. ML is great for improving the health of a patient, since it employs using diagnostic resources to provide treatment plans, and also to help those high-risk patients as well, providing predictions that’ll help improve your life, and help get you the right diagnosis too. This is good because it helps give doctors the analysis of what the patient had, why it was like this, and anything else they may need to do as well to properly take care of patients.

Finally, it’s even used in our security. Cybersecurity does use this, since it allows for new technology to be created, and when new threats come up, it can detect this immediately. Lots of people in security will update as new threats come up, and in turn, improve this.

The big thing with machine learning is that it offers a lot of new means for people to really take the automaton activities of a business to the next level.

It can target more customers, and even help with some of the more mundane tasks.

There is concern that it’ll possibly replace bodies, but there will always be a need for something that people will have to check every now and then. This just takes out the need for a body to be doing the algorithms and instead, allows them to work on other tasks.

Machine learning, AI, and a whole lot of other things allows for users to improve their own lives, and we’ll go a little deeper into what this means for companies in chapter 2.

Chapter 2: Adopting AI for Your Business

Businesses do thrive with AI. In fact, when properly used, you will definitely improve the results of this. We'll go into what AI can do for you, and everything that can change once you start using AI for this.

It's all in How it's Built

Probably the biggest thing with machine learning is that you have to build this in a competitive way. If it's built correctly to create a product that's marketable, and to carve out the proper position, it will help you definitely weather the storm of more coming to AI

The problem with a lot of people, is that if they don't build this competitively, it'll create a problem. Lots of people struggle with this, simply because they jumped on it too quickly, or too late.

Some people wait for AI to be perfect, and machine learning to be as good as they say. The problem, however, is that if you wait on this, you're missing out on a lot of things. A lot of people end up doing this, and while it may not be perfect just yet, if you implement it early, it will work better, and it will get the job done way more effectively.

With AI, the first thing that you need to do is make sure that you build this early. First time you build it, you may get about 50% accuracy, when you want it to be around 80-90. However, the big thing here is to make sure that you have enough data, and make it work too.

The problem with this, is that with AI in business, some people won't be keen on waiting. They'll want the results right then and there. However, with machine learning, you need to understand that it's a training model. The first thing to do is to experiment with this, and manipulate the data in order to do so.

Some do believe that self-driving cars will happen eventually. AI may end up driving our cars and handling those mundane tasks. But some people are against self-driving cars because they may crash. But, down the line there is a chance that these mundane tasks will be perfected by AI. There are people who will end up using this, allowing for the car to do some of the hard work, while you do pay attention to this.

Some cars already have this. The Toyota Prius for example, has a cruise control that automatically stops when it detects a car in front of them. Of course, while you still need the body there and can't take your full attention off of this, it's highly-accurate, and it teaches the machine too how to

navigate around. It's the beginning of self-driving cars, even though that may not be possible for a long time.

The importance of Training Data

The big thing when building a system is to make sure that you've got proper training data. Having a "good enough" outlook on this may be alright, or maybe you just want basic usability, but if you don't have enough training data or invest enough into creating good data, it can affect the state of the model.

take for example radiology. So with this, you won't have much competition because there is a lot. but the thing is, if you have proper training data that offers the ability to train many things, and have proper training data that fits the requirements, it will grow.

When building this, you want a lot of growth, that raises and changes with each new addition. The more data that the machine trains, the better you'll be, and it does get rid of the competitive edge to this. When applying this to your business, in order to make sure that competition is kept at bay, you make sure that the training data is sufficient, and makes it easy for you to have a proper model on hand too.

Fast Feedback Loops Matter

When building competitive training models, you need a fast feedback loop. This is incorporating the data in order to learn from this, and improve the quality of your prediction the next time. For example, if you use a machine learning model to produce that someone has cancer, it may be slower, but if you quickly generate the feedback loops, it can help with diagnosis of this, since it will help you stand out, and provide the proper feedback models.

What's a good example of fast feedback vs. slow feedback? Look at Bing and Google. Bing was Microsoft's answer to search engines, where they supported it with millions of dollars. Nowadays, the searches never caught up to what Google offers. Why is that? It's because the feedback loop was slow. The search time between the search pages giving you a query to clicking on the links, which is the feedback, needs to be fast. You need quick feedback to stand out, because otherwise, it ends up being too slow. Google basically had quick prediction, offered the best results, and the algorithm is constantly changing, still to this day. It's a lot faster, and that's why Google ended up being the search engine people now use.

The same thing happened with Amazon. Amazon's machine learning algorithm ended up being super-fast, and from there no other retailer could even compare. Want to find something? Just go to amazon. The quickness of the feedback loops is imperative to building the proper business model with this, and really good for improving the outcomes as well.

You have to be Accurate

For customers, a business model that's accurate will help people adopt the machine learning process more. Accuracy is king in the AI world, because higher-quality products do offer more demand. AI products are different, but sometimes they do cost more, and some people won't buy it. AI is software based though, so you want to have good predictions because it's expensive to produce.

That's why, if you're look at different companies, the accuracy of the search matters. You'll get more accurate results with one search engine than the other, and it does show the difference there. So when building this, you don't just want to be fast, but you want to be accurate, based on what consumers want, and usually, that's why you see some of these bigger companies standing out when compared to others, because they're accurate with their choices.

Machine learning is starting to be a huge part of AI, and with over 80% of companies using this, it's no joke that this is the solution. You want to make sure that your AI works for both the individual customer, and the grand scheme of things, because otherwise, it won't be effective.

How Businesses Benefit from AI

Businesses benefit from AI in a bunch of different ways. For the most part, over half of the executives polled on the business benefits of AI says that it helps with improving features, functions, and the performance of different products that they have to offer.

Some companies do struggle with AI though because they're conservative with using it, simply because it isn't fully trained up yet. Which is why setting up training models and constantly working them help. The messenger chatbots for Facebook couldn't even answer almost ¾ of the queries that came in, and because of that, they restricted the bot interfaces to only certain things.

But, the benefits of AI for a business include:

- Optimizing your business
- Frees up your workers for creative tasks that they need to do
- Better outcomes and decisions
- Better project creation
- Optimizes marketing and sales for customers
- Offers a chance to explore new markets
- Helps apply scare knowledge whenever possible
- Reduces the head count

Some people worry that AI will put people out of business. Not necessarily. There is still a vast need for bodies, but the mundane tasks are better held by AI.

There are also things that Machine Learning and AI can do for customers and businesses alike. For starters, customer service is bettered by chatbots. In fact, over 40% of people do prefer this. While you should have a customer service rep on hand to help with various issues, with the algorithm constantly changing, it makes sense as to why people enjoy this over talking to someone.

There is also the fact that it helps with getting the right people for the job. With ML, you'll be able to use a software to sift through the applications, shortlisting the ones that'll fit most into the company. This does take out human bias too when learning the algorithm, since it can help with finding the qualified candidates. This combats your human bias, but there is a chance that there may be some candidates who get overlooked. It's not a perfect system, but it can work wonders for some executives.

It can be used by some companies to help with monitoring the learning situation and payment handling too. It can match invoices, help with reducing the work outsourced to different call centers, and also improves the finance staff as well.

Finally, it changes your supply chains too. Some companies do use this as a form of logistics to help with reducing supply chains risk. The algorithms can go through the data to help figure out the proper supply chains needed. Maybe your product requires a certain ball bearing that's really needed for the product. By using machine learning, you can find the proper channels for this, so that there isn't any stops on the product line, and instead, smooth sailing on all fronts as we'll.

What's cool about this too is that it can help younger people plan their careers so that they're doing what they love. It also can help with even managing drones and satellites, since in our world, having this automatic detection can change the way things are, and it can help with detecting anything before it gets worse.

It can also help in pretty much any part of the business world. The crazy thing about machine learning is that there are so many applications for this, that it offers new solutions that changes the way your solutions are provided. In the past, it involved humans going through thousands of data pieces, but nowadays, a large sum of data is usually analyzed in seconds.

How to Prepare for This

There are a few ways to prepare. For starters, you may be a latecomer. You may want to make sure that you have different data sources too. With prediction tools, you want to find stuff that's not already captured, and new data points which are there.

To begin with this, you first want to make sure that you have all of the points, and make sure that they're all lined up to be both aggregated, and then analyzed, since you want to create the AI that will be able to look at this data, and provide predictions that will benefit you as well.

If you're late to this, you want to make sure that you have a means to reach your thresholds with different subsequent loops of feedback. So don't be afraid to look for new feedback data to help with faster learning. Being first is good as a newcomer, but if you're late to the party, you don't' want to be working in a market that's already been scaled and looked into a lot. the best way to do this, is to make sure that you're starting with companies that aren't super big already, or a field of data that isn't already tapped into.

Next, you want to make the predictions different too. While you can have different data, you can differentiate the data to make it "better" for a few people. Using the proper training data and customizing this for different predictions, especially based on the area or the concerns of the customers, it can help to diagnose this, and good for making sure that there is accuracy too.

predictions do rely on different hardware too, so make sure that you get the right hardware so that the algorithm can read it. But, if you're using the wrong algorithm, you won't get very accurate either. You should make sure when starting, you offer predictions which are good, and those that'll help the customer.

There are a few barriers that come about when starting with this. The biggest one, is the sheer amount of data. You may have a model that's integrated and useful, but if the data is all over the place, you won't get anywhere with this. Your first step when implementing an AI system is of course, to have all of the data that flows in, cull it, and then prepare the

training data for the automaton. You may need a data officer to make sure the right data is being analyzed.

Another problem is how it’s prioritized. When starting to use AI, you want to make sure that you have AI that’s linked up properly to your software so that its’s properly communicated so that it isn’t disconnected or anything either. This is great to use with data centers or departments in a business to make sure that it’s started the correct way.

Finally, you may want to make sure that the cultural barriers aren’t bothered either. When employees see AI, they think about how they’re going to get replaced. You need to make sure when implementing automaton, you have it set for the tedious tasks, and make sure that the employees are incentivized to make sure that they’re still doing the job. The machine is just making things better. Sure, it can handle the typical customer complaint of something the average person may answer a hundred times a day otherwise, but you want to use those employees instead to handle the tougher questions. You should make sure that the bodies you have don’t feel replaced by the introduction of AI.

A big thing about this, is you also need to look at the customer base as well. AI is great for customer data, but the problem is some customers don’t like that their data is being compromised. While it’s great to have data in order to provide the best result possible, you should make sure that the automaton isn’t over analyzing anything. The best way to do this is to make sure that you audit your systems frequently, and make sure that you also recourse anything that’s compromising data. You also need to make sure you offer informed consent to the people that are using this. That way, if you do use their data, it won’t harm people in the process.

Are you Ready for AI

If you look at this and are curious about AI, chances are you may be hesitant on using this. But the thing is, so many apps, sites, and technology are using this, and with more and more data being spit out, it's becoming a competitive advantage for a lot of people who are looking to get the most out of their AI. This is something that can help your life, and a lot of people are happy to use this, but the problem is, sometimes the data isn't what's ready for AI.

One of the biggest things about AI is the fact that sometimes the vendors don't pay for the systems that are preparing for this. Instead, the data gets locked up, not used. You need to have a proper architecture of the data. You want to make sure that your data is competitive with the system, and you want to make sure that you offer benefits which are stretch to people, and that the AI is connected to the systems of data. AI is good because it is a comprehensive thing and it can help with your company data.

ontology is really good at this point, especially for large-scale companies. That's essentially a relationship of all of the data within the business, how it's connected to everything too. From the products and the services, to the models, and even types of content. This is in credibly useful, since this helps bring everything together to offer a smart system that'll help with AI design, and AI power, paying off over time, and creating a pervasive system.

With an ontology of data, you want to make sure that everything's included, such as the relationships, the vocabularies, and any hierarchy used. You want to make sure that you do any troubleshooting too in order to help make sure that everything's accessible, including any management systems, and then apply it to the experience of the tech that you're working with.

To make sure that your data is properly taken care of, you need to do the following:

1. Create pain points, such as the bottlenecks and problems in the business, and figure out where the problems are, since this can help figure out widespread issues.
2. Look for these root causes and figure out solutions for this
3. Figure out the use cases and understand what needs to be done in order to make sure that everything is taken care of, testing it out for the problems of the business too
4. Finally, set up the organizing and categorizing principles to create a data system, which involves different models that techs use to help get to the bottom of everything that’s going on

To get data ready, you should make sure that you know how to properly componentize the data, and to help you figure out the difference between all of these, so that if another problem comes up, it’s properly handled.

With the work and business world, AI and machine learning are changing everything, so it’s imperative to ensure that you understand these changes as a company, and why they matter down the line.

Chapter 3: AI and the Future of Work

AI will change the way the work world changes for a lot of people. There are a few ways that it'll happen, and we'll go over what AI will be doing for the future, and what can happen as well.

The Redesigning of the workaday world

Because of the technology for cognitive projects being developed, a big focus of course will be how labor is divided between human beings, and AI. For some cases, about 80% of the projects will be controlled by machines, and the others will be humans.

However in opposite cases, it could be 20% of this is machines, and the other half is humans. This is of course, based on the field, and the technology in place.

This is ultimately determined by the way the workflow is done. If it's a menial task that's done by machines better, businesses may of course, choose machines over humans. But, if it's a more specialized sort of work, then of course humans will be chosen over machines.

Of course, some places have already started to use this. Vanguard has something called "personal advisor services" that offer automated guidance on investment and this is done by human advisors. Some of the more menial tasks such a rebalancing the portfolio and customizing the portfolio may be done by AI, but they also have investing coaches that will help with making sure that investors do the right thing, and are engaging in healthy behaviors financially.

This is done to keep the investors in the right place, and it has helped Vanguard grow a lot, and costs are much lowered. Essentially, this is a hybrid of both the AI and the human-based advising, since you only need a couple of bodies to run this, and it does offer better customer satisfaction for many.

So what does this mean for the average worker? Well, there are some workflows that may be automated because AI is possible for this. This also allows for companies to add in new projects that do require a human body, creating more specialized workflows. This can improve your process too, and if you take advantage of AI, it can really help with establishing this. It does involve making sure that it does meet your customer needs, helps with restructuring the way your employees work, and also making sure that you have someone monitoring the cognitive technology. This does take a little

bit of time to master, but once it’s in place, it can be a worthwhile thing, and offer better development of projects.

The future—Create More Jobs than it Displaces?

This is a big concern for many people who are looking at the future of AI. The first thing that they worry about is that it'll take away the jobs of the common man.

While yes, some of the more "menial" tasks may be replaced by AI, it creates new lines of work and tools for people who are starting a business. Over half of businesses can be automated within the next five years, but there are others that believe that it'll offer more jobs than it replaces, because it'll require you to have people operating the machines.

But for a more realistic standpoint, AI has a means to transform work. For a lot of people, it will take a while for AI to really hit the forefront. The thing is, AI is not perfect by any means as of yet, because society is so diverse that it requires a lot of changes, a lot of learning, and a whole lot of flaws early on.

While it can possibly diminish some services, it will provide more services.

Take for example, how technology has moved forward. Remember travel agents? You never see those anymore. Well, that's because you can go online, book a trip, read reviews and the like. That was a job that did get displaced, but it was replaced by content writers, app developers, and even data scientists.

While we don't have elevator operators because well, people can just press a button, you still need repairmen and anyone controlling the technology to make sure the elevator is working perfectly.

And even though we don't' have a milkman to deliver milk, we now have people who use smart technology and data scientists to ensure that the milk is of the utmost quality.

So while yes, it does replace a lot of jobs, it will also creator more jobs. It require both the human and the machine to be working together so that the AI acts like a human, without having a body directly on it. So you can have a bunch of chatbots, but they're ran by 1-2 people, and we'll go over what kinds of jobs will show up because of the new diversity in AI

There will be more than enough people to grapple with the transitions. It does involve workers developing new skills too, which we'll go over what those are later on.

Trainers—The New Jobs for AI

Part of developing AI is of course, to have someone training the data, to make sure that the AI is working with the right responses, to make sure that machine learning is being offered.

Have you ever had a chatbot seem very weird-sounding, or maybe you got a result that was stiff and not relevant to what you're looking for? But the next time you use it, everything seems to be working perfectly? Or maybe the AI doesn't understand you the first time, but then ends up getting it right the next go?

That's done by a trainer. A trainer essentially helps the machine recognize different components of language. For example, empathy is another emotion that machines don't recognize. But, trainers can help chatbot communication understand this, and human trainers that know psychology along with human behavior can help with this.

Let's take for example, you've got a person with a complaint about something, or maybe they're worried about the outcome of one thing or another. If the customer is upset, and your chatbot doesn't get it, the customer will be mad.

Maybe you have a goal-setting app that involves chatbots giving some sort of empathy. If they're not trained for that, it'll just discourage people, and they won't come to it. You need to make sure that you have a certain level of empathy, and understanding nuances of the human language. And that's done of course, through the use of trainers.

Another example of this is Google and Facebook. These are people that moderate the content. There are some that check the content, making sure that it's all good. However, this does bring some problems to AI. Sometimes there are misunderstandings, and having a human body along with this can help to train the AI, to help it better understand, and make it easier for you. \

It’ll be Affected by AI, but not fully automated

Lots of jobs will be affected by automaton of course, but not everything will be automated completely. Most activities will involve workers working alongside the different AI that’s there, teaching it and helping it evolve. This will change the way occupations will emerge too.

We’re already seeing people in the global workforce being displaced by it, but it is going slowly so far. Technical jobs and those that can be done by machines will of course be replaced by these machines

But of course, it will also cause more jobs to be made, and more jobs to be created. This has been seen for years. Think about how computers were introduced, and how it created more jobs. You will need more developers for apps, those to analyze information, along with the data trainers that we mentioned before.

The Rise of the Explainers

Another part of the AI workforce integration is the explainers. These are essentially the middlemen between the AI system, and those human managers that are there. An example of this is of course" C-suite executives" who are not sure about what the algorithms say. Explainers are basically the translators, translating to executives what the AI means to help with concerns and understanding.

Another part of this is of course the "right to explain" which was introduced by the General Protection Data Regulation the EU put in. this of course allows for consumers to fight the decisions that the algorithm makes which affects them. These "explainers" will go into there to look at it, and then, if there is a mistake, they figure out why that is, and how to avoid these mistakes from happening once again. They essentially will double check to make sure everything's running swimmingly.

So if you have a query about something, and you want to mention it to someone who is a human, that's essentially the role of these explainers. They aren't totally changing everything, but they will indeed help to prevent mistakes from happening again.

The Rise of Soft Skills

Another part of AI that will change the work force, is the need for soft skills. With AI growing, the need for soft skills and cognitive skills will be at the forefront of the future. In fact, many recruiters are already looking into this.

With over half of companies already moving to AI, and more people wishing they moved faster, Soft Skills will become something that companies look for, and companies will make the change to adopt these soft skills in order to help build a better company, and allow for people to work in a company and develop new and better skills.

There are three soft skills that companies will be looking for now more than ever.

The first, is creativity. This allows for more flexibility, innovation, and new futures too. This will help bring about new creativity, and help to bring new, organic content to companies. Algorithms are good of course for measurement, but if you're not looking for how to creatively stand out, you're going to be in trouble. You need some uniqueness in the form of creativity and creative skills to balance out automaton, which focuses on function, not on creativity in the least.

Then of course, you've got critical thinking. This is using knowledge and data that you already know in an objective manner to present solutions to problems. Ai of course is becoming much more efficient and smarter, but the thing is, it can't think critically. So if there is human emotion in there, or prior knowledge or thinking outside of the box that needs to be done, AI kind of falls flat on its face. But, those with critical thinking soft skills can help with this. Sure, the AI can show you models and data from here till the cows come home, but humans need to connect all of this together, providing policies that people can use, and changes which can occur.

The final one that's going to be necessary in the age of AI, and of course, in the age of people working with machines, is leadership. In fact, this is one of the most critical skills according to managers, but it allows you to take charge, look at situations, and from there, give solutions that bring it to conclusions. Sure, you can find engineers and software technicians, but the

thing is, if they can’t weave the threads together, bringing them all to one place so that everyone’s working on the same page, it does affect the company.

This is one of the most sought-after skills, especially in the realm of AI. The thing with AI, is that while it will affect a lot of jobs, if you have leadership skills and know how to develop strategies and help customers, you will be able to hold a job. AI can’t change everything, and while AI is great for learning and taking care of the menial, it does not replace a human by any means.

So if you’re worried about being left behind by AI, the key thing hers, is that it’s not about what you can and can’t’ do, but it’s more on the way your soft skills are, and if you can work together with AI. AI and a human are a tag team the can change the way businesses are ran, and the future of work is being changed by the production of this too.

However, some people are seeing changes in occupations that involve physical actions. This could happen withing companies and sectors, and some companies may work to restructure. But managers and those who work with physical environments that are unpredictable will definitely not be seeing changes. Aides for nurses, teachers for the tech, and more professional fields will begin to grow and become more prevalent as well.

AI to Work Better

There is some benefit to AI. It can actually make employees work better, and even faster too. It works for all kinds of industries, including life sciences, since neural networks and deep learning can bring changes to the world. There are some companies already using automaton, and there may even be digital changes to everything from agriculture to elder care too.

There are a few changes that would need to be taken though. Investing in employee training is a good thing, and making sure that AI isn't used to replace, rather than retain workers is a big part of it. AI of course, is not the full reflection of the society, and how things have changed. You want to make sure that there are people willing to take on the jobs such as facial recognition and the like too.

Scalability of Companies

Finally, the workforce will change due to scalability. This involves checking to see if the area that needs to be integrated can handle AI or not. Sometimes, it can be, sometimes it's limited. Some IT companies can have some simple technologies used, and it can be successful too.

An example of this is Anthem, since they're creating cognitive technologies, modernizing the current systems, offering more value to the cognitive applications, and changing how they're integrated and developed. In essence, they're building on the cognitive systems, and scaling the management to work with the AI.

some companies will try out machine learning for recommending products and inventory. This of course, is trained and scaled up, and it requires bodies to scale this to give the right results. Firms need to work on growing the productivity. People may be moved around, jobs may be lost and changed. A lot of people will start to eliminate outsourcing by using AI, and of course, the bodies will be used to train this, thereby creating more jobs.

The fear of AI replacing everyone is a big concern, but it doesn't seem like the workforce is totally changing because of the prevalence of AI. In fact, instead of it being something that will harm people, it will transform work. Adapting AI right now will help you get the most out of it, and doing so early on does benefit you too.

But another big part of it, is making sure that you're not totally replacing everyone. Enforcing soft skills is a huge part of this. Some services may start to have automaton tacked onto them, but not all services will be changed in this manner. In fact, it seems more likely that people will work with AI, instead of against AI, building a new, brighter future for everyone.

Chapter 4: The Future of AI

AI is growing, and we've discussed how AI and machine learning will benefit many people. But what is the future of AI. Do you think machines will take over everything? It is unlikely, but the concerns of this are valid and relevant, and we'll go over the future of AI, what this means, and the results of this too, in order to benefit you as well.

What's AI going to bring to the Future?

Ai will bring a lot to the future of many companies. We've gone over already how a lot of jobs will be replaced, not just those menial tasks, but other tasks that will become more specialized too

Outsourcing may of course not be seen as much. Instead, people will throw it under AI. In some cases, AI will generate even more wealth too, so it could end up creating a UBI of sorts for people, since there is a chance that automaton couple pay for it. However, this is all such speculation.

The more generalized tasks will definitely be done by robots. We could see a lot of our society changed by these guys. It could end up bringing about an age where the robots do menial work, possibly changing the way human society even works. Instead of humans driving cares, there may just be self-driving cars, and the humans can free themselves up for more tasks as well.

But there is also the fact that it would take a long time for this to happen. That's because, AI needs to become advanced. However, there is also a chance that the human-AI relationships will start to become deeper too. This does involve a lot more of an advanced strategy, and you'll be amazed at the different ways the algorithms can change and morph over time.

AI and Intelligent Communication

There is a chance that over time, AI may become intelligent enough to converse with humans. It may develop human-AI relationships over time in a way where the AI can converse with humans in a natural manner. This will be something down the road, since AI can become commonplace and use algorithms.

however, there is always that question of whether or not AI will replace actual relationships with humans. That's up for debate. It may be a longer term than a couple of years. Some experts say it's about 30 years down the road.

this can cause the AI to solve issues that are beyond the realm of intelligence, helping us discover answers that otherwise we may not know about. Solving resource issues such as not enough water, providing renewable energy and optimizing that are all possible too.

The Gift of AI

AI does have a lot of gifts, and down the road this could cause a lot of specialized knowledge to form down the road. Perhaps those answers can be used to help with math and sciences. The age of Cyborg augmentation is happening, such as prosthetic hands and limbs for those who end up losing them. This provides them a solution to the loss of the limb, and some recipients say that they feel a sensation when they have these.

But again, this is a start. This is something that could possibly change down the road, as more and more bodies start to use AI to change how they are mentally and physically.

There is another part of this called “brain uploading” which is essentially the mind copying like a computer, scanning the brain, creating copies in the mind. Elon musk discussed this, referring to it as digital immortality, and a lot of big people in tech are already looking into this. The brain’s neurons are connected, so there is the possibility that they could replicate what’s in the mind to a computer and then transfer it.

But is this totally possible? Is there a chance you can replicate the human brain into an electrical algorithm? Perhaps. The problem is that our brains are changing and evolving, and the AI would have to keep up with the daily situations. However, there are certain characteristics that makes us human, something that is currently beyond the realm of current computers and technology. Maybe that will be available down the road.

AI is already Everywhere

One big thing is that the impact of what AI does is already all over the place. Any data-trained models and deep learning is there. If you're using IoT, that's an example of AI being used. Some sectors are using it already, striving forward and getting an edge on others. Some people are just now starting. The big thing to understand though is that AI is here, and it's not going away. In fact, you can't even ignore it.

In fact, you're already starting to see this in many places. Transportation is already using it. While automatic cars and planes are not happening as of yet, it's still out there.

Even media is using this. Automated insights and analytics are actually used to create new news stories, variants of the ones that are out, and of course, this will use natural language to generate new stories. This does create more money for publishing companies too.

Then there is education. There are now virtual tutors that are being used to help students using different AI and understanding to figure out who is struggling, and who needs extra help to help them succeed. This creates more individual-based learning, rather than thinking all of them have the same level of education. People learn at different speeds, and AI can help those who learn differently succeed on all fronts.

These are just the beginning of them though. There are so many advances, and this is only the beginning of the future, and many people end up realizing that this can change all parts of life. Right now, the technology is rapidly changing, but who knows, maybe it'll change faster than we thought.

Risks of AI

The big thing to understand with AI, is that it's a tool, not a toy. It can be used for good, but also used for bad, depending on how it's programmed. A big part of this is safety of the AI. While AI isn't malevolent at the core, a big risk of it, is how it's used.

One of the biggest risks of AI, is how they're programmed. Automatic weapons for example will fire automatically. Let's say that joe blow walks into the area, gets shot, and there are a bunch of casualties. Perhaps with one utterance of a word, a bunch of nukes automatically fire. This could kill thousands of people!

AI can also cause an arms race, literally leading to AI-based wars. This is something that can be a huge risk. The solution here, is to have a means to turn off the AI, so that there is a chance that a human can step in before things get any worse. But there is always the chance that the AI could turn this off, causing humans to lose control. This is something that's currently low-risk, but over time this can be a huge problem with AI down the road.

The second thing is that the AI may end up being good, but then it starts to go down a destructive pathway to; get to the goal. The AI may be trying to get you to point B from point A as fast as possible, but it could end up doing something incredibly dangerous. It could harm the environment, or cause people to end up getting pulled over for speeding. It can sometimes actually cause a lot of trouble at the expense of doing their job. The problem is that AI usually isn't going to be bad, but it ends up programming itself to do so, that's a big issue down the road.

The Challenges of AI

There isn't just the big risks, but there are a few challenges currently in the realm of AI that definitely need to be watched out for.

The first, is of course the computing limits. Many businesses run into this issue, simply because deep learning and machine learning are stepping stones in the world of AI, and it does require excessive computing power to work well. There are some domains that allow us to implement frameworks of deep learning, but this does take a lot of power. Probably one of the biggest challenges, especially for businesses and using this, is of course the influx of technology that's required to be able to use this, since it requires a lot of power, and has an algorithm that's confusing as heck. Another problem is the true deficit of this. This is because usually how the inputs are put in there can be hard for most to understand. The problem with AI, is that most of us tend to use it, without even knowing how it will even work. That can cause concern, because you never know what you're getting into. Sure, having a smart TV and a smart car with automaton is great, but there is that growing concern of how smart this can be. The limited knowledge is also another challenge of AI. AI has to learn, and at the beginning, it's not as smart as it should be. There is also the fact that not a ton of people know about how much potential AI has. It can be something enthusiasts use, and some Small-Medium Enterprises may want to look into this. Right now, AI is a very technical line, and for the most part, you're really only working with specialized people on this. This can be hard to find people, but it does open the door to people with these kinds of jobs, since it offers them a chance to get technology, including AI, out to the common man.

Another big challenge is of course, the inaccuracy of this. In some cases, AI can be better than humans, but the thing is, if a human can do it better, it makes the AI not as worthwhile. The optimization of this, a defined algorithm, computing power, and uninterrupted training on this may seem like hard work, but it's actually pretty difficult for the AI to do. The AI will need to be trained by humans, who also aren't perfect, and it is a big challenge for some people to implement AI, simply because of how hard it can be.

Finally, we have privacy concerns and data sharing concerns. AI and machine learning is great, and we can train these, but remember what we said before, AI can be used for bad. For example a cyberattack that takes out the personal data of many, throwing it onto the dark web, can cause a lot of problems down the line. The data leakage is hard to hide as well, and if someone gets control of it, it can harm the human race.

But, AI is good, and the future of it is looking bright, on all sorts of fronts, and it can help many do better in life, and improve different areas of wellness too.

Conclusion

AI and machine learning is growing a lot, but it’s still got a long way to go.

We discussed this here, and how AI is beginning to learn from different inputs. Remember though, it takes time to master this. Hopefully, as time goes on, we can continue to use AI for good.

AI won’t replace you fully. You’ll still be needed, but it will change the business and workaday world. How it will change will ultimately depend on how things pan out from here on out, and how others use machine learning to benefit life on all fronts, and the changes it’ll make.