Jacob: Hello everyone. Welcome to another episode of The Future of Work podcast. My guess today is Maria Bartiromo. She is a Fox Business Global Markets Editor and anchor. Maria, thank you for joining me.

Maria: Thanks so much for having me.

Jacob: I understand you've been embarking on a pretty interesting project over the past few weeks, months. Before we jump into that, maybe we can start with just background information about you, and how did you get involved into this space? How did you become an anchor?

Maria: Well, I've been a journalist now for 30 years. I started my career at CNN. I was a production assistant there, I worked at CNN Business News in 1989. From there, I went on air for CNBC, and I was a business reporter and an anchor woman beginning in 1993, until 2013. I stayed at CNBC for 20 years, being the first person to broadcast from the floor of the New York Stock Exchange. Helped expand the brand internationally, build out the CBNC brand, and was able to have a lot of firsts, and watched in a number of cycles in our economy, from really the beginning where I first started my career at CNBC in 1983, when the individual investor revolution was really just taking off. Where investors felt that they can arm themselves with the right information, and they could invest for themselves.

That spawned an entire industry, the discount brokerage industry with companies like TD Ameritrade, and Schwab, and e-trade soaring, as individual investors wanted in on this stock market boom that was [inaudible]. From there, I watched the dot-com boom while at CNBC, where we saw money moving into technology stocks in an unprecedented way. We were on the doorstep of a new era the year 2000, an in the '90s, I watched companies like Amazon and Google go public, and enjoy incredible amount of investor support where we became really fixated on what was this move into a new era. A change in work, a change in the way we operated in our lives and our work, and that was the dot-com revolution.

Of course, that created a lot of bubbles where we were investing in companies that just had a dot-com at the end of their name, even though it didn't produce any revenue or earnings, and of course, that turned into the big dot-com bust, which led to international prospects and globalization, where one thing would happen in one part of the world, and it would stoke interest or sell offs in another part of the world. Globalization really taking hold with the dot-com revolution across the world as well, so there we saw globalization happen for several years going into this euphoric period in the U.S. for housing.

I remember, we were in around 2006, when you saw money moving into housing and this idea that home prices were going up for any number of reasons, but people just thought they were going to continue to go up. In 2006, if you looked at any market, pick Phoenix, which is one market I looked at a lot, the average home price was up 40% year over year, and it was really for no good reason. You basically saw expectations go from my house is worth more because there's great demand, to my house is worth 40% more in price, because it just is, and that's what happens. Of course, that was the case, until it

just didn't happen anymore. We had an incredible housing boom, which turned into an incredible housing bust, where we saw Wall Street analysts come out with security plans, and securitization plans to get a mortgage, which were based on very faulty ideas.

We had a major bust in housing, and that led to the greatest financial recession in a generation. Of course, given globalization, that took hold across the world, which led to a lot of upset, and job loss, and people losing capital, and the election of Barack Obama. From there, we went into a new way to look at things, with a new President. Our country became divided, which led to the election of Donald J. Trump. Here we are looking at yet another revolution that is upon us, and that is the AI revolution, where it's going to change the way we work and the way we live. Once again, you're seeing signs that you saw in the dot-com boom that indicate things are about to change in a big way, and the corporate sector is about to adopt something very different.

The adoption of artificial intelligence is going to be soaring in the coming years by companies who recognize that if they don't have AI, they will be at a disadvantage. I've been lucky enough to have a front row seat in a number of major turning points for our global economy, and I can talk a bit about that. Today, I'm working on a one-hour special on Fox News about AI, and it is called, Artificial Intelligence, The Revolution Happening to Our Work and Our Lives. I identify a number of sectors that will be changing in a big way, and where will jobs will go away, but there will be new jobs that are created.

I think that similar to the dot-com boom, when people were worried about their own jobs because digitization was taking place, and companies were looking to take their business online, and that meant a disruption... individuals, you're seeing a similar kind of disruption now, and you definitely are seeing expectations of displacement, machines, but you are definitely seeing that same adoption by corporations who know that they've got to adapt to a new technology, and got to adapt to a changing economy.

Jacob: It's really amazing, the milestones, the different things that you've seen over the course of your career. Maybe after we're done talking about AI, we can take a look back, and you can identify if there are any patterns or specific things that you've noticed from each one of these periods. Tell me a little bit about this big AI project. From what I was told, you were traveling across the country. You were meeting with a bunch of executives, and getting their perspectives and thoughts on the subject of AI.

Maria: Oh, absolutely. I've been speaking with the leading technologists of the world. I've been working on this for about a year, actually.

Jacob: Wow.

Maria: In the piece, we've got people like Bill Joy, who was the former CEO of Sun Microsystems, among other jobs. Back in the year 2000, Bill Joy wrote an article for Wired Magazine. It was the cover piece, and the cover story was titled, Why the Future Doesn't Need Us. Bill Joy identified artificial intelligence.

Jacob: I remember that. I remember that article.

Maria: Yeah. That's right, and today, he feels more than ever that the future may not necessarily need humans at some point. We are right now in a major transition period, where jobs will be replaced by machines, and new jobs will be created, but it is a robotic underpinning, which has some people scared. Bill Joy is in the piece, Peter Thiel is in the piece, who is of course the founder of Palantir, and the co-founder of PayPal, another great technologist. He's not as worried about the displacement of jobs as Bill Joy is, but he too understands the power of artificial intelligence, and how it's impacting every industry from healthcare, to retail, to logistics, to the military. The uses are far and deep, and it is also something that's happening on a global scale, where America's allies as well as competitors are also adopting this new technology.

I went to several AI labs. IBM has a network of 12 global labs. We went to its largest lab and spoke with the Director of Research there, Gary O'Gill who's been working on a number of projects in terms of AI, and getting ahead of AI. As well as the Chairman and CEO of IBM, Ginni Rometty. I spoke with Ford Motors Chairman and CEO, Jim Hackett, as he invested in Argo, which is an autonomous vehicle company. Took a ride in an autonomous vehicle to take a look at how AI is empowering that.

There's a lot of healthcare in the piece as well, because AI is able to get ahead of disease. I went and spent time at MIT, and spoke with the Provost, Marty Schmidt, as well as the Head of AI and Computer Science Division, Daniela Rus, who is a leading student in terms of looking for job that people don't want, and coming up with ideas to replace those jobs with machines. For example, maybe a person would rather not work in separating plastics from cardboard. It's a recycling job. That could be done by a machine. It's not a pleasant job, and so, why not give that to a machine? Daniela Rus, the Professor at MIT, took us through jobs like that.

Then I spoke with professor Regina Barzilay, who is developing an AI program around breast cancer. She was diagnosed with breast cancer five years ago, and she's fine today, but after her diagnosis, she realized that there were better ways to do this, to identify cancerous tumors, and she's getting ahead of disease by coming out with an AI program to identify potential cancer five years before it actually shows up. MIT was certainly an important part of the story as well.

In addition, we've got a number of other technologists who go through what they expect to be really a changing workplace environment, and why it's important to understand what artificial intelligence is, and importantly, it's important to understand AI versus AGI, because artificial intelligence is simply machine learning today. That is inserting information into a machine, making that machine smarter, and enable the machine to take on tasks that are routine.

What's happening right now in the latest software that is in place, and it's largely happening across enterprise. These are not consumer allocations. This is really for the enterprise. What's happening in the enterprise right now, is artificial intelligence that is comprised of a software that is watching you work, and remembering how you work, remembering... do. Memorizing your speech, and being able to mimic your speech.

Memorizing whatever you're doing with large datasets. There are a number of industries and jobs that require large datasets to do your job. One of them, for example, just to choose one, would be something like evaluating someone for a mortgage, a mortgage broker. You've got to evaluate what the eligibility is. That requires basically just looking at data.

Do you pay your bills regularly? Are you on time with your pay back? Are you someone who... There's all types of data that will indicate how eligible you are for a mortgage, and once you teach the machine how to do that, the machine can do, we'll check off this, and check off that. It's very easy for a machine to pick up that specific task.

A similar situation with reading an MRI, or reading a radiology report. Once the machine understands what's important in terms of reading that report, the machine can take over that job, and get that report to the next level, so that maybe a human takes it from there. We know what the lines show, what the report shows based on the machine looking at it, and understanding what the borderline aspects of it are, so that they can weigh in on it. There are a lot of jobs like that, that require large datasets. Even trucker. If a trucker is driving from point to point, and the machine knows the point to point, you're not necessarily going in lots of circles, or making lots of turns. If you're going point to point, a machine can take over driving the truck autonomously, and dropping off goods from point to point.

Now today, there are new smart cities being built, and these smart cities are trying to encourage and acclimate into this new AI world, where there's a... radio right now called NEOM. There are several cities in China where they're just being built today, and if you're just being built today, you can actually create a city where people stand on top, like on a bridge, and that's where they walk, and vehicles are on the bottom, and it's all autonomous. Going forward, you can understand how autonomous vehicles could come into play much more so than they are, or they're expected to today in life, when you have a different city, when you have a smart city.

Today, certain cities are building their cities to accommodate artificial intelligence. I personally do not think that autonomous cars are going to be on the road any time soon, but for those cities who are building fresh new smart cities, of course they could accommodate and acclimate, and build their cities any way they want. In that case, then yes, autonomous vehicles are going to be there. Depending on the job that we're referring to... [inaudible] is being used, it can easily be done by a machine. That's what I'm looking at in my piece.

I'm also looking at AI versus AGI, because artificial intelligence is very different than artificial general intelligence. AI is pretty much what I just said, it is picking up routine tasks, working with large datasets. Artificial general intelligence is very different, because today, a machine can listen to your voice and copy your voice, and come up with telemarketing based on the sound of your voice. That's another job that will likely go away, and that's a telemarketer at a call center, because speech recognition has become so sophisticated, that people are increasingly wanting to use that at their companies, and by the way, it has an 86% satisfaction rate.

Speech recognition is so sophisticated, and that's part of... intelligence. These machines can copy what we're doing, and they can replicate some of our routine tasks that we do, but for the most part, they're not generally intelligent. I mean, it's a machine. It's a machine that you taught it to copy you. It's a machine that knows how to mimic certain tasks, but it's not intelligent in a general way. For example, it can't reason. It can't analyze. It doesn't have emotion. It can't say, "Oh well, I used this task for X, Y, Z, so why don't I try this task for A, B, C." You can't use one task that it does for a whole nother industry. It doesn't have that intelligence. It's not the human brain.

With artificial general intelligence, that is the goal, where you want to see AGI be able to do everything that a human does. We are moving in that direction. We are inserting information and data to an extent into a machine, to enable that machine to ultimately become artificially general intelligent. AI and AGI is very different, and AGI is not expected to really take home and be a big part of our lives for, I mean, anybody's guess, but it could be 10 years, it could be 50 years, it could be 100 years. It's anyone's guess if it's your children who are living with AGI, or your grandchildren, but it is moving in that direction, and that's the reason that people like Elon Musk are very concerned about AGI, because he feels that it is going to create... Well, first of all, it'll create haves and have nots, but that's the least of it. He says it could lead to World War Three, because countries will try to adopt AGI and one-up each other in terms of machine... and smarter, and smarter, certainly smarter than humans.

This is where we're going, and this is why this is important to really study, and understand what it is we want our computers to be. Eric Schmidt is also in my AI piece, and Eric says that there's no doubt in his mind that ultimately we will all have "assistance". You'll have a teacher's assistant, which will be a machine. You will have a doctor's assistant, a machine. Everyone will have assistants to help them do their work, and live their lives. One of the ways to do that is to have AI inserted into a computer to teach that computer all of the menial tasks that you want done.

For example, in healthcare, artificial intelligence is such that it can read a million eyes and very quickly know which eyes are... It can get ahead of disease, because of all of the datasets. Even the Watson computer that IBM has, it can take seconds to write off certain disease that might be prevalent. For example, once the computer has all of the information and the datasets there, it can scan all of that information in a very short period of time. The reason is, is because machines are studying the way humans work, what they do with these routine tasks, but they're doing it on a massive basis. They are studying thousands, millions of people and scenarios, and very quickly learning how those tasks play out. That's why AI is so powerful when it comes to things like healthcare and transportation, and large dataset required jobs.

AGI, artificial general intelligence, is the next level, and it is a much smarter computer. A much faster computer... [inaudible], they're using facial recognition in a very significant way that's impacting their people. Facial recognition is just one form of AI, where the computer can identify faces. If you remember just recently, you had 2 Million people hitting the streets of Hong Kong in China, and one of the things that they did was they knocked down the facial recognition tower. The reason is, is because China uses facial

recognition in a state sponsored network, because it tracks its citizens. That's what it does. It's a communist country, and it tracks its citizens.

The facial recognition tower in Hong Kong was not only tracking citizens, just because that's what it does, but it was also able to identify who exactly was at the protest, and who exactly was there at the 2 Million person protest where Hong Kongers were protesting China and the government of China, and its authoritarian rule. They knocked down the facial recognition tower, so that the Chinese government didn't know who was protesting, in something that was very much indicative of how people feel about facial recognition. San Francisco became the first city in America to ban the use of facial recognition.

Jacob: [crosstalk].

Maria: I'm sorry?

Jacob: That's where I am. I'm in the Bay area.

Maria: That's right, so you can't use facial recognition right now, because it's banned. The reason is, is because civil liberty groups were afraid that governments would abuse it, and use facial recognition to identify people wrongly. Facial recognition is one of those technologies as part of AI that has become very much controversial. China is using AI very significantly, and investing very significantly in artificial intelligence to the extent that some people believe that China's actually ahead of the United States when it comes to AI.

This is important, because AI is used in the military. Again, when you are using artificial intelligence, what you're doing is you're using a machine that has input of information about how to do things, and it's leading the machine to be able to make predictions, and make decisions based on that data. If, like back to the mortgage broker story, if you have all the data about a person, how eligible they are to get a mortgage, you know all about that person, and the machine is able to predict whether or not that person is eligible for a mortgage.

When it comes to AI in the military, there's worry and concern that those who have AI will be able to predict troop movements, or be able to predict deployment of weaponry. If China is ahead of the United States, and there's a problem, and the two become enemies, or fighting... country understand and be able to tap into another country's troop deployment and weaponry deployment is obviously very dangerous.

In addition, Eric Schmidt will say that AI will ultimately create haves and have nots. Earlier I talked about how Eric is talking about everyone having assistance. Well, that costs money, so this also could lead to a situation where you have a worse situation than we've ever seen in terms of haves and have nots, where some people would be able to afford that computer assistant. Other people will not be able to afford doing things with a machine learning AI robot, because that robot can do things so much faster and quicker, that that person who has the robot will have an edge over everybody

else. There are real implications of the people who have AI, of the companies that use AI, and what it means for individuals and their jobs, and their lives.

Jacob: What were your assumptions or expectations before you started this piece? You mentioned that you were doing this for around a year. Before you started it, did you have certain preconceived notions or ideas around what you were going to find, versus what you actually discovered when you finished?

Maria: Yeah, I mean I didn't know about AGI, first of all. I didn't understand artificial general intelligence. That was something that I just became educated on over the last year. I also knew a little about AI based on commercial uses. For example, artificial intelligence is all around us, and it is Siri, it is in your phone, it is your Echo at home. It is those home devices where you said, "Siri, where is my podcast? Where am I going?" Or, "Echo, play yoga music", and the machine will do it, because the machine has studied all music, and the machine knows what yoga music is, and the machine knows where I have to go for my podcast, because the information has been inserted.

I understood that. I did not understand the level of robotics that is happening today, and I did not understand the level of AI and its uses throughout as many industries. I didn't understand that AI was getting ahead of disease the way that it is. I know that for years, doctors have talked about having a machine that could be helpful, and certain hospitals have machines and robots walking around. If you go to the Cleveland Clinic right now, you've got robots that go to the dock, pick up healthcare equipment, very carefully put the equipment on a certain machine, and they travel to where the healthcare equipment and the medical devices have to go. It's a robot that is performing a transportation task, it's picking up their medical devices at the dock... them on wheels, and delivering them to somewhere else. I knew that was going on. I was not aware of how smart AI had become, where it can identify disease in a person's eyes.

Jacob: In other words, I suppose that's probably where most people are. They kind of heard of AI. They understand maybe some high level stuff, but it sounds like what you discovered is we're actually much farther ahead than most people realize. It's being used for, and it can do far more things than most people are aware of.

Maria: Oh yes, absolutely. AI is much more sophisticated than you know, and it is actually wiping out white collar jobs more than you know, and faster than you think. Kai-Fu Lee is one of the lead people in my piece, and he is the former president of Google China. He's considered the oracle of AI, and he told me that he believes 40% of all jobs will disappear within a decade, because simply put, a machine can do... and a machine can handle these tasks faster, more effective, and save companies money. It's very cost advantageous, and it just enables humans to do things that they want to do, or things that they can do elsewhere on a creative level. While you think that AI can be incredibly helpful, and it can, it can also be job killing.

Jacob: Why are the CEO's who are worried, why are they worried, and the CEOs who aren't worried and they're optimistic, why are they so optimistic?

Maria: Well, I think people who are worried are looking at AGI, like Elon Musk, like Bill Joy, who knew this was coming, and wrote in the year 2000, that article, The Future Doesn't Need Us, because they see that technology replaced jobs over time, and will continue to do so. This specific technology, artificial intelligence, is doing so in such an effective way, it is alarming. We've seen art imitate life over the years. The Terminator movies, and other HAL 9000 in A Space Odyssey. All these movies that portray a machine that will go head-to-head against a human and try to kill a human. That's a drastic portrayal from Hollywood, but there are some people who believe life will ultimately imitate art, and that is where Elon Musk is.

The people who are not that worried, are saying, "Well, you know what? This is not happening right now. Right now, what we're talking about is machine learning. Right now, what we're talking about is AI helping me do my job better. Helping me live my life better, like Siri, like Echo, like my refrigerator, who's talking to my washing machine, who's talking to my car. We are now talking about smart appliances all over our lives. The machine is talking to the machine, so if I leave and then I'm coming back to my home, and I want all of my doors unlocked, and I want the air conditioner on, and I want it to be cool when I walk in, I've got AI in my home to speak to my air conditioner, and then speak to my light switch to make sure that when I walk in my home, everything is ultra comfortable.

For me, that makes my life better, and it makes it easier. Why wouldn't I want that? That's what people like Peter Thiel and Eric Schmidt are looking at. There's no doubt that these issues are creating a massive debate throughout business and beyond, because right now, the most important conversation happening regarding AI is about ethics, and you're seeing an ethical conversation about this. I have Steve Schwarzman, the Chairman and CEO of the Blackstone Group in the piece, and he just recently gave $300 Million... so that they can start the Steve Schwarzman School of Computing. He did that because he said that we need a group of principles. We need a group of principles around ethics, because he compared AI to nuclear technology. He said, it's like a nuclear bomb. When we first learned about nuclear technology, we didn't just start giving everybody nuclear bombs and say, "Oh well, you know, this is really important technology. Here's a bomb for you, and here's a bomb for you." No, we had a conversation about the ethics of releasing nuclear technology.

There's a conversation taking place right now about the ethics of it. Google recently pulled out of the contract with the Pentagon called Project Maven, because Google employees, they had this contract with the Pentagon, and it was about AI, and artificial intelligence was fueling drones, which had cameras on them. Basically, what it was, was AI was identifying what the images captured on the cameras from the domes were. The employees at Google didn't want to work on this, because they said, "Well, we don't the government to use our AI to identify individuals, especially if they're using it at the border, for example. Is the Pentagon using Google's AI at the border to identify immigrants who are illegally crossing the border? We don't want to be anywhere near that. Is the government using AI to identify images in war time, and are they using it in the military to identify people to kill? We don't want to be anywhere near that."

Google pulled out of the contract with the government, and it was a big controversy. Then, by the way, Google had an ethics committee that was disbanded. They had disagreements about what the ethics should be. Again, there isn't a set of principles around AI on a global basis. Because of that, America has certain ethics. For example, Palmer Luckey is one of the featured people in my piece. He's the CEO of Anduril Industries. This is an AI military company, and Anduril Industries actually got the contract that Google walked away from. Anduril Industries works with the Pentagon, and it has that Project Maven contract. He says that China is also using AI in a very effective way, and they're trying to understand where the U.S.'s troop levels are, and they're right now, has a goal to become the largest super power in the world, militarily and economically. They're building the largest Navy. They're building the Navy at the fastest clip that anybody has ever seen, and as a result of that, people are nervous that the U.S. is not investing enough in this.

That's why the White House recently had an AI... and put together a committee. There is a Congressionally appointed committee in place that is looking at artificial intelligence as it relates to the military. Eric Schmidt is on that. There are members from Microsoft and Amazon on that committee as well, because this conversation about ethics around AI is really heating up.

Jacob: I've interviewed a lot of people on the podcast, and I always ask them this same question around AI and technology, and if they're optimistic or not. For a new book I'm working on, I interviewed 140 CEOs, and it was focused on leadership, but one of the questions that I asked them as well, was around AI, and the impact that it will have on work. I found that a lot of the business leaders, either for the book, or for the podcast, tend to be more optimistic. They always say things will be okay, this isn't the first time we've seen this. We're not so worried about it, but then on the flip side, you also have a lot of people who are very worried about it. After listening to you, part of me wonders if maybe even a lot of CEOs are just not aware of what's going on in the AI world, because it sounds like what you discovered, is that there's probably more threat, more things we should be worried about.

Maria: Well, there definitely are threats, but you have to remember, AI is being used to save money. If you can get a machine to do something quicker and faster and more effectively than a human, you're going to do that, because it will save you money, and it will cut costs at your company. A number of CEOs are looking at AI that way, and they're seeing it as a positive, not recognizing that, or not focusing on the impact to individuals who may not be ready for this, don't have the skillsets to survive, or thrive in this new economy.

I think we're at a point in time right now where companies are just beginning to adopt and adapt, and there are a number of reports that I have from IBM and from Price Waterhouse Coopers who say that corporate adoption of AI is about to soar. When you look at the number of companies being funded, right now I think the venture capital industry has plowed record numbers, more than $9 Billion into AI start-ups, and you've got about 2,000 companies right now who have AI as their core business model. We're just beginning to see AI as a huge source of investment and as an opportunity. Businesses and CEOs are probably looking at it and trying to understand how they

should adopt it, how they need to adapt to get it in their companies, so that it can save them money, and that's what they're thinking about right now.

It will save them money, because obviously, putting a computer in place of a human to do menial tasks, or to do routine tasks will save money. It's supposed to add $16 Trillion... [inaudible] in the next decade. That's the kind of productivity gains that we're going to see as a result of AI. Remember, when it comes to the military, there are jobs that are better for a computer. If you have a soldier running into a building where you don't know the threat, let's have the computer run in there. Let's have the robot run into the building where we're not sure if it's going to explode. There are certain jobs that are definitely better poised for a robot, and CEOs know what, and they also know that this is going to mean cost savings.

I don't know that anybody has a clear idea of what the next 10, 20, 30, 100 years looks like, as computers get smarter and smarter, and more adapt at doing human tasks. AGI is something altogether different, because right now, these machines [inaudible] these menial tasks. They can come up with eligibility for mortgage, and go point to point with goods, and tell you they're going to put on your yoga music. They're not generally intelligent. They're not intelligent like the human brain. They can't reason. They can't analyze. They can't use one idea and apply it to another idea, so humans and the human brain is still incredibly sophisticated in terms of those things, but one has to wonder as computers get smarter, and smarter, and smarter, what happens when they can reason, and can analyze, and can solve problems, like the human brain can.

Jacob: It's a little freaky to think about.

Maria: Yeah, it is.

Jacob: A little scary.

Maria: It really is.

Jacob: It actually brings me to my next question. I mean, from a lot of the things that you saw, did anything freak you out, or scare you, or just really make you worried about the future?

Maria: Well, I'm not expecting the robot to turn on a human, and try to kill the human. This is what Hollywood has been writing about for years, so no, I do think that the broad public doesn't understand the threat of more sophisticated and better robots, because if you look at China right now, there are simulations of people on television. There are anchor women, like myself, who are on TV reading the news, until you look closer, it's actually simulated. It's not a human. It's a computer. When you recognize what can be done, then you start questioning, well can I believe that? Did somebody put in the algorithm certain news that they want me to know? Did somebody put the information in the computer for their own interest and their own agenda? The idea of journalism and the idea of seeking truth, well I don't know what happens when man is moving the machine,

and the machine suddenly can move itself. It's an unknown, so sure, from that standpoint, I got scared, but I didn't get scared the way Elon Musk appears to be scared.

Elon Musk has been sounding the alarm on this for a lot of years, and I understand the premise, that computers are getting smarter, and smarter, and smarter, and that has implications. Whether or not that computer turns on us, it remains to be see, frankly. I don't know.

Jacob: What do you expect, based on what you learned, what you found from doing this year-long research project? What do you think will happen to jobs in the coming years? Let's say, I don't know, maybe 10 years out, what do you think we'll see? Are there any industries, for example, that you think will be most impacted, or jobs, or careers? Will the work week change?

Maria: Yeah. Well, right now, I mean this is today in 2019, we have more job openings than we have people. I mean, the labor force is so tight right now with a 51-year low in unemployment, and jobs are plentiful. I think that will only get worse, whereas there won't be enough people for the jobs that we need, and the jobs that we have will be able to be filled by computers. I think longer term, you are going to see a massive displacement in work and in jobs. I think the most important thing that people have to do is first of all recognize that machines are getting smarter and smarter, and they will take your job. You need to make sure to arm yourself with the right information and education, where you are savvy with technology, because if you're not savvy with technology in the next 10 years, you will be left out.

A lot of people say, "Well, you know, I'm a coal worker. What do I know about coding? I'm a truck driver, what do I know about engineering?" Well, you're right, you don't know anything about it. You better learn. You better start understanding that technology is changing the way we live, and changing the way we work. Individuals need to understand what's driving it, because jobs will go away.

The upside here that we haven't spoken about yet, is the fact that new industries and new technologies create new jobs. Back in the dot-com boom, when we were talking about Pets.com and Joe Shmoe's Pizza Place.com. Everybody was putting a .com at the end of their name, people started to worry about what the digital world meant for them. There was... wow, my job is going away, because my company is taking everything online. Well yes, that's true, but we didn't understand the jobs that were coming. Today, we have coding, and we have engineers, and we have people who mine data and organize data. We had no idea that those jobs existed back then, so I do think that in this environment where we're seeing technology become so sophisticated, that will create new jobs for humans to work on this kind of technology, but that's why educating yourself is so important. You have to be comfortable with this kind of disruption, and comfortable with understanding where this is going, so that you can get one of those jobs in the future.

Jacob: What responsibility do you think companies have, especially when it comes to re-skilling and up-skilling. I had an Accenture executive on the podcast a little while ago, and she was telling me this story of how Accenture automated 17,000 jobs in finance, but the

jobs that they automated, these were all number crunchers. People who are just adding, calculating data. What they did, was that they up-skilled these 17,000 employees to be more like strategic advisors to their clients. I've actually heard quite a few stories like that. I had an executive from MacDonald's on here, same thing. He said that they're implementing a lot of kiosks in their stores, but instead of decreasing the head count of the restaurant workers, they're leaving it the same, and in some cases increasing it to focus more on the customer experience, you know, bringing you your food, ask you how your day is going. What responsibility do companies, and do you see any positive things coming out of that?

Maria: Oh yeah, absolutely, and more of the positives I just mentioned, and that is the jobs that we don't know. New jobs will be created. I think what you've just defined is happening all across the country, where managers are seeing an opportunity to cut costs, and they're using technology to replace certain things. There is flippy the burger flipper right now in MacDonald's in test stores, where you've got the machine, the robot flipping burgers. I think that there's an enormous responsibility on the part of business managers and CEO's to unleash AI, as I mentioned earlier, in an ethical way. That's why this question around ethics is so critical.

Look, I think that there will be other jobs, and what you've just defined tells me that there are jobs that are creative, and there are jobs that you require a personality to interact with customers, services that will not be handled by a robot, can't be handled by a robot right now. When you think about those jobs, r those jobs going to command high wages? Probably not. This is going to level a lot of wages, because if you had the... in terms of machine learning, maybe you'll command a higher wage. If your job is going to be replaced with a robot, and then you're going to be put into another area where you can do things more creative, and talk to customers, maybe the salary doesn't keep up to that kind of job. There's that to think about. Where are the high paying jobs? How do certain industries keep high paying jobs, when you've got machines doing it for so much lower numbers? These are also questions that are being discussed right now in the corporate suite, in terms of unleashing artificial intelligence in the workplace.

Jacob: I've also heard stories, and I don't know if you've encountered this during your travels and discussions, around how AI and technology specifically might impact leaders. Even getting rid of leaders inside of companies, because AI will be able to do a lot of the decision-making stuff for them. Did you hear any stories, or come across those discussions at all?

Maria: Well, I think that the first level of jobs that will be impacted will be white collar jobs. Often times, we talk about the blue collar worker getting the shaft. Here, it's white collar. Kai-Fu Lee, who is the running this firm Sinovations, he is a acquiring AI companies right now, and he's a private equity firm and venture capital, so that he can identify jobs that are done better by computers, and can save money. I think that if you're a CEO, you're always looking for ideas in terms of cost advantages, and implementing AI is one of those. Someone has to lead the organization, of course, but artificial intelligence is basically machine learning, so that the machine can make predictions. That's one role of a leader, making predictions about where... going.

The leader may have his or her assistant to help make those decisions, or I don't know what a company looks like down the road, if it's largely electronic, and largely machine learning, including the leader. I don't know, but I do think that making predictions is one of the key advantages and reasons that people want AI in their infrastructure.

Jacob: Yeah, I hear that a lot as well. There's also a lot of talk around what will happen to the work week, and I suppose this is maybe a little bit more on the utopian side. A lot of people say we're going to have abundance, we're going to work 10-20 hours a week, we're going to have universal basis income, we're only going to be doing the things that we love. From your research, do you find that that vision is... I mean, is that realistic? Are we going to get to a point where everyone is just kind of hanging out, we've got money coming in from the government, we're just doing stuff that we love, or is that maybe a little bit too rosy of a picture?

Maria: No, I mean that if you've got digital automation, displacing middle skilled workers and performing routine tasks like sales, and office, and administrative support, production, repair occupations, these middle skills occupations accounted for a third of employment in 1970. By 2016, it had fallen to less than a quarter, 22% of employment. To be clear, machines took over those jobs, and the individuals did other things. Doing other things may very well mean you're changing your schedule. We've very used to the work week being what it is, five days a week, eight hours a day, but the whole point of AI is to do things faster, to do things more effectively, enabling the individual to do other things, and use their time for more creative aspects of the job.

It will be sort of disruptive for individuals to change the way they approach their work. Eventually, hopefully people will get comfortable with the idea, "Well, oh I'm doing that. It's a routine task, but I'm in a much more creative position." As I said earlier, right now, AI is not generally intelligent, they can't reason, they can't solve problems, they can't do things that the human brain can do, but there's no reason that I would say, there's no reason to believe that the work week is not going to change dramatically.

Jacob: Very cool, that's good to know. You have been around for a lot of very historic events and milestones, reporting on the Stock Exchange, the dot-com boom and bust. Do you see any patterns between all these historic events, versus where we are now with this whole AI discussion? Are you looking at it and saying, "Oh man, this looks just like dot-com, this looks just like what happened 20 years ago." Is this just totally new, unique, never seen it?

Maria: Oh no, this is the evolution that we've been watching take place for a long time. It's just AI is deepening that. Jobs have been replaced for a long time by technology, and it's been a good thing, because it's made our lives better, and it's made us do things differently. When I first started broadcasting on the floor of the New York Stock Exchange in 1991, I was at CNN, and then in '93, I went to CNBC, also at the Stock Exchange. The Exchange was five rooms, five different rooms, and it held about 5,000 people

Jacob: Wow.

Maria: There were 5,000 people distributed around five rooms, and this was when trading was very much done largely on the trading floor, whereas the New York Stock Exchange was this very crowded place with people running around, getting their trades in. Today, it's one room, and it's under 100 people. The reason is, is because trading has gone electronic, and when you want to make a trade and invest in things, you can do it much easier and much faster by just inserting it into the computer, and getting a trade done. Whereas in the past, when I first started, there were individuals walking directly to the post, the trading post, telling the specialist, "I want to buy 100 shares of IBM, I want to sell 100 shares of GM." An individual was executing that trade. That's no longer the case.

That was one early indication of how technology was about to replace jobs. I mean, the New York Stock Exchange is a prime example of how technology has replaced humans on the trading floor, and that's just one white collar job. Remember, these are high paying jobs. These are white collar positions. That's one thing that I think people don't realize, that it's not the low paying, low skilled jobs that are going to go away as a result of AI. No, it's the high paying jobs. It's the white collar jobs that are being displaced. That's what I think people don't understand.

Jacob: Do you have a sense of what jobs will be in demand? I know there have been some studies and reports that have been put out over the past few years, but if there's one particular area or segment, or job career that you're very excited about, that you think will do well over the coming years with this AI revolution, where would you put your money?

Maria: Well, I think healthcare. I think healthcare is an area where AI is only going to make better. Whether it's cancer, or Parkinson's, there is a real study going on in terms of getting ahead of disease, and understanding where tumors are, and understanding how a tumor develops as it relates to cancer. There is massive study going on right now about the brain, and why Parkinson's happens, and why autism and Alzheimer's have killed our people. We don't have answers yet. We don't have enough information on the brain to fully understand why these diseases kill us. I think with AI, the more machine learning and the more study that's going on, this will be a compliment to a doctor.

That doesn't mean that some doctors will lose their jobs. Reading a radiology report will be easier by machine, but I think generally speaking, people want the bedside manner of a physician, of a human, so while the doctor will be much better off with more and more tools to help us in our health care, the doctor, your prime doctor is probably not going away so soon. Healthcare and nurses, and those people who have that bedside manner, that creativity, that emotion, we all need. Certainly when we're sick, that bedside manner's critical. That's going to be a job that will be in demand, and there will be other jobs within healthcare that will be in demand, and I think healthcare is one area that's going to have a great benefit from AI.

There are also certain logistics, manufacturing that jobs will go away, but there will be other jobs that will come from that. I don't know what they'll be called, but just like coding, and engineering, and mining data came out of the digitization revolution, other jobs will come out of the AI revolution. When you look at healthcare, transportation,

financial services where big datasets are used, these are the industries that will be most impacted by AI.

Jacob: I know we only have a couple minutes left, so maybe one more question for you, and it is, what do we do? We have thousands of people who tune in to listen to the podcast. They're all probably thinking about what does this mean for me? Do you have any advice for what we should do as individuals for our careers, our jobs, our companies to prepare for or think about this new world that we're going to be a part of?

Maria: First I would say to everyone, life is short, so make sure you enjoy every day and cherish it, because it moves fast. It goes by fast, in the blink of an eye. I think when you think about some of the big ticket items that are happening like AI right now, and this transformation of work, I think you remember how precious life really is, and how short it is. I think it's really important for people to recognize that life is so short, and cherish the ones that you love, and cherish the things in your life that you love. Do that immediately. Tell your mom you love her today.

Secondly, I think that when you have jobs that are going to be replaced by machines, you really have to understand why, and what that machine is going to do. Understand what the technology is... off with education. It goes back to education in a lot of these scenarios. It's unbelievable to me that I think the United States right now, when it comes to high school and grammar school is like number 33, or number 35. We are not teaching our young people how to thrive in the new area, we're just not. I don't know why, and I don't know what the problem is. China is way ahead of us, when it comes to middle school and grammar school, and what their students are learning. Yes, they are going to school six days a week, and yes they're in school many more hours. We've got recess, and we've got lunch, and we've got summers off. They don't do any of that.

Education is so important, and I think that today, given the changes that we're all expecting, one should want to arm themselves with as much information about this AI revolution as possible, and as much information about jobs that will be needed around AI. That goes back to education. Educating us on all of this is going to be critical.

Jacob: I love that advice. I just had a couple of rapid fire questions, just fun questions, just so people can get to know you a little bit better as a person, and then we'll wrap up. First one is, what is your greatest business failure?

Maria: My greatest business failure, wow. That's a tough one. You know, I think-

Jacob: If you can think of one.

Maria: Yeah, I've done very well in my career. I work really hard, and probably if there's anything, I probably need to take my own advice that I gave everybody a few minutes ago, and cherish our lives, and cherish my own life, and maybe not take it all so seriously, because I do take it all so seriously, and I work so hard. I think sometimes we forget to take some time to yourself and vacation. I don't know that it's... I'm hard pressed to pull out a failure, but...

Jacob: Yeah, I understand.

Maria: It's definitely something... like balance.

Jacob: What has been your most embarrassing moment?

Maria: Well, when I was a girl, I got fired. I was working at Kleinfeld's Department Store as a girl. I was the stock girl, and my job was to go into the rooms where the brides tried on their dresses after they were done, and take all the dresses back to the stock room. These dresses were really heavy, and the veils. Before I would take them back, I would try on all the dresses. I remember my boss caught me. After she caught me the third time, she simply said, "Maria, go home. You don't want this job." It was a very valuable lesson, when I was a very young girl, about life, and that is, do your job.

Jacob: I love that story. What are you most proud of?

Maria: I'm most proud of being able to help democratize investing, and democratize business for individuals. When I was at CNBC, I broke open the morning call. I don't know if you remember, but back in the '90s, investment research was really hard to come by, and it was expensive. Big investors would pay for big research, and by the time the individual got around to seeing the research like Golden Sachs says buy IBM because of X, Y, Z reasons, by the time an individual got their hands on that kind of research, the stock had already moved.

I made it my business to get into work every day and call all of my sources on Wall Street, every trading desk, to find out what they were selling, what they were telling their big clients who paid big money for it, and go on the air with it. I basically broke open that morning call, and I'm really proud of that, because it helped democratize investing. The same thing as being the first person to broadcast from the floor of the New York Stock Exchange. I was able to help democratize investing, and I'm proud of that. I guess my biggest, what I'm proud of in my career, is that I've had a career of helping individuals, and being on the side of the investor, and the individual to help them...

Jacob: What's your favorite business or non-business book?

Maria: Well, I've read a lot of Churchill, and I love reading about our Founding Fathers. I've got that, but right now, I'm reading a great book called Strength in Stillness. It's by a guy named Bob Roth, and it's about the mind, and meditating, and being still, and knowing that if you stop and you are still, and you think about it, and you recognize that sometimes your world is like an ocean, where you've got the waves going crazy all around you, and the waves are slamming down, but you look further out, and you see that the sea is really calm in certain areas, and still. If you get to that place, you actually can do your job and live your life better, because your mind is at peace. I'm really enjoying this book, Strength in Stillness right now.

Jacob: Last two questions for you. Who's the best mentor you've ever had?

Maria: My mother. My mother [crosstalk] my greatest mentor. She worked incredibly hard her whole life. She always did the right thing. She has incredible integrity, and she taught me so much. For me, my greatest influence and mentor was my mother, and is my mother.

Jacob: If you were doing a different career, what do you think you would have ended up doing?

Maria: Well, in retrospect, I would have like to start my own business. I definitely am creative in terms of coming out with new ideas, and how to do things, and I would have liked to, I think, do that, but I also have lots of hobbies that I like to do, and I thought at one point I would become an interior decorator. I love to decorate. I do that as a hobby, so I might be decorating.

Jacob: Hey, that's always fun and relaxing.

Maria: Yes.

Jacob: Where can people go to learn more about you? I know you are pretty much everywhere, but if there's anything specific that you want to mention for people to check out, please feel free to do so.

Maria: Yeah, I appreciate that. I'm live every week day on Fox Business, on a program called Mornings With Maria. It is daily, Monday through Friday from 6:00 a.m. to 9:00 a.m., and I've got a weekend program called Maria Bartiromo's Wall Street, also on Fox Business. That airs on the weekends on Fox Business, and I've got a weekend program on Fox News called Sunday Morning Futures, on Fox News Channel. That's on Sundays at 10:00 a.m. eastern.

I've got Twitter, and Instagram, and bartiromo.com is my website, and I certainly am working at Fox Business, and coming up with this special. The special will air on September 22nd on Fox News Channel, and it will repeat on Fox Business. It will also be living on Fox Nation on Fox News.

Jacob: Well, I'm very, very excited to see it. Thanks for coming on to be a guest and sharing some of these really interesting insights, and things that you found from your year-long project. I really appreciate it.

Maria: Thank you so much.

Jacob: Thanks everyone for tuning in. My guess, again, has been Maria Bartiromo. Make sure to check out her program when it goes life, and of course, you can find her all over social media. I will see all of you next week.