Artificial Intelligence and Its Effect on Jobs – MadridTeacher podcast 1

William Christison and Steven Starry

Hi, my name's William Christison and in today's MadridTeacher podcast cohost Steven Starry and I will be talking about artificial intelligence and its effect on jobs. So, without further ado, I'll ask Steve the first question. Steven, will computers replace human jobs, do you think? Yea, Hi William, while I think we've already been seeing this for years. So, I think it's only going to get worse. And, in fact, I think a lot of people think it's going to worse. Workers can look around them in and companies and see that it's already happening. I think, you know, from the way companies themselves are behaving, they all act as if it's a fact that it's going to happen or that is happening, that it's an ongoing revolution of sorts, because of the amount of money that they're investing it, you know, $13 billion in venture startups in 2016 and in the first nine months of 2017.

Yeah, that's incredible, yeah, it is.

It's amazing, so I think there's huge amounts of money going into that, I mean just Google and Amazon, which are two companies that are representative of I think this revolution in artificial intelligence, Google I think is number one, right?

Yeah, I would say so, yeah.

Well, that company is worth what $100 or 500 billion? They made $110 billion last year and . . .

Yeah, yeah.

And Amazon, I saw Jeff Bezos was now, he personally made $40 billion last year and . . .

Yeah.

He's worth $112 billion or some like that. So, these guys are getting super rich. They're called the one percenters, right?

Right.

They've gone from owning something like, I don't know, 9% of the world's wealth to 22% of the world's wealth and I don't know long, 5 to 10 years or something like this.

Yeah, it's going to be really quite an imbalance, I mean the differences, discrepancies between the superrich and well maybe the people who are out of jobs if we can't find anything else for them to do. It's just when you think of it, there's, there are new jobs, there will be new jobs, but there's going to be a lot of jobs disappearing. I mean, just, we already know the assembly line and factory workers, they're on their way out, everything is all mechanized . . .

Yea, it's happening. Whole factories are mechanized now.

Yeah, phone operators, telemarketers, I mean we all know they're disappearing. Sometimes you don't even know who you're talking with when you're on the phone,

right? And you have to kind of play a game to see if they're actually recordings or not.

Real people.

Yeah, right.

There's an interesting development now with self-driving cars and Toyota just last week or week before last announced, there's, they're going to invest $2.4 or 2.5 billion into artificial intelligence, well, self-driving cars.

Right, yeah.

So, you can just imagine that there are several projects starting next year for robotaxis. They've got the go ahead in a couple of cities and they're going to start introducing robotaxis, so, you, you could see taxi drivers, truck drivers, bus drivers, you know, subway drivers or underground drivers, whatever you want to call them. Absolutely, yeah.

It's happening so quickly and even farming, all these machines are all, they're all being driven by artificial intelligence, yeah, everywhere you look, you can see like even banking, that's going that's getting smaller and smaller, everything's online . . .

Government now yesterday, freelance workers in Spain hear since yesterday, they're now required to . . . so we've got six months to sign up with the government in their digital platform. So, you can see where this is going or where this is leading, I mean, it's a lot of government workers are going to end up losing their jobs, right? Because we are going to be doing their jobs from home, right? We're going to be inputting all the information and there's going to be less and less for them to do, right? So, there will less of a need for those types of workers. And from what I understand like different branches of government have different computer systems and when they integrate those, well, there's going to be a whole lot of redundancy, right? A lot a lot of redundant workers. So, and from what I've heard, okay, in like financial sector they're not even hiring economists and business people anymore. It's all engineers, IT people, information technology people, physicists and mathematicians, people who can make the system work, right?

Righ, yeah, that's it, the other ones will all be replaced, the old stock traders or postal workers, it's all being phased out. It's all automated. I don't know what, well I do, I mean there are a few possible jobs that may never disappear, but you know you begin to wonder, you know like of course there you have the creative arts, that will never go, but were talking maybe a more limited scale, not that many people involved in creative arts to keep the world economy.

Right, we can't all be artists. I don't know.

Education, a lot of it's being run online, but then again someone has to program these educational.

IT jobs.

There's certain, I guess maybe certain branches of education, you know, mathematics, science, well, maybe that could be taught just all by computer but you do have the

other subjects of the music, art, literature and history, things like that I think will always require human teachers, you know. . .

Yeah, but how many? I think when I went to university, we had some classes with up to 500 students, right? I don't know if you've been through that, but it's like, I think with virtual reality, with good educational software, I mean really good educational software, I think there be less of a need for teachers, so maybe one teacher can handle 100 students because the software will be doing a lot of their work for them. Or maybe, you know, fewer teachers and more assistants, who will be paid less. I think everybody, all these people are working really hard to try to make as many people redundant as possible because they save a whole lot of money doing that.

Yeah, this is true. I guess the only hope is that with all these redundancies that it'll give us, give all the redundant people a chance to do something else, but what else can they do, where will they fit in the economy? Yeah, and that's our next question, right?

Yeah, it's good Segway, right there.

Indeed.

Which is number 2, which is will new jobs be created? And which jobs will be created? What do you think?

Yeah, well again, as I mentioned before, in the creative arts, but I mean it's not really a new job, I mean, well I guess there will always be quality assurance, I mean, the machines do break down. There will have to be technicians to take care of the these machines. If it's anything other than just, you know, maintaining the artificial intelligence computers, I don't know, it's really . . .

I think there will be work for, you know, I think nobody knows what jobs are going to be created. So, I think this is sort of like an unfair question anyway, for you. Because there's, I mean, you can safely bet that it's going to be technology jobs, but beyond that nobody knows, you know. You can't go to, my son goes to high school and nobody there is preparing him or telling him or orienting him at a, with regard to, you know, jobs of the future. It's the same old jobs they've always prepared students for or educated students for. They're clueless. They have no idea what's going on first. And second, if they do, they're not telling him, you know, and certainly there still no going to educate themselves for the same old jobs, I think some may be have the idea that they should be engineers, they should be technicians or something like that.

Right, but then again, apart from that, apart from you know just not really knowing what kind of jobs are going to be created, then again, you know, we don't know how far artificial intelligence will go, you know, I mean, once this is the other question I think that has come up, you get artificial intelligence and it gets to be an effective general intelligence, that it can do things just as well as humans can do, this is on a judgment, rational, reasoning scale, and then beyond that what happens if the intelligence continues to develop, the artificial intelligence, and it just goes right beyond general intelligence right beyond us, will we be able to control it. This is another . . .

I think it's risky. Everybody who's specialized in thinking about this issue, you know, is

saying that it's really risky, that it's an existential risk. I mean it's the sort of thing that could, if you develop just the general intelligence, it's just a short step away from becoming super intelligent. A general intelligence would be like a human intelligence, right? This is the way I gather it, but . .

In the general you mean?

Yeah, but this is a general intelligence within an enormous amount of power and computing power, you know, at its fingertips. OK, of course, what they're going to try to do is box it in, right? To control it, to . . . which, I mean, to start with, you're setting up the plot for this science fiction horror story, right? Because this artificial intelligence is, well, not a human being, but some sort of being, right? Is it even ethical to, it's, basically what they're going for is slaves, slave labor, you know? I think that it's totally unethical, and they're going to call them machines when they're actually intelligence, you know?

Yeah, where do you draw the line, you know, what's the difference between our own intelligence our own selves and if you have, not, something that gone beyond general intelligence, it's actually almost more intelligent than us.

Yeah.I mean it's so, that thing, whatever it is, would become super intelligent. I think you can't keep it in a box, right?

It just gets better and better. It's recursive and it just keeps improving, so yeah, once it breaks into advanced intelligence, then it will be very hard to keep it in the box.

Yeah, and we have no idea what sort of a personality or a character or. . . It certainly wouldn't be human, right? It wouldn't have like our billions of years of genetic evolution, right? and our limitations and our, no this thing could basically, if it wanted to destroy us, it could, you know.

And quite easily I would think.

So, yeah, so I think this sort of thing we shouldn't risk. We should not go that way, but I think they're going to try, they're going to try.

Yeah, you have so many, the competition not only amongst the companies, but also countries, I mean,

China, Russia, or any country that does develop a very effective general intelligence, well, they'll be working to improve it, and who knows, I mean, its competition. There's no world agreement that oh we have to, you know, to protect ourselves. It's going to be up to different companies, different countries and, yeah, who knows, I mean, it could be, . . .

Yeah, Google themselves, they're the leaders in this technology. They say they want it. So, they're trying to do it, okay? And nobody is trying to stop them. I mean this is insane, really, and China wants a decisive strategic advantage according to, I can't remember this writer's name who wrote on artificial intelligence, and basically they've been catching up. They have, you know, thousands of years of history of being number one in the world, right? And I think they want that back. They're incredibly nationalistic.

They're a little expansive anyway. They're definitely competitive in different ways, in various ways, and they want a strategic advantage. They think that they can get ahead of us. Of course, they're going to try to get artificial intelligence and maybe they think they can control it, you know.

Okay, well let's just look at what's happening now, I mean with Amazon and Google and everybody else is developing artificial intelligence. Elon musk, he's got these self-driving cars, he's against artificial, you know, developing artificial intelligence, by the way, but he's got these self-driving cars, or the general intelligence or the superintelligence, he's against that, but yet his company is worth as much as General Motors though it just produces a tiny fraction of the number of cars, you know. So, that artificial intelligence that he's got is worth a lot of money. The big data he's got is worth a lot of money. Everybody knows it. Everybody that thinks about this and that's investing in it knows it. So, and so that's already revolutionizing our world. It's just shaking everything up in a big way and so can you imagine them with the general intelligence or super intelligence if they're doing this much, I mean, . . .

Yea, we won't recognize the world in another 15 years or so . . .

I saw, okay, here in Spain the book companies got together yesterday, I think, the local book companies got together and had some sort of a big conference and I think the subject was more or less what to do about Amazon, because Amazon's eating their lunch. Ok? And, they have no ideas, really. nothing fresh.

Yea, there's really not much that they can do, I don't think. They're going to get plowed under by this, as will all of us. Shall we move on to another question? Is artificial intelligence bad for other reasons? What do you think? Gosh, bad for other reasons, I think we've covered most of the reasons it could be bad, I mean, putting out, putting so many people out of work.

Well, I think, you know, there's the political consequences of all this. I think, okay, once we start moving, move further down this, you can see, down this road, right, you can see, we see Brexit, you know, people are blaming immigrants. Nobody's talking about the effects of automation on their economies, right? Now, Brexit happened because of immigrants? I think it happened because of globalization and computerization not because or not so much…

People are losing jobs and then more immigrants there, they'll have at the least something concrete to point their finger at, right?

But, I mean, it's always the same whipping boy, right? They're always blaming immigrants and that's I think a bit racist. Maybe that's a topic for another day but, I think globalization, Amazon coming in, and all these other, you know, robots and all the factories, people losing their jobs because of this revolution, this ongoing revolution I think is likely to destabilize politics worldwide. I mean, I would say trump, I would argue that Trump . . .

Yea, I was just going to say that, I mean, right there with the all the yeah the of the strong one time once upon a time strong middle class just, you know, no longer finding

work and there buying power is shrinking by the month and they just become angry and this is what brought trump and if things get any worse, there will be Trumps and there'll be worse than Trumps, I suppose.

Yea, populists in general, yea, people like demagogues that come in and say okay the reason this is happening is because of immigrants, so build the wall and stop the Muslims and trade wars are good and all this nonsense. And really I think you know one of the main causes of any sort of instability that's going on is all there all these companies replacing workers with, you know, just this incredibly efficient system like what Amazon has, I mean how many . . . how many workers do they have, they have hardly any workers and look at the money they're making.

Oh, yeah, absolutely! It's just. . .

They're destroying all, okay, all that money they're making, that's money other companies could have made, right?

Of course, there's the question, where does the money go? I mean, does it go back into, you know, finding alternative employment, you know, for all the changes that they're causing. . .

What's he doing with his money? What's Jeff Bezos doing with his money? I mean, how many pillow cases can he buy, right? So, what I would say, what I predict, maybe I'm full of it, that have you seen the movie Elysium?

No, I have not, no.

Okay, well, it's kind of like the First World becomes the Third World, but you have this upper class which is what we have now, is this multinational people that don't pay taxes, you know, Trump lowered taxes to the one percenters in The States, for example, and they just take advantage of loopholes, international loopholes, to move the money around, not pay taxes anywhere, so I mean governments need taxes, right, tax income, because, well, I think at the end of all this, the only good solution is, well the main good solution is to have some sort of government salary or something, you know, a government issued salary.

We'll have to talk about that, yeah, or a minimum wage for everyone whether they work or not, and just to pump some of that money back into the economy and then people, maybe not enough for them to live the rest of their days not working, but certainly enough so that they're not to go hungry or maybe lose their houses and then . . .

. . . and a little bit more, maybe 1,000 or something.

Yeah, that is definitely, probably not, it's not to happen very soon the way things are but it certainly has been seriously talked about and is a possible solution.

Well, it's either that or we're all going to be awfully poor like so many other people in the world, in the Third World okay? Well, the world seems to work well, it works anyway, with billions and billions of awfully poor people, people that are just, you know, barely making it, barely surviving, and so that would be well, and I think in our democracies, those people are likely to vote for extreme parties like what happened in

Italy. There you go. And then the other danger there then is if governments become a little tougher, then you'd have artificial intelligence applied to big brother applications, right?, to creating like in China, you find the great firewall with facial recognition technology and they've got some interesting things there that they can develop and we wouldn't develop ourselves, so, they're obviously ahead of us I think in some of that technology. They say they have a system that can detect criminals nine times out of 10.

With facial recognition?

Well, I guess . . .

Known criminals or . . .

just from their posture, their body language, tone of voice, people that have criminal intent and that computers can detect intruders, you know, things like that, quicker than people. I mean, computers are already better than people at object recognition, right?

Yeah, that's true, yeah.

I mean, we could've talked about computers beating people at game shows, you know, like Watson.

Yeah, that was some time ago.

Yeah, that was a long time ago on top of it, and "Chess" and "Go".

Yeah, well the good thing at least a part computers being able to improve themselves continuously, humans can learn from well, for example, I think there's one example is one of the Go players, he said once he was, you know, defeated by the artificial intelligence, he said he learned a lot just from the moves that he had never even imagined, right? Chess players the same I suppose so there's always . . .

And you could argue that the artificial intelligence there though basic created something new that we haven't thought of before, so we're saying that they're not creative, but in a way, I have read about the things that they've done that have surprised people so we have a lot to learn.

Do you think we should stop the development of artificial intelligence?

Well, I mean, I don't think so, I don't think we can, you know, even if we could, there's so much good, you know, that could come from it. w

Let's talk about that then.

Yeah, just for, well, one example, food production, I was reading somewhere that by 2050 we'll need 50% more food and the only way to produce that was, well, just using computerized programs, artificial intelligence studying the satellite images, studying the soil, weather conditions and things and I was really surprised that I think like that one out of three farmers in the US, they are using this computer artificial intelligence program, I forget what it's called, but just planning their farming, of course,. . .

They're using satellite imagery, aren't they?

I think it's called farm logs or something like that, yeah.

And an enormous number of jobs have been well I don't know if 11,000 jobs on LinkedIn for satellites or satellite work in I think December 2017. So, with people I guess designing software or something or artificial intelligence to extrapolate some conclusions or something from that data, I guess. Yeah, we have some enormous problems that we haven't been dealing with very well like global warming, overpopulation, and then of course the Malthusian issue of how do we feed, what is it going to be, 9 billion people in 2050, that's the prediction?

I think I believe so, yeah.

That's if we don't kill each other off before then, if we can keep it all together, if we use AI for good reasons, as well as just . . .

Well, definitely problems that could be dealt with AI, but again with the imperfection of humanity and the competition, well I don't know, it's a 50-50 chance maybe we'll get out of this, I don't know.

Yeah, well I think I'm just so amazed with what they're doing and what Google's doing the voice recognition and real-time video streaming, you know, with subtitles, right? You get closed captions in real-time in video streaming. I think you know like phone calls where in a like a Japanese guy calls a Spanish guy and one speaks in Japanese and the other one hears Spanish. That's not too far off, although I suppose you'll hear, they'll be hearing some mistakes too. So, yeah, and something else that Google did was they reduced their power consumption in their data centers by 40% using artificial intelligence so there's no telling, you know, the number of good things, just how many good things that we can do with artificial intelligence and I would argue that for example self-driving cars are a good thing. I would think that eventually there are going to be fewer accidents and fewer deaths and it's going to be really difficult to be driving drunk, you know? I don't think the self-driving cars are going to drive drunk or on drugs. Anything else that we haven't mentioned?

Not for the moment but I'm sure as soon as we finish this podcast, hundreds of things will occur to us so maybe we can come back and talk about other related items

Yeah, in the future . . .

… rather than just in general.

Ok.

So, all right, well that's all folks. Thank you for listening today my name is William Christison and my cohost is Steven Starry, stay tuned for our next podcast coming soon.