

Artificial Intelligence and the future of work: A threat or a promise?

Interview with Uma Rani, Senior Economist at the ILO's Research Department and Enrique Fernandez Macias, Researcher at the European Commission's Joint Research Centre

Introduction by host:

Welcome to the ILO Employment podcast series, Global challenges- Global solutions: The future of work. I'm your host Tom Netter...and today we're going to talk about artificial intelligence and its possible impact on employment policies in the future of work.

Are we smart enough to manage the impact of Artificial Intelligence on the world of work?

It seems that AI is raising concerns in some quarters, especially in the world of work these days. But in fact, these concerns about whether the growth of AI is “a threat or a promise” have been growing for years. Is this concern warranted?

That's a good question, and there may not be any hard and fast answers right now. So, joining us today to look at this issue are two specialists:

Uma Rani, a Senior Economist at the ILO's Research Department

and

Enrique Fernandez Macias, a researcher at the European Commission's Joint Research Centre,

Uma, Enrique, welcome back. It's good to be speaking with you again. So, let's start this conversation by just briefly considering this- Some years ago, an ILO study referred to the threats and promise of artificial intelligence in the world of work. Is this approach still relevant? Enrique, what do you have to say about that?

Enrique: Yes, I think that it's even more relevant than it was at the time. We know we are hearing now all the time about a lot of progress being made, technical progress in terms of AI developments. There is also increasing application to all sorts of things, including in economic applications and in terms of employment. That means that we really have to look at the threats and promises that these new technologies bring.

I have to say that first, there is a disclaimer to be made here, which is that precisely because we are in the middle of a period of very fast change and things are changing as we speak, there's shifting terrain, I would say, it's a particularly open context and it's difficult to say something very definite about many of these things. In many ways, we speculate on how it sounds.

But I would say that for sure, there are even more promises of productivity and automation, of great breakthroughs in terms of science and things like that, which are incredibly promising, but also increased risks- risks of job displacement, risks of income inequality, changing power dynamics in labour markets and in workplaces, et cetera.

Tom: Thank you for that answer, Enrique. Uma, do you think that AI has the potential to transform employment in a positive way, or is this something that we don't have much information about at this stage?

Uma: Thanks, Tom. It's nice to be back on the Employment Podcast Series. And to your question, I think we don't have too much information at this stage, but I think there's enough for us to say that it does have a potential to transform employment, whether it is positive or negative actually depends upon the situation. Now, when I think of AI and use of AI, I think there are two ends that one needs to look at from an employment perspective.

One is a usage part, using AI for either accelerating your work or augmenting your work, but there's also the other side of it, which is generating the AI or developing the AI. I want to spend a little bit of time talking about that. When you talk about AI generation or development, there are two ends again. One is the high end where you have the computer programmers who are actually developing these algorithms so that AI can function, but you also have the lower end where you have humans actually trying to improvise because though that AI can be operating on a machine learning system and automatically learn from the massive amount of data that is put in, but still you need human verification, which is very crucial for accountability, and to ensure that there is no human automation bias that is there. What you see is that on the high end, you can have employment effects in a very positive way.

On the low end, you could have employment effects, but I think what's happening today at the low end is you have a number of developing countries which have become large experimentation of AI development to a very large extent. Here you find very highly educated workers actually doing the human verification, whether you're talking about image annotation for driverless cars, or you're talking about content review for ChatGPT or content moderation for many of these platforms. These are done by highly educated workers for about less than a dollar per hour. So, yes, employment generation, but probably not the right way for many of the developing countries.

Tom: Thanks, Uma. Well, I'd like to talk about ChatGPT. But first of all, last year you participated in a podcast with Enrique where we talked about the increase in algorithmic management. So, I just wanted to ask you to touch briefly on this. Is algorithmic management a form of artificial intelligence? What does this mean?

Uma: Okay, I think this is very important for us to lay down before we get into this entire discussion. An algorithm is a set of predefined rules which have to be followed in a sequence to solve any kind of problem and can be used in any situation that is susceptible to any service standardization and coding basically. That's where algorithm comes into place. Now, what's happening with the digitalization is you have massive amounts of data that is being collected, and you also have computers that can process at great speed and magnitude and complexity that you never saw before.

They can really solve a whole range of real-world problems in a way. Now, once you have that algorithm, that can then be used for management purposes. The minute you start using that algorithm, which in some sense, fed by the data, it can be used to manage certain work processes. It can use to surveil or monitor or try to control workers, and that's where it becomes actually algorithmic management. You can define

algorithmic management as use of computer program procedures to coordinate work in a particular organization.

Now, again, this is not new. We did have data-driven management decisions even earlier in the 1980s where it was used both for business decisions, as well as for management decisions within the business process outsourcing industry. There it used to be called as the algo-cratic governance.

But I think what's become very problematic is as it is governed by certain rules and can be implemented very automatically without human intervention, it has some benefits in the sense that it can improve the efficiency in work organization, but it can also have a number of risks where you can create quite oppressive work environments as many of these algorithms are opaque and quite incomprehensible to workers. It might not be necessarily to the beneficial of the workers, and I think that's where it becomes very problematic.

Tom: Well, one of the issues that has come up also in this whole conversation is the issue of the impact of ChatGPT. To move along, I wanted to ask Enrique about how do you see the influence of ChatGPT on different kinds of workers?

Enrique: Yes, thanks, Tom. Well, in general, when speaking about the impact of recent digital technologies, research has tended to show in recent years that they tended to favor inequality because they tended to be complimentary to high skills. And in that way, the initial discussion with this new wave of AI was that perhaps something similar would happen. These new AI tools to the extent that they are complimentary to high skills, they would be particularly beneficial for high-skilled workers and in that sense contribute to increasing inequalities in the labour markets.

Now, something that we are starting to see, and there's still not much actual hard evidence on this, so there is a bit of a speculation here, but I think that large language models such as ChatGPT, one particular thing that they have is that they are amazing cognitive tools in particular for broad language and communication purposes.

In that sense, they tend to facilitate a better structuring of communications, avoiding spelling mistakes, a number of basic cognitive skills that for the higher skilled, the higher educated people in the labour market, these kinds of skills are not so much factors of differentiation. But at the middle and in particular lower scale, lower parts of the labour market, these may actually be very useful, very beneficial.

Something similar happens, for instance, with language, with being able to speak different languages. This is something that has been for many years a differentiating factor of higher educated workers. This is something that it seems that advances in AI may make language barriers disappear effectively in many ways. This in some ways is something that some people are starting to argue that this could then act as an equalizing factor rather than as a factor that may impact in terms of increasing inequality as previous digital technologies.

This is an example of the kind of openness that I was mentioning at the beginning of the discussion, that we are in the middle of changes that are really so disruptive in many ways that it is difficult to tell where it will go. Now, this possibility that some of these tools, these large language models and AI tools may have an equalizing rather than an inequality enhancing effect, of course, also depends, and this is very important, on the ownership and access of these type of models, of course because if these are difficult to access or if these remain under tight control by corporations that charge a lot of money for them or whatever, then these kinds of effects may not in fact happen. Of course, also what Uma was saying before, these tools can also be used for managerial purposes and that can have very different types of implications.

Uma: I'd like to come a bit on this take on the equalizing effects. In a way, yes, it could be equalizing for those who don't have the capabilities of having good writing skills and all of that. You can extend this argument and say that today ChatGPT has a lot of programming codes because you have the entire Bitbucket and GitHub basically fed into it, and it has its own learning models to actually further develop it. But I think the basic for one to even use a ChatGPT for programming would rest upon the basic principle of having knowledge on software programming and coding.

Because if you don't have that basic knowledge, the ChatGPT can spit out something, but there might be a number of errors in those software coding and programming. You use it and you figure out, well, it doesn't really work. You need to have some inherent knowledge about many of these things. Otherwise, I fear that you would be only at a superfluous level, but not really having an in-depth knowledge.

Tom: Well, there are a lot of issues here that you've both raised in these two answers, and I would like to talk about gender balance and achieving social justice. But before we do that, I'd like to ask you about another issue that you've raised, which is it sounds like this kind of application of artificial intelligence would have more influence in highly digitized economies. But what do we know about the possibility of growth of artificial intelligence in economies where there is less digitalization? Is it

growing there as well? Why don't we start with Uma, and then Enrique if you'd like to join in?

Uma: I think to an extent it has started to gain ground in those countries too where there's digitization, probably not to the extent to which you see in highly digitized economies. I think it's being used exactly for the purpose that actually Enrique was talking about, how it's very easy today to ask ChatGPT to write certain things and you can get it. You can see that utility being there. But whether that's the right direction is again something that we need to see.

But you don't see a number of other AI recruitment policy tools or other tools being utilized in these economies as much as you see with ChatGPT. But again, the point is that as long as it is open and free, you can see people utilizing it. The minute it is monetized, it actually constrains the number of people from using it because you have to pay in dollars, which is beyond the capacity of many people in these economies to actually pay for it.

My guess would be then it would further increase inequalities actually between not only those who have the knowledge and those who don't have, but also between those who can afford to pay and have it and those who do not have the wherewithal to pay and utilize it. I think there's also a fundamental question that needs to be raised within it, which is the ethical moral question about using this kind of a ChatGPT for certain purposes. I think we are not yet in a debate in our society to think about that or to have that discussion.

Enrique: Maybe if I can comment here, I think something that is important and in some ways it's in the back of all this discussion is also the whole issue about the ownership of these models, where do they actually reside, and who is developing them. Because it is true that these models are potentially... They are immensely powerful, and there are lots of ways in which the same way that these possible equalizing effects that I was mentioning before, you can imagine it in workplaces in developed economies.

You can also imagine these in developing context and imagine these types of technologies being used to kind of leapfrogging processes of development as they sometimes say, and using some of the really, really advanced technologies without going to the intermediate phases and then using these to really increase your capacity for growth and development. But it's true.

Something that would worry me in that context is that if in the end these models are always developed and owned and maintained and everything in developed economies, then in the end, that in itself can have negative effects, because then developing economies would be just users of models that would be developed somewhere else with different objectives and different goals, et cetera.

I think that an important issue here that we haven't touched upon and that may be very important in the future is that I think it is crucial that apart from the well-known models such as ChatGPT, et cetera, et cetera, there are some of these other alternative open source models that are being developed that are normally based on free underlying algorithms and software packages and everything that can be used by anyone. This is something that is actually developing very, very fast.

Some of these open-source models, which are completely open for use by anyone, and actually in some cases you can download them in your local PC and run it locally from your own location, I think this is very important when we are discussing the possible effects of these kinds of technologies and in particular, for instance, in the case of developing economies. Because the possibility that these alternative open-source free accessible models exist may create the possibility of developing these models also from the Global South or from these developing economies as well.

Uma: Just a point to be added to that is even when we talk about leapfrogging in developing economies, I guess this leapfrogging is only for the high end, large companies who can afford to actually utilize and develop it and go, but it leaves behind a large proportion of the population as we move ahead. I think there's a far less discussion I feel on the development phase of these AI tools. There are lots of errors that are there in these AI models.

To ensure that there is high rate of accuracy, there's a lot of human intervention, as I mentioned before, and I think there's not so much of attention that is being paid today to how we are developing these AI using highly educated workers in developing countries.

Though these models are being developed for those in the Global North, I think there's a huge digital sweat shop of labour in these countries that actually goes about ensuring that everything is accurate, so that the algorithm can automatically learn from these machine learning models. I think that, again, needs some attention and raises some questions around social justice basically.

Tom: Well, picking up on that reference to social justice, how do you see the impact of AI on gender balance, for example, as well as achieving social justice, or do you think that AI could lead to more workplace polarization?

Enrique: I mean, on the one hand, AI and, in general, the use of algorithms for decision-making is, as we said in the beginning, there's always this promise and threats context. In many ways, in making decisions at the workplace and in particular for issues such as gender balance or issues of justice in the workplace, you want in many ways to make sure that the decisions are balanced and even neutral and are based on clear predefined rules which are applied equally and fairly to all kinds of people.

In some ways, using automatic system, algorithmic systems, even AI systems, in some ways, these can be positive in principle because they can be made also more neutral. This is something I remember at the beginning of discussing the use of algorithms at work, et cetera, that this is something that used to be mentioned. Now, over time, what we came to see is that first, these systems, and in particular AI systems, they tend to build on previous practice and accumulated knowledge in order to be trained and take their decisions.

And this means that in practice, to the extent that the preexisting practices and knowledge were biased themselves, often that means that the AI systems taking these decisions tend to be biased as well. In a way, that's not desirable because you just keep on reproducing the preexisting patterns of, for instance, gender discrimination or inequality or whatever. But also, they have the problem, in particular, in the case of AI systems of being relatively opaque. In many ways, what these systems do, that's why these are self-taught systems in many ways there is a closed and black box behind decision-making in these systems, and this means that the decisions are made in a way that is so opaque that is very difficult to really understand why a particular decision has been made. This is something that tends to be unacceptable in terms of decision-making when it affects people and when it has an impact on issues such as gender balance, et cetera. This is why in the end, again, there are promises, but there are certainly threats in this case.

Uma: I think I would agree with what Enrique has said, and this is something very similar to what you would see on AI recruitment tools. You see that there are inherent discrimination rules that are there. As long as these AI tools have some sort of a discrimination, you cannot really address some of the issues about gender balance or gender discrimination or bringing about social justice.

I think one of the fundamental things that you really need with regard to this is having some transparency around the algorithm, transparency around the fact as what is the source of the data and how this data has been developed or used, what are the indicators that are deployed within it, and what are you using in this entire process. Listen, until you disclose many of it and are transparent and are abiding by many of the data privacy rules, it's impossible for you to get into having gender balance or social justice.

I want to touch upon a point here. Even when you think about having AI to ensure that there is no polarization or anything at a workplace, what are you setting that AI at? You are setting that AI at an efficiency level, right? If I'm working in a workplace, then it's about productivity and how do I reach the productivity. There's nothing that counts as to how I reach it. I want by the end of the day X number of outputs. Now, how you attain that can depend upon a number of indicators- ethical, unethical, whatsoever. I think that becomes very problematic with many AI tools that are coming in.

Tom: Well, I think we can all agree that there are for as many answers, there are also questions here as well. How do we answer those questions? What kind of research do we need? Enrique, would you like to talk about that?

Enrique: Well, right now what I can say is that we need a lot of research on all of these things. Because as I was saying in the beginning, basically even the last few months, there has been this big leap all of a sudden, in particular in large language models, but also all sorts of associated technologies. What I have seen is that many of the previous findings are being in many ways challenged by these new technologies.

I mean, for instance, until not so recently, we were talking about how digital technologies may in particular replace some type of repetitive tasks but not be particularly good at doing any kind of creative tasks. Now, what we have is these systems which you can prompt in order to help you massively in terms of also creativity and social interaction tasks, et cetera, et cetera. In many ways, many of our prior are in need of revision. At this point, what we need is to keep on researching these things and keep on thinking about what are the implications of all of these changes because without knowing that, it's difficult to know how to regulate them.

I mean, for the moment, what I would say is that what we can try and do at least while we are thinking about this is try to maintain and reinforce the structures that we have in our societies in order to deal with some of these changes in ways that are more beneficial. I mean, I was surprised recently, I don't know if you've heard all of this issue

about the writers' strike in the US, and it was very interesting. Because in the end, the final agreement that they reached was very interesting in terms of the potential policy in the area of AI and the impact on work. Because basically one of the agreements were that the writers would themselves have the right to decide when to use AI in their work and how to use it.

This is a way giving a say to the workers themselves who are the ones that would be complimented or whatever by these technologies and negotiating these technologies and their potential implications can be a way to, in generic terms, to respond better to these changes. Because when we don't know exactly how these changes will be, it is difficult to actually come up with regulations. But at least with these systems, at least we should try to ensure that whatever solution we come up is a solution that is negotiated and agreed by the people affected.

Tom: Okay. Just to wrap up, Uma, a last word.

Uma: I just want to add to what Enrique is saying about the next step forward and how do we go about it. I think it's very right. We need to first understand how these AI tools are being used in workplaces. We do need systematic research to be undertaken across a number of multiple sectors and in a number of countries, both developing and developed, to see how these tools are being utilized, who utilizes them, how does it actually help them.

Only then can we have really an understanding about what kind of impacts would it have at workplace or the employment per se, whether it really helps to accelerate or augment the work itself, or is it leading to a displacement that you see at the workplace or not?

But I think to come to any conclusion, to me, it would be very fundamental and important to have systematic research to be undertaken. Thank you so much for having us.

Tom: I think that's a good place to wrap up here. I wanted to thank you Uma as well as Enrique for sharing your thoughts on this very compelling issue. It's always a pleasure to speak with both of you.

So, it seems that right now, we're at the point where the main thing we know is that we need to know more about the impact of AI on the working world. And what also

emerged is that we need to see how the AI models continue to develop, as well as the ethical and moral questions, and also the potential inequalities that need to be addressed. But it's also clear that we'll always need real people to make sure that what we get from AI is what we need to make the world of work a better place.

This isn't science fiction. It's a fact. Will AI be a threat or a promise in the future of work? From what we've heard today, my guess is it'll be the latter.

I'm Tom Netter, and you've been listening to the ILO EMPLOYMENT podcast series, "Global Challenges, Global Solutions: The future of work". For more on this, go to www.ilo.org/employment. Meanwhile, thank you for your time.