

Reflections on AI

Q&A with
Manuel García-Herranz

“It is very important is to focus on quantifying inequalities.”

The TUM IEAI had the pleasure of speaking with Manuel García-Herranz, Chief Scientist at UNICEF’s Frontier Data Initiative. He holds a PhD in computer science from the Universidad Autonoma de Madrid. Mr. García-Herranz joined UNICEF in 2014 and has been since working to bring the value of Big Data to UNICEF, leading research at UNICEF’s Office of Innovation and creating collaboration networks and Data Science tools that focus on the problems of the most vulnerable children.

1. What is the biggest misconception about AI?

That is a complex question. I believe that probably the biggest misconception is that AI is not a solution in itself, and it is not a problem. Some people say it’s a toolbox. But I would say that, at this point, it’s more of a discipline, a field, and that means that it’s still developing. It needs very well defined problems, and it needs environments that are capable of defining those problems and training those situations. From a humanitarian development perspective, for example, the biggest misconception probably is that you can order AI; you can take AI and apply it without actually changing the building blocks of an organization.

Probably from an AI practitioner’s point of view, it’s the same type of misconception: that I have a solution and that I can apply it somewhere else without acknowledging that you need a system in place already that’s able to accept and run that AI.

2. What is the most important question in AI ethics right now?

I would start thinking about what do we really mean by AI ethics? There are two different ways of seeing these; the first one, and probably the most obviously relevant, is AI that doesn’t do bad, and there is a lot of conversation going on there. But then there is the second component: AI that does a lot of good. In that sense, I believe that it’s probably for me the most relevant (question) because it’s that cost of opportunity. When we develop globally, our brains and our talent into doing AI for certain things, we are not developing those for some others, and what’s happening is that we are seeing these two split worlds, in terms of AI development. We are seeing a world in which new advancements and new opportunities are coming up each day and we are seeing another one that is every day getting less in that regard.

I think we are quickly advancing towards ethical considerations of AI by action, so not developing AI that does harm, that discriminates, or that incurs in privacy considerations, that is AI that is not bad. But, we are not advancing that much on acknowledging those two different split worlds in which some people getting that attention. I believe we are talking a lot about diversity and inclusion as the value for AI and we are still slowly but increasingly thinking about that kind of individual diversity. But, we are not still thinking about the systems diversity: like

geographical diversity, like where, besides private sector, besides in certain countries, is AI being developed and that incurs in some of the issues by inaction, not developing AI for certain things, when we overdevelop AI for certain others.

3. What are the major ethical concerns related to the use of AI for humanitarian work?

It is a very sensitive context. One important thing is that, in my opinion, AI for social good is a field as new for the AI community as it is for the social good community and in humanitarian situations, this is especially visible. Humanitarian situations present one of the most challenging settings possible. I was talking before about issues by action and issues by inactions. In humanitarian settings, information is normally outdated, data is scarce, you need to act quickly. So not doing certain things can mean that you don't avoid harm, you don't save people's lives or you don't do things that are critically needed.

At the same time, vulnerabilities are exacerbated and vulnerable communities become even more vulnerable, and therefore information can be misused if they are wrongly placed in those systems, and a false sense of information might make the most vulnerable even more invisible. So, I believe that humanitarian situations are one of those environments in which we face that super critical challenge of action versus inaction and at the same time realize that the AI community is not used to working in humanitarian settings and organizations who are used to working in humanitarian settings are not familiar with AI. I believe the major ethical concerns are always putting people first, that's the first thing, but most of them comes from the lack knowledge of both communities.

4. In working with UNICEF, what opportunities or challenges do you see in particular to AI interacting with younger populations?

I believe that on the challenges, you can just take the challenges of an adult interacting with AI and multiplying it by 10, right? Because you have representativeness, and that means that adults are not in the data, well most children are underrepresented in the data even more. So if you were thinking of forecasting models for an epidemic that builds on top of data generated automatically by humans, then children are not going to be in there.

Children do not have a voice, they are not active members of AI building in general, so that is another extra challenge. Also children are learning about how the world is, what human beings, about society are in general. In an AI mediated society, AI has an impact on everybody's perception, but mostly on children, on education, on how creativity develops.

On the opportunity side, any one of these issues is also an opportunity. AI becomes an opportunity for empowering children's voices, so that you can enrich what children are saying with context and make it a global voice rather than an individual voice. You can increase data by generating artificial data that is more likely to resemble what young people do, so that algorithms and models incorporate more of what young people need and for creativity the same.

I believe that they are not that different from adults, it's just a matter of scale and a matter of voice. In that sense, it's a matter of paying much more attention to what young people need and what young people

are. Precisely because they are not an active community in AI development.

5. How might we begin to close the inequality gap when it comes to the north/south divide in deriving benefits from AI?

The inequality gap, it goes back as I was saying to the capacity gap, to the fact that most AI talent is clustered in a bunch of countries and in a bunch of business models. That is what makes it so difficult to even understand why these technologies might not work in certain situations. So, the first thing I would say is some bridge in the capacity gap. We need to be able to build more AI teams in ministries of health, in development organizations, to empower start ups that are in developing countries and in low income economies. Because if we do not have that ground, it is almost impossible for any of the solutions first to take root on those systems, and second for those solutions to actually work on those systems. So collaboration and capacity building is one.

Secondly, it is very important to focus on quantifying inequalities. We are seeing that with a very high-income country lens: what do we mean by diversity, what do we mean by discrimination. But, it's the right avenue to develop more research into what are the inequalities and how do we quantify them. Just to give an example: reporting accuracy of an algorithm, they are hiding a lot of inequalities in there. Being able to understand the existing state of the algorithms, and how unequal accuracy results are, gives us at least one initial step into closing that gap.

So, I would say first quantify AI inequalities and develop more scientific work to understand where they are and how big

they are already, and second on bridging that capacity gap. Thinking less on problem owners, and solutions developers and begin thinking more on what joint ecosystems we can create within those problem owners so that they become a little bit more of the solution developers too.

6. We often say that AI is changing or transforming the world. To what extent is AI changing us as humans?

That is a difficult question, this is not just AI. AI is the last evolution of a data algorithmic driven society that we are have already for a while. Probably AI just makes that one aspect scale up, and second it makes it a little bit less transparent. The algorithmic mediated society in which we are interacting more with each other through platforms governed by algorithms is affecting in many ways how we understand truth, the way we develop our creativity and the way we value others opinions. We have seen polarization in general, that is one potential effect that we are seeing in this algorithmic mediated society. More and more what AI can bring will affect the way decisions are made, not just by an individual, but also by society in general. That means that people will go for contemplating and understanding what this social ecosystem looks like, where the balances lie and where we value our society. On the individual level, it is clearer already, in the sense of how we understand truth and how we develop our own creativity.

Meet the Expert



Manuel García-Herranz

Mr. García-Herranz currently is the chief scientist at UNICEF Office of Innovation (NY). Previously he has worked as assistant professor with the Department of Computer Science of the Universidad Autónoma de Madrid (Spain) from which he received a Ph.D. in CS in 2009.

Manuel García-Herranz is deeply interested in human behavior and dynamics, particularly in the study of computational social networks, complex systems and behavioral dynamics and in how new types of data and analysis can be used for human development, to reach the hardest to reach and provide humanitarian awareness of places in which traditionally there is little or none.

After a year as visiting scholar in Carnegie Mellon University and a brief stint in the University of California San Diego he is involved in the study of epidemics in information networks, digital fingerprints of socio-economic factors and stressful events and advocating the digital exhaust for human development.