



EP. 57: The Intersection of Human and Emotional AI

VIDEO TRANSCRIPT

[00:00:01] **Dr. Rana el Kaliouby** The responsible AI mindset has to be implemented at every step of the process. So, for us, it starts with the data.

[00:00:13] **Sanjay Podder** Hi, I'm Sanjay Poder. I am the managing director for sustainable technology and also I work in the responsible AI space. Today I am very, very excited to have a colleague, a good friend of mine, Doctor Rana el Kaliouby, and what I want to do is talk to Rana about all the exciting work she's doing in the AI space and responsible AI in particular. Rana is known for humanizing AI, and as she says, humanizing AI before AI dehumanizes us. Why not hand it over to run a Rana? Tell us a little bit more about everything that you are doing.

[00:00:56] **Dr. Rana el Kaliouby** Thank you, Sanjay, and thank you for hosting me at Accenture. We're both Eisenhower fellows, and you've been really generous with your time and connections while I'm in India. So, Eisenhower fellowships, as you know, but maybe others are not aware, sends a few people from the world to the United States, but also some people from the United States to the rest of the world. And so, my fellowship is about exploring the AI tech ecosystems and its with a lens on regulation and responsible AI. And I've spent some time in Belgium, so I got really familiar with the EU AI act, but also now I'm spending time in India, and it's been amazing. My mind is blown away by the innovative spirit and the kind of the energy that's around India in terms of bringing digitization and especially AI to the country.

[00:01:50] **Sanjay Podder** Wonderful. And, you know, the very first time I heard about you was

maybe four years back, when I was in Accenture Labs. It was the wonderful organization you led called Affectiva Emotional AI, and we used emotional AI in so many different scenarios. Tell me a little more about emotional AI, especially given that AI is so multi-modal. We always think about maybe, natural language processing, text, video, you know, but there's a lot more than that. Can you talk a little bit about your work on emotional AI and also from a responsible AI point of view, you know, how do you handle something like emotional AI?

[00:02:39] **Dr. Rana el Kaliouby** Yeah. So, as you said, I've been on this, gosh, like, 20-year mission to humanize technology before it dehumanizes us and to kind of situate all of that, I want to go back to how humans communicate. So, if you think of human intelligence, your IQ, your cognitive intelligence is really important. But your emotional intelligence, your ability to tap into other people's emotional experiences and adjust your behavior accordingly, that's actually even more powerful and even more important. So, people who have higher EQs, they are better leaders. They're better partners. They lead happier and more professional and successful lives. So, as it turns out, the way humans communicate is very multimodal, right? Think about it. Only maybe 7% of how we communicate is in the actual words we use. 93% is nonverbal. It's everything from your facial expressions, your vocal intonations, your hand gestures. But today technology is kind of blind to all of that, right? Like we focus on the text so much and we're forgetting all these other modalities and channels of



communicating nonverbal information. And so, I spent the last 20 years focused on that 93 percent, on trying to capture our facial expressions, our body postures, our voice and our vocal intonations and bring that into technology.

[00:04:04] **Sanjay Podder** You know, is the data representative of the population the AI is supposed to serve, right? And whether there's a bias in the way we have trained the model. So, there are so many different aspects. And you brought up a very important point, 93% is about your emotions when you are interacting. Now, you also mentioned about the EU AI act, and I'm just curious, what did you find there? Does it even address the emotional AI part? What caught your attention, what you liked and what you thought 'gosh, they could have done this as well or added this part as well. '

[00:04:49] **Dr. Rana el Kaliouby** Yeah. You know, there's a whole chapter, like a whole section in the AI act that is about emotion recognition technology. And when I first saw that, I was concerned that they would just completely, you know, ban emotion recognition technology, which would have, of course, dire implications for our business. But, actually, it's not at all that. I've been along, you know, very like, what do you call it? Like a huge advocate of thoughtful regulation because I think we need to regulate these technologies. I mean, your emotional experience and the data, it's so powerful. You could use it in many amazing, positive ways. We'll talk about that. But you could also discriminate against people, and you could really manipulate people. So that section on emotion AI is all about using emotion technology for surveillance and, basically infringing on people's privacy because most of the time people don't even know that this technology is being used to spy on them. So that I agree with. I love that it's in there. I think it's done very thoughtfully. Other applications where it's also like kind of covered is using emotion AI in the hiring process because of the technology's bias, you know, the resulting hiring decisions could also be bias. But you've thought about, I mean, you've thought about ethically sourcing data and the bias problem for a long time as well. What's your experience been?

[00:06:16] **Sanjay Podder** I think that's a very

good question, Rana. In fact, there have been multiple, you know, works that we have done in the social good space where we had to make sure that we are building the system in a very responsible way, right? And I can remember, you know, an app that we created in India called the Internet of Bird, and it would identify all the birds, a thousand bird species in India. Now, I could have built that app very rapidly by sourcing the images from Google. But the first thing we asked ourselves, you know, there may be copyright on those images as well. Can we even use that data? And then, we had to launch an entire citizen science program so that we sourced this data from citizen scientists, people who would contribute it towards the effort of creating the model that will recognize birds of the Indian subcontinent. It did take us time to build that, but the process was really engaging for people, you know? They wanted to contribute. And at the end of it, we created not only a nice model, but we created many birders who for the first time had AI to help them identify some of these birds they encounter. So that was one. That's one example. The other example is a couple of years back, there's a very nice new museum in Bangalore, and we helped them create a digital persona of one of India's foremost artists, MF Husain. He's called the Picasso of India, and he's no longer alive, but we had to create a 3D holographic with generative AI, so that, you know, even children will get attracted to go and interact with MF Husain. Now, you know, we had to source. Very few videos were available and voice samples were available. But we made sure that, you know, we talked to the owners, the rightful owners. The museum took a lot of effort in ensuring that we are using the data that is available to us, and that is given to us by the owners of all those assets, right? And then we could generate the digital persona of MF Husain. Now in all this, you know, we made sure that responsible AI practices are kept at the center of the development process. You know, it cannot be an afterthought.

[00:08:56] **Dr. Rana el Kaliouby** Exactly.

[00:08:58] **Sanjay Podder** One might say that at times that may be a trade off, as Internet of Bird. It took us a little bit more time. However, you know, we got creative around it, and it gave us a bigger outcome than what we had set out for.



And so that's the interesting bit and probably my question to you would be, as we go about implementing AI, which is becoming so pervasive and with ChatGPT so democratized....

[00:09:27] **Dr. Rana el Kaliouby** Right.

[00:09:29] **Dr. Rana el Kaliouby** How do you, see responsible AI practices being used? You know, are people ready today? How will they be addressed?

[00:09:41] **Dr. Rana el Kaliouby** Yeah. You know, I loved what you said, that you can't do this as the final step of the process. It has to actually...like the responsible AI mindset has to be implemented at every step of the process. So, for us, it starts with the data, right? Implementing consent, making sure that the data is not biased. You know, one example that's a little bit kind of similar to what you've been sharing. We do a lot of work in the automotive industry, and one of our partners is an international automotive brand. And a few years ago, they sent us a data set to train and test our algorithms on, and at the time we were a small startup, we couldn't really, you know... we really needed this partner, right? But I took a look at the data set, and I remember thinking, wow, it's so non diverse. Like this is an international automotive brand. It's not representative of the drivers and the owners of the vehicles. So, at that point, as a small startup, we had a decision to make. We could just run the data. The results would be great because it's a very easy data set. They were all like, you know, young, blond, blue-eyed men probably, you know, they are engineers somewhere in Europe. So what we did, we sent the data back and we said, you know what? This is a very biased data set. It's not representative. And it took longer because now we had to go out and collect a more global data set and ensure that we've got, you know, gender diversity, age diversity, people with glasses and beards and hats and headscarves and whatnot. So, it took a lot longer and it cost more money, but I think it was the right thing to do for both companies. And so that was like step one of the process. That's just the data set, right? But at every step of the way, you have to build these knobs to ensure that the algorithms are not biased, that they're explainable. Trust is a big you know....It is a big factor here too. And

when I was CEO of Affectiva, before I sold the company, I actually tied the bonus, my executives' bonus not just to driving top line revenue, but actually to implementing these things across the organization. So even my chief marketing officer, her bonus was tied to ensuring that as a company we were thinking about these things, not just the engineering team or not just the product team. So, I think it comes from the top. It has to be a priority. And you're right, like, we have to recognize that sometimes it might slow us down or it might take more funding to get to the point we need, but I think it's the right thing to do. But you're doing this with, you know, I did this, like, within my scope. You're now, you know, at Accenture. You do this for many, many companies. How do you convince them that this is important?

[00:12:32] **Sanjay Podder** Organizations today, they are realizing that number one, there are regulations coming, right?

[00:12:39] **Dr. Rana el Kaliouby** True.

[00:12:39] **Sanjay Podder** And you spoke about the EU AI act and the US government signed an executive order for the same. I heard Prime minister of UK, Rishi Sunak talk about the AI safety institute, and the summit. And so, you know, this is all around us. So, businesses are realizing that there are regulations coming. The society expects them to use AI in a responsible way.

[00:13:10] **Dr. Rana el Kaliouby** Yeah.

[00:13:11] **Sanjay Podder** AI is a big differentiator. So, they will have to use AI, but they will also at the same time have to use it in a responsible way. And every other stakeholder of the business, whether it is the consumer, whether it's the vendor or their own employees, they want to be associated with an organization that uses technology in a very responsible way.

[00:13:35] **Dr. Rana el Kaliouby** Yeah.

[00:13:35] **Sanjay Podder** So, I don't think, the challenge is in convincing them that they need to

do responsible AI, but the challenge is more on how can they do it, you know? Because this is new for all of us, right? How do you make responsible AI the new normal? What can be the adoption pathways? And would love to hear from you, Rana, what have you seen about adoption of this? You know, I know you travel around the world. What are you seeing there?

[00:14:09] **Dr. Rana el Kaliouby** I mean, honestly, it's a lot of the transformation is how to become even an AI driven or an AI first organization. And the steps include like understanding where your data is, right, and how to warehouse this data. And so, as part of that process, it should be one of the check items on your checklist is to say, okay, am I kind of considering privacy? Am I considering trust? Am I considering, again, how are you sampling and leveraging this data set? Is it biased in any way? So being thoughtful about that. Then you get on to like, okay, how are you drawing insights from this data set? And then how are you then deploying all these technologies and again being mindful about are you infringing on people's privacy? Are you using this to manipulate people in a way that's not thoughtful or that can hurt people in certain ways? So, I think at every step of the process, as an organization becomes AI driven or AI first, every step should really include this very being intentional about responsible AI, but that's all I would say. That it's all-in service of ensuring that the AI you're building is both smart but is also responsible. I think there's a whole different space in responsible AI, and you're a leader in that space, which is green AI. Like how do you use AI to really transform both people's lives, but also like the world around us? And I focus more on the people side. So, a lot of the applications of emotion AI around mental health and helping people just be healthier and happier individuals, that's a lot of my focus. But you've focused on the world too, and nature. So, tell us more about that.

[00:15:52] **Sanjay Podder** Well, on the environmental impact, which largely goes unnoticed but, the fact is that, while AI is very powerful at the same time, it needs a lot of energy, right? And it also results in a lot of emission. In fact, there was an MIT study that said training a single AI model can take as much as it causes as much emission as five cars in their lifetime.

[00:16:22] **Dr. Rana el Kaliouby** I don't think people realize that, right?

[00:16:24] **Sanjay Podder** People don't realize. And I saw another data point from a similar study that was released post ChatGPT, which said that every 20 to 50 inferencing we do, it needs half a liter of, you know, water to cool the data centers.

[00:16:40] **Dr. Rana el Kaliouby** Yeah, crazy.

[00:16:40] **Sanjay Podder** So there's a lot of pressure on the environment. And, in green AI, that's what we are exploring, you know? We can do AI. We have to do AI. AI is going to be pervasive, but without, you know, impacting the environment. What are those design decisions? And across the lifecycle of AI whether the choice of the models can you do green prompt engineering? How do you use virtual machines, which consume less energy, or they have the chipsets. A lot of technology companies are creating chips which are fine tuned for training AI models, deploying AI models, for example. And not only do they take less energy, or they emit less carbon, they're also lower in price. So, there's a lot of things you can do across the AI lifecycle, thereby bringing down the emissions related to AI training and inferencing. Because one thing that, you know, we have always been talking about training, but what I am also observing that inferencing.

[00:17:53] **Dr. Rana el Kaliouby** Right.

[00:17:53] **Sanjay Podder** A lot of studies after the large language models inferencing takes even more energy, and given the number of requests and emissions, right... So, sustainability is a key, I would say it's a concern, a first-class concern in the responsible AI spectrum, where we have traditionally focused a lot on the human aspect, you know, which is very important. But we also think sustainability is a key part of being responsible in AI.

[00:18:25] **Dr. Rana el Kaliouby** Can I can I build on that? Because one of the things I saw in Belgium, which was very inspiring, I visited IMEC, which is one of the, you know, one of

Europe's flagship semiconductor companies. And they have a whole research program building and exploring chips, AI chips that where AI models can be trained with a lot less compute and maybe trained on the edge and requires just a lot less energy. And the other example that I came across is what's called liquid neural networks. This has been work championed at MIT, and they're actually spinning out a company now called Liquid dot AI. And their models just require a lot less data. They're a lot more efficient compute wise. So, I think you're right. We're going to start seeing a lot more innovations in the space. And, you know, I can't wait to see what comes out of it. That's definitely the right approach.

[00:19:22] **Sanjay Podder** Absolutely. And then, finally, I would love to hear a little bit more on your Eisenhower fellowship journey in India. What is it that you found out? What are the interesting things you have observed both in Belgium and in India? Tell us a little bit more on your fellowship journey.

[00:19:41] **Dr. Rana el Kaliouby** Yeah. So, I spent a couple of weeks in Belgium, and I would say my key question there was - because there's a lot of focus on AI regulation, like Europe really wants to be ahead of the game, like lead the world as it relates to AI regulation. So, my key question there was, okay, does regulation stifle innovation and how do you find that right balance? And I think I did see a lot of examples of very cool AI innovation and AI startups and AI incubators and accelerator programs. During my time in India, I got to visit India's first ever electrical truck, which, you know, made in India. Hashtag made in India. And then I also saw the Machani Robotics lab, and they're building a humanoid robot, particularly for the elderly population and dementia patients. And again, they're building the software and the hardware for the robot end to end in India. And it was just like 20 roboticists and mechanical engineers and electrical engineers sitting 3D printing the fingers of the robot. And I was just like, I did not expect to see that in India. So, I've just been really yeah, I've just been really impressed and inspired by all the things I'm seeing here. But I will have to say one thing. You know, they

encourage you on your fellowship to also do something that's off the beaten path, like, unexpected. So, for Belgium, I got to tour a chocolate factory. You know, I don't drink, I don't smoke, but I love chocolate. So, I got to do a behind the scenes tour of a chocolate factory. And I wrote a white paper on how do you bring AI and chocolate together.

[00:21:18] **Sanjay Podder** There you go.

[00:21:19] **Dr. Rana el Kaliouby** Yeah.

[00:21:20] **Sanjay Podder** In a responsible way, maybe?

[00:21:21] **Dr. Rana el Kaliouby** Yeah.

[00:21:21] **Sanjay Podder** Low calorie chocolates?

[00:21:23] **Dr. Rana el Kaliouby** Exactly. Exactly. That's exactly. In India, I think my off the beaten path is going to be combining spirituality and AI.

[00:21:31] **Sanjay Podder** Wonderful.

[00:21:31] Because I feel there's a lot of just spiritual energy here, and so, I'm curious how AI fits. So, we'll see.

[00:21:40] **Dr. Rana el Kaliouby** Yeah, absolutely. And I think that also takes to the whole potential that AI has in helping improve our mental health.

[00:21:48] **Dr. Rana el Kaliouby** Totally.

[00:21:49] **Sanjay Podder** With spirituality, Spiritualism.

[00:21:52] **Dr. Rana el Kaliouby** It's one of my favorite, actually examples of emotion AI. You know, when you walk into a doctor's office, they don't ask you, Sanjay, what's your temperature? What's your blood pressure? They just measure it. But in mental health, they ask you on a scale from 1 to 10, like how stressed are you? How depressed are you? There's no data. There's no, like, objective data. But we can collect your facial, your vocal intonations.



All of this data can tie into level of stress and level of depression and even, like, suicidal intent. So imagine if you had a personal intelligence or personal AI assistant or a coach or a spiritual teacher that's there with you all the time, and it has all this data about you, and it knows when you're in a funk and it can help you, you know, lead a better, happier, healthier and hopefully more spiritual life. So, I think that there's a lot of potential there.

[00:22:48] **Dr. Rana el Kaliouby** Excellent. Thanks, Rana. I know this has been such an insightful conversation and I learned so much from you.

[00:22:54] **Dr. Rana el Kaliouby** Thank you. Same here. Thanks for hosting me. Thank you.

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