

I hope I'm audible.

Hi, good morning.

Yeah, AI is the new guy in the city, in the country, everywhere.

I'm sorry, just getting a lot of pop-ups.

So my name is Siraj, and I'm the founder CEO of a company called Elm.

Elm means knowledge, and we are a bunch of folks who are into human-centered design and tech company.

And therefore, anything, including AI, that comes through that way, we do generally adapt.

These are our values.

We are passionate about collaborating with organizations, clients who are like-minded with us in our vision to create positive impact in the world.

We create some exceptional world-class products, which not only deliver value, but we put human empathy at the core of this.

By putting people at the heart of everything we do, we strive to create a meaningful difference in lives of others.

So most people today put AI under one of these two boxes.

Either they are too excited, very optimistic, and think it can do everything.

Or there are people who are absolutely pessimistic about it.

Basically, people are looking at it in a binary way.

What I would like to offer is a middle ground, wherein we can be cautiously optimistic about it.

And we can do what some industry experts say, trial and error.

So that will give us the new possibilities that we are looking for.

I am thankful to the opportunity given by Dr. Vikram, Dr. Kumar, and Dr. Venita.

Thank you. It's really a honor to be here.

So between this fear and fascination, what we believe is there is something we could call it as co-intelligence, because one would not work without the other.

So what is co-intelligence?

As we navigate through the complexities, including geriatric oncology, we stand at this era of error that is defined as the power of co-intelligence.

This isn't about replacing people.

It's about rather harnessing the potential to augment our capabilities and elevate anything we do here we call it patient care.

So what we can do with AI in a nutshell, we can do a lot, of course.

But this is a few things that I thought would offer in this 1500 talk.

So we could enhance diagnostic efficiency, we could optimize treatment planning, we could improve risk categorization.

We could also accelerate drug discovery, which is most common use case these days.

And also do some personalization when it comes to patient care.

So how we can do this is AI tools can actually analyze medical images with a great precision, enabling others to, you know, enabling us to detect earlier any kind of abnormalities and give us more accurate diagnosis.

It can help us in analyzing patients uniquely clinical profile, including co-morbidities and frailty or other tailor-made treatment plans to maximize the efficiency while minimizing the adverse effects.

It can improve the risk categorization by identifying patients at higher risk of specific complications.

We can proactively implement preventive measures and adjust treatments accordingly.

In the drug discovery, a lot of pharma companies have already started using AI to expedite their discovery process and development of novel therapies specifically designed on older cancer patients.

So this is because of the geriatric speciality.

I'm saying that this is one of the special use case where AI could actually help.

And when it comes to personalized patient care, AI can also help us, you know,

bring together a lot of this information that we might have in the system and give us just in the right time when you're actually interacting with the patient.

So far, what I've said is about what AI can do.

Of course, a lot of expectations. I said a lot of people think that it can do everything, but the reality is not that.

It can do only some things so far. And this tech is changing every day.

Anything that we are also as a tech company trying to put together out in the market, we see that it might have probably a shelf life of less than six months.

So where is the co-intelligence here? You may ask, where are the clinicians here?

So I was reading this new scientist essential guide and came across this statement that if you put the doctor in the loop, some of the legal and ethical concerns can be taken off because that's one of the major issues that people are seeing in the healthcare industry when it comes to embracing AI technologies.

So ultimately, if the doctor's responsibility, if the AI and doctor disagree, you could have a higher level of supervisor who could come and take the call or he could have a committee that can break the tie.

So it's not like we are giving the delegation to AI and let's take the decision.

We can go there. Maybe at some point, AI can become more mature.

It's an ethical question again. But then, until then, there is this co-intelligence or this co-working between humans and AI that we could do.

Similarly, it's unlikely that we are going to cut out doctors or people there.

Guess AI can do a lot of things that at times are even better than what a clinicians can do.

But it doesn't really solve the empathy problem. It doesn't solve the problem of how you can as a human being to the physical touch and so on.

So AI can augment only right now.

So when things get complex like medicine, you really need someone who can help you with the decision.

So computers, no matter how sophisticated, they cannot replace you guys on that.

Similarly, this is a data scientist who herself was a cancer patient and she was admitted and she was getting treated.

Then she realized like, you know, why such a technology is not being used in an industry like healthcare, especially in the oncology.

So after her recovery, she went and joined this hospital in Massachusetts instead of tech.

She came from MIT basically, but she went and joined this hospital herself and started working with them.

So one of the questions posted was like, if machine learning can do the diagnosis and treatment, is there still a role for a doctor?

So she said, absolutely. In some cases, the machine rivals the human.

Sometimes it performs below the human. That we need to know.

How many of you here have used chat GPT and really felt like this is, oh man, this is not what we want.

So this is because this is an evolving technology and the expectation is that people think because it has got trained with lot of data, it has knowledge.

It does not have linear knowledge. It has data, of course.

But if you are smart, if you are able to partner with AI, you can do a lot of work actually and improve a lot in every field, including oncology.

So that's what she says. The real power comes when the two come together.

So the human in the loop or the doctor in the loop is very important to be able to have a very successful AI adoption in this industry.

And again, ultimately it's a doctor who makes a decision and approves the treatment.

Another question that was asked to her is that, you know, if you were having this technology before you were admitted, do you think things will change?

She said, yes, 87% of the surgeries could have been avoided had they been diagnosed earlier.

And maybe there were no surgeries needed in that cases.

So these are some use cases that I wanted you to think about when it comes to co-intelligence that a lot of people are just running away from AI with the fear of it or somebody thinks that it's magic and it can do everything.

Trust me, all the big companies who have been doing a lot of hype around the market

that it can do this and that, yes, it can do.
But you still need a human which can make it do that. It can't do it by itself.
It's still quite immature.
So what we as a company have done so far is that we have come up with a product called Caroline.
We are thankful to ActRAC and TmH for this opportunity where we actually started this as a small questionnaire.
We thought you guys need an assessment questionnaire. How tough it is going to be? So we thought it's just like a Google form. We attempted and then we realized, no, it's far more complex and 400 plus questions.
I heard somebody saying 30 questions was a lot. I was laughing, saying 400 plus questions for a CGA.
So that's where we actually thought, okay, before even making it as a tech product, we need to come and do some classification or rephrasing and stuff like that.
So our team went and had multiple interactions, including with Dr. Shara.
And they came up with reorganization of some of these questions, categorizations of them.
I'll try to show if time permits a small demo. And then we actually went and started doing it as a web application.
So in this, a lot of problem statements that we had, only a few of them actually were pointed out to us by the doctors.
But when we went there, we realized that there are more problems actually that are not stated.
And that we started uncovering and we attempted to solve quite a bit of them.
So 20 plus scales, 400 plus questions around CGA.
This is how the physical forms looked at and the right hand side is the report, the current report how you actually consume in TMC.
This is the process we followed. We collaborated with ActTrack.
We started doing some research initially on what exactly is the need.
And then we started doing some minimalistic design. We didn't focus a lot on, you know, like Dr. Shara said, you don't need a great AI solution while you don't even have the basic stuffs.
So it's like you need to walk before you can thrive, run and fly.
So AI is like flying, but in many industries including healthcare, the basic digital solutions don't exist.
We need to solve that problem first before we could even bring AI onto the table.
But of course, there are a lot of places where like we started with the CGA application.
It was simple, but it resolved and it was very helpful.
But we realized that how about AI coming and helping us take it one notch further.
So we started doing some experimentation which I would like to show a small demo of again time permits.
So this is at the stage of field trials right now.
We hope to get the ethics committee to give us an approval quickly and then we should be using this application.
This is how the application looks like. I'll just play quickly.
You don't need to install any app or anything. I'll just fast forward a bit.
A doctor creates a CGA session and sends the session details to the patient and the patient can then start filling some of the data.
So the doctor will send the link to our board, it just fast forward.
And now the patient is kind of filling up the form.
He's part of the CGA.
The doctor and the doctor is going to miss characters there.
And at a later stage, the doctor gets to see what are the updates that are happening there.
And he's there.
You're looking to cover the next, you know, with the physio, his cyto-en-
logist and other school get this CGA complete.
I'm just skipping through some of the.

So this application, yeah, for the next video.
This application is available for demo.
Some of our folks have an iPad here.
You can test it out. We have some test doctors and test sessions.
You can try it out.
So this is again, as I said, it's a classic automation. Nothing really big.
But most of our time did not go on the tech part of it.
It went a lot on understanding the pain points that the doctor is going through or the patient.
So we have features here, for example, somebody was talking about using multilingual or local language.
So we created features where if you're talking to a Bengali patient, you can actually.
So the slide is just moving.
So it has features where you can switch language.
In fact, we are doing Arabic, German, many Indian languages, Marathi, Tamil, Bengali and so on.
So as we get more and more people to help us with the translation, we can actually do it to any language.
And not only that, it is on multilingual, but it's also at times it can speak.
So if you can click on a button, it can read out that question in that language.
It helps a lot with the patient, actually.
So the road map that we have is that right now, we took the paper and we started making it as a digital application.
So getting from the paper to digital human by one,
Dr. Nupa, she would be covering probably around five to six patients per day, and probably then again 1.5 to two hours of manual work in terms of entry and stuff like that.
So what we're trying to see, how can we make this as a norm, is at the digital, just the paper to digital stage,
all of us are looking in the U.A.T. stages where we tested it out.
It's coming to 20 to 30 minutes.
Is it something that is more lucrative to use across a patient's scale?
Yeah.
And then we are trying to take it to a little conversational level.
Like, why do we even really need to input that?
And we have seen in some of our empathy sessions when we visit hospitals that because of digital tech,
a lot of doctors have to actually do double work.
They have to fill the form on the computer and at times also write some things on the paper
and then focus on the patient.
So that's what gave birth to this idea of how we can actually make this more interesting
by having a conversational AI.
Especially in the public sector, what we are seeing is when you have paper, and this is a UX work that folks did with TmH, is that first of all the language problem,
and then you are adding a hurdle that the guy should be educated much, so that he understands what's been asked to him.
So is there a possibility to remove those burdens on the patient?
And also, you know, burden to certain extent on the doctor side, whether doctor can have an eye to eye contact without bothering to, you know, look at the screen and fill it or catch the mouth and, you know, keyboards.
Yeah.
So there after the idea is to see if we can actually make it like a digital nurse.
And if we have more maturity, we can eventually look at a little sort of a junior doctor
who could do co-intelligence with a real doctor, can play that role of, let's say,

imagine a time before, you're trying to think about a treatment option for a patient,
but then there are certain information about the patient that the AI can bring in and say,
by the way, isn't she also having this co-morbidity or this kind of complication? What about this prescription, this medicine, and so on?
So we could use AI a lot, and we personally, myself and my team, we do a lot of AI utilization in our own day-to-day work.
To be honest, a lot of this presentation content, I had to have co-thinking with an AI,
and it helped me do this because 15 minutes to get this much done, 50 slides almost.
I don't know if you realize that.
So just to impress upon what this empathetic AI is,
so what we're talking of conversation AI is, you know, people have seen, you know, so we started 10 years back from chat boards and to somebody who actually mimics what a person can do.
Now, if I am doing an assessment where you're a subset of the assessment is done entirely by the patient and patient family by themselves, okay?
Then how do I know how confident those answers are?
And that's where the empathetic AI role comes to.
Can I understand the, you know, if it is just an audio conversation, can I understand the voice modulation and see what is the confidence of the patient and patient family by answering those?
And give a signal to the doctor.
And if I'm doing a video with the bot, then can I look at the facial expansion and also see, you know,
whether this is a good time for the patient actually to have that conversation, or can we skip that?
Yeah.
Let's look at, you know, how this works.
So I'll try to show you a demo of this.
I need to switch over to another app.
Yeah, probably we can flow.
Yeah, will this come?
Okay.
Yeah.
So this is a demo.
This is the long one, one second.
So on the right-hand side is the assessment, okay, form.
And, you know, this is what we can call it as a AI rep, you know, he's speaking to the patient.
So we just simulated a patient coming and getting admitted into an IPD.
Hi, I am your assistant depro.
Welcome to the ILM UX Enhanced Form Filling Experience.
Here to know about you.
Should we start from your name?
Yeah, my name is Abdul Niyaz.
How did you come to the hospital, Mr. Abdul Niyaz?
Were you walking on a wheelchair or on a stretcher?
I came here on wheelchair.
What is the date and time of your arrival, Mr. Abdul Niyaz?
I came here on 10 December, 9am.
Were you accompanied by someone when you came to the hospital, Mr. Abdul Niyaz?
Yes, if yes, could you please tell me their name and relation to you?
Yes, I was accompanied by my brother. His name is Abdul Niyaz.
That's great, Mr. Abdul Niyaz.
Now, is there someone we can contact in case of an emergency?
If so, could you please provide their name, relation to you and phone number?

Maybe it's your brother Abdul Niyaz.
Can you see him?
Yes, you can contact him.
And his contact number is 809703990.
Tool used failed.
No valid JSON object found in message.
So this product is under development.
That's fine.
However, we were excited to just bring it to a forum like this and show what is possible.
And this is still very early stage.
But you can see we didn't feed the AI with a lot of improvisation techniques.
It just did automatically.
In fact, I have one more version.
I'm being told that I'm running out of time.
I have just one more version in which the patient is trying to not answer the question.
It's giving wrong answers.
Just want to give you a small glimpse of how that happens.
I came here on bike.
It's asking wheelchair or ambulance.
I need to know the mode of admission in terms of walking, wheelchair or stretcher.
Could you please provide that information?
Of course.
Yeah.
I came here on wheelchair.
Him and relation of the person.
Actually, the year is wrong.
It is 2024.
So it can go in correct stuff.
Was the patient accompanied on admission?
If yes, please specify the name and relation of the person.
Yeah, I was accompanied by my brother and a paramedic.
Great.
I think because I'm running out of time, I'll stop there and just last one more slide.
That a lot of this inspiration came from this great book called Co-intelligence, a professor in Wartan School.
His name is Ethan Molick.
His book is really an authority in this.
A lot of companies like OpenAI, Google, Microsoft, they go and actually reach out to this person when they come up with unreleased models to see check the guardrails and stuff like that.
So you can follow him on LinkedIn.
He releases whatever he researches.
He releases to the public very easily.
That's why a lot of these large companies are there.
Thank you.
I hope the future of geriatric oncology is very bright and AI can offer some possibilities.
Let's embrace this with responsible AI.
A lot of companies are not doing that.
We would like to propose having a responsible approach to this, a human-centered approach to this.
That way we can create a better future for everybody in this.
Thank you so much.
Let's work towards this vision.
I'm sure we are over time.
I don't know if you want to have a question.

I'm just wondering whether you've considered aspects because you're talking my language, empathy and all of that.

Have you thought about how you're going to embed the design with patent recognition as well?

For example, providing the feedback loop to a nurse or a doctor around, when you brought that up they sounded a little more anxious about things.

We have features where it could detect anxiety, sadness, happiness and so on. It can detect a bit of motion.

That again is a very evolving area.

And also connecting that back to a behavioral outcome.

They did experience some anxiety and then what they didn't come on the day of the appointment, they came three days afterwards.

Something like that.

That's the pattern that I'm wondering whether you can connect communication, emotion and a behavioral outcome.

Absolutely.

As part of the human-centered design, we are a user experience company.

We actually want to make sure that the experience of any consultation with the patient and doctor, that is as frictionless as possible.

So anything like this, these are inside, that's the reason why we are here.

We are here more to learn from you than telling you what to do because we generally, technology guys, we are working in isolation.

We don't really go to the field and understand people where they live.

So especially us, user experience folks, we are supposed to be highly empathy driven.

And that's the reason why even for this small application, it is small in nature from a tech point of view, what we did, the one for CGA.

However, a lot of our time went only on the user experience aspect, just to understand the pain point.

So that's the approach and I'm sure with this technology evolving so fast, it's just a matter of time.

A lot of this will come.

I think the tech is available, it's just the use case that the doctor will get.

It's possible.

So data is a very touching point.

I think the first we need that I have to talk about data privacy.

Yeah, interesting, very good.

I worked on HIPAA compliant EMRs in North America and the financial data, you know, the healthcare data is considering equivalent to financial data in terms of security.

So in India, you know, the regulations are growing.

So from a company standpoint, you know, me and Siraj have taken a stance that we should get into healthcare with the security for architecture.

You know, I have, you know, architects on the backside, the tall guy.

So he can explain more of what the security measures are, but what it says is what kind of security are you looking at.

For example, TII is a no-go.

But if I enter into a pub.

Personal information.

Personally, I identify the information.

But say any information, discrete information from which I can make out that this is this person, Dr. Shahrat, then that is PII.

Whether, you know, his name is not listed, you know, his qualify not is it, but I can make out, that becomes a PII.

So, you know, what is the context that we are talking about?

In general, the solutions would not store and generally they are stored on clouds.

So, for example, we look at, you know, the Ministry of Information Technology has certified, you know, a few cloud providers who have regions in India.

So, within the AWS comes into it, GCP comes into it.

There are a couple more providers who come into it.

So, we would, you know, get our solution deployed over there so that the data is residing in India.

And of course, you know, all the standard mechanism and encryption that are there, you know, on an enterprise solution.

Those are there too.

And then there are some classic cases, like for example, you get into a very, very private, you know, very specialized hospital, which does not want the data to fly out anywhere.

You know, they have their own data sensors and all, then it becomes or a public sector where, you know, probably the EMR and HMS systems have not evolved to a stage.

Then they want a system in silo where even the PII can come in and they can use it for just for themselves.

To such an extent that even my engineers on the backdrop don't have access to the data, you know, those kind of security measures, you know, are available.

Thank you so much for listening.