

Segment: We and Artificial Intelligence

Episode 2: What is AI?

A Morning with AI

Dr Manas Pratim Das

[It's Sunday morning. Subir, aged around 52 and an electrical engineer by profession, is sipping tea and flipping through the pages of newspaper. Anjali, his wife who is a philosophy professor at a nearby college and is aged around 48, has been busy in the kitchen for some time. She enters with a cup of tea for her husband. Their children Kirti, aged 20, in the second year of his B Tech course and Priyanka, studying in Standard IX, are both enjoying the liberty of sleeping late into the morning of a holiday.]

Characters:

Subir, aged around 52

Anjali, (wife 48) ,

Kirti (children) aged 20

Priyanka, (studying in Standard IX)

Anjali: (Puts down the tea on centre table) Your ta! (Subir acknowledges.) Our maid Jhimli just called Subir.

Subir: I see. What is the good news she shared? Traffic jam, I suppose. She will be late then.

Anjali: She is not coming today. Her son is ill.

Subir: I can't say that I am very happy to hear that. Jhimli's absence cannot make holidays better.

Anjali: Come on! Do not be so cruel. How can she come leaving her sick child?

Subir: I apologise dear. Be calm and sit down please. I am already trying to reactivate the muscles of my forearm.

Anjali: For what? Is there anything wrong with your hands? That old pain I suppose?

Subir: Nothing wrong Anjali. I have a sense of duty. I know and my forearms know better that when Jhimli is absent on holidays, the job of washing the utensils are assigned to me!

Anjali: (Bursts out in laughter) You could be so dramatic at times! You have woven almost half a script to just tell me that you are afraid of washing the utensils!

Subir: Afraid who? Me? Never! I am just getting mentally prepared.

Anjali: Oh I see! That was an expression of mental preparation! Subir, why don't you do something innovative?

Subir: Innovative regarding what? Drama?

Anjali: Rubbish! Why don't you make some device that would do the washing job for you?

Subir: A robot you mean! That is not regarded as innovation anymore!

Anjali: Then make an advanced robot! One that will easily understand from our discussion that Jhimli will be absent and then head straight for the washing job!

Subir: There you are! Weren't you castigating me for being cruel? You know Anjali, I could have easily devised something like what you say but ...

Anjali: But what? Fund problem? You are heading such a big section of your company. No one will believe that you are short of funds.

Subir: You are going the wrong way dear! I bring you back to the word 'cruel'! I am not producing an intelligent robot because that will be rob Jhimli of her job. Once you see the benefits of automation, you will not agree to keep up with the tantrums of any human hand.

Anjali: Hmm...this of course is a serious problem. It's already a huge social problem around the world. Advanced machines creating more unemployment.

(Priyanka, having just left her bed, yawning, enters.)

Priyanka: Ma, is there any problem with the refrigerator?

Anjali: What problem? The mechanic repaired it only last week. I shall have to tell the company to refund my money. They could be such worthless...

Subir: Ah Anjali, do not be so agitated! Let me hear what happened. Tell me Priyanka, what happened with refrigerator?

Priyanka: I was thirsty last night. So I tried to take a bottle of water from the refrigerator but I could not open the doors. I pulled hard at the handle but nothing happened.

Anjali: So you could not drink water? You should have called me!

Priyanka: No I drank from the jug kept on the table.

Anjali: Wait a minute. You said that door did not open but in the morning...yes I had opened it to take out some vegetables.

(Subir giggles)

Anjali: Why are you laughing. I shall check again. (Anjali departs)

Subir: Is your throat ok now Priyanka?

Priyanka: Not cured yet. I am taking the pills regularly.

(Anjali returns with a smile.)

Anjali: It's perfectly ok Priyanka. You frightened me. I was worried that I would have to call the mechanic again.

Subir: Why don't you go and try once more Priyanka? It could have been that you were in a sleepy mood and you could not pull it properly.

Priyanka: Come on baba! I told you that I had pulled several times and did it with enough force! Ok, I shall see for myself. Wait...

(Priyanka departs)

Subir: These children! They are so...

(Priyanka yells, 'It's the same baba. It is not opening. Come here Ma.)

Anjali: Mysterious! Let's see what is happening.

(They rush to the dining space. Kirti is wakened from sleep by the loud exchanges. He joins the others.)

Kirti: Why are you shouting Priyanka? Can't you be a little less louder? Spoiled my sleep...

Anjali: Don't be so harsh on your sister Kirti! There is something unusual with the refrigerator and that is why she is calling us.

Kirti: Unusual? With the refrigerator? Hey Priyanka, are you again watching those ghost films on your mobile? You know baba...

Priyanka: You always speak like this dada! What has this to do with ghost films?

Anjali: Now please stop both of you! Pull the handle Priyanka, I want to see for myself.

Priyanka: Here I go, (makes a sound of exertion) see it is not opening.

Kirti: Huh, can't open the refrigerator door even. Let me try (Kirti goes forward and tries but it does not open this time also.) What is happening Ma?

Subir: (giggling) Anjali, I think you are the best person to do the job. Children, move aside!

Anjali: What is so special about me? Ok, if you say (she pulls the handle and the door opens instantly. Subir bursts out in laughter.)

Kirti: There must be some mischief involved here. Baba, what have you done to the door?

Subir: (Still laughing) N...Not much. Only added some intelligence to the door.

Kirti: Intelligence to the door? You sound funny!

Subir: By no means! Why can't you regard the door as an intelligent object?

Anjali: Come on Subir! Enough of mystery! Tell us what you have done.

Subir: You see the cellphone on top of the refrigerator. A simple programme is running on the phone that is capturing the photograph of anything that comes in front of the machine. I have only added an instruction to it.

Anjali: What instruction? Not to allow the children to open the door?

Subir: Exactly. I fear that if they drink too much of cold water straight from the refrigerator then they will catch cold. Priyanka is already suffering from pharyngitis.

Kirti: That sounds like Artificial Intelligence baba!

Subir: My son is intelligent I know!

Kirti: But tell me how can your programme interact with the locking arrangement of the door.

Subir: You impress me Kirti. I had to do some additional fitting. I have set a sensor inside the door that can be instructed by the programme. A small mechanical device is operated by this sensor. It won't allow the door when you or Priyanka is in front of it. For Anjali it has no problem!

Priyanka: That is just fantastic baba! This of course is Artificial Intelligence. Next summer we all are required to do a project on this.

Subir: No problem. If you want to hear more about this then first brush your teeth and get ready for the special Sunday breakfast.

Anjali: You are scaring me. What special is there?

Subir: You are so tensed Anjali. You won't have to do anything. I shall order breakfast on mobile app to celebrate the success of my AI device!

Anjali: AI?

Subir: Artificial Intelligence! It's elementary my dear Watson...well no, I am no Sherlock Holmes...right, my dear family!

(A round of loud laughter follows. Music to denote end of scene.)

(The family is gathered around their dining table. The doorbell rings twice.)

Anjali: Coming!

Subir: That must be Nandan bringing us our much awaited breakfast.

Kirti: Who is Nandan? Do we know him?

Subir: You will just see. Let him come in.

(At a little distance Anjali opens the door and welcomes Nandan, aged around 40 and his assistant Natasha, in her mid twenties.)

Anjali: Oh, come in. Yes this way.

Subir: (In a louder voice) Ask them to come straight into the dining room Anjali!

Anjali: Come in. Yes you can put off your shoes there.

(Nandan and Natasha enters and presents themselves before the other three of the family.)

Subir: Listen Kirti and Priyanka, you listen also Anjali. I know that it is customary to receive items from app based services at the door and conclude the business there, I have chosen to break the rules today. I shall tell you why but first let us see what they have brought for us.

(Natasha puts the parcels on the table and Subir carefully opens the packs.)

Priyanka: From the smell itself I can say that this food will be delicious. Ah pasta! Baba you are a genius.

Subir: Well, if you want to thank anyone then thank these two persons. I left the choice to them.

Nandan: Yes we know that little Priyanka loves pasta and Kirti is fond of Russian sandwich.

Kirti: You mean to say that you also Russian sandwich for breakfast! I shall go mad baba! What have you done!

Anjali: Subir must have given you all the tips. I know, I know.

Natasha: No ma'm, Sir actually had set us a challenge to find out the preferences for each member of the family. Thus we have prepared your favourite fish salad. Sir likes that special omelette, over there in that pack.

Anjali: You just amaze me!

Subir: I shall explain Anjali but before that let me cater to their choice. Both of them are coffee addicts. Now this is no mystery. They had come to my office and none of them said no when I said whether they would like to have coffee. They nodded repeatedly and even after the third cup they looked like they can have some more!

(Laughter)

Anjali: I am bringing coffee for you. Just a couple of minutes. (Anjali leaves)

Kirti: But how did you figure out that I like these sandwiches?

Priyanka: And my craving for pasta?

Subir: Come on Nandan, explain! Public Relations is a crucial part of business, you know!

Nandan: Yes I shall try. In fact social media helps a lot in this regard.

Kirti: You mean Facebook?

Natasha: Facebook is definitely one of the most popular platforms but there are others as well. Now, try to remember those cases where you accepted free membership to some periodical or some website in exchange of your data?

Priyanka: What data? I did not give them any amount of data!

Natasha: We are not talking about sharing your data pack. It's about sharing the information that is connected to your own social media account. Try to remember that the free access provider had said that they will collect your contacts etc.

Kirti: You are right! I remember distinctly.

Nandan: That data often goes into a data pool that is shared. The free access provider can trade with the data in the market. We have also bought access to such data. Among the trillions of billions of bits of data that we get we can track down your particular preferences about food.

Priyanka: I just cannot believe this.

Kirti: I have read about this but this is the first time that I am with someone who has utilized such data.

(Anjali enters and sets the tray with coffee cups on the table.)

Anjali: I could hear your discussion from the kitchen. This is really exciting. But I personally have no information regarding how much sugar you like to have for each cup. So help yourself.

(Laughter)

Subir: Whatever your tactics are, I must admit that the food is just yummy. Why children?

(They agree saying 'Ya', 'Absolutely')

Anjali: And now it is my turn to taste the salad. (Takes a pinch from the bowl and appreciates) You are magicians or what? It's so tasty!

Subir: You must appreciate that they are combining two things in their strategy. One, human intelligence and the other, artificial intelligence. Hence the excellence.

Anjali: I am really impressed with Natasha. The way she was explaining things...by the way, did you study hotel management or something like that?

Nandan: No, Natasha is an IT graduate. She worked for a couple of companies and then got bored. All of a sudden she thought about doing something on her own.

Kirti: Startup business?

Nandan: Well, that is the term in vogue but I advised her not to take the leap right now.

Natasha: Nandan uncle is our family friend. As you know sir that he is in this restaurant business for quite some time. A year back when I was groping for a career direction he suggested that I join him to make his business tech savvy.

Anjali: Oh I see. So it's a hotelier and an IT professional coming together to do business.

Nandan: But frankly speaking, I did not have any idea that we are using artificial intelligence until Subir sir explained to us the whole thing. He has also given us some valuable tips to improve our business.

Natasha: As a mark of our gratitude this breakfast will be complimentary. Kindly accept this as a token of our appreciation.

Subir: Sorry, no! I am a professional myself and I am against such freebees. You have to follow the standard procedure and produce a bill. I shall pay accordingly.

Nandan: (Tries to protest) But sir, you should give us an opportunity to thank you!

Subir: There will lots of such opportunities dear Nandan and Natasha. But first send me the e-bill.

Natasha: Ok sir, please give us a few minutes. (In a lowered voice) Nandan uncle, shall I use our new software?

Nandan: Yes, why not?

Natasha: I shall just take out my cellphone (She takes out the phone from her pocket and starts dictating the software) Breakfast. Party name, Subir Mitra. Items, One Russian sandwich, One Pasata, One special omlette ... (her voice is hushed and superposed by Anjali's)

Anjali: (to Subir) She is doing it by speaking to the phone. Exciting na?

Subir: (hushed tone) Let her finish. This another piece of AI in action.

Natasha: I am finished Sir. It has been sent to your phone. (A notification sound is heard as in the cellphone of Subir)

Subir: Yes, I have received it. I shall do an e-payment after I wash my hands. Allow me ladies and gentlemen! Nandan, your coffee is not finished yet, do the honours please. Fast.

(laughter)

Nandan: Sir is not only knowledgeable he can easily amuse others with his lively talking.

(Sound of the running tap at the corner of the room as Subir washes his hands.)

Subir: I must insist that children wash their hands as well. I am not in favour of licking one's hands all through the day just because the food was well cooked. Come on children, I believe...(sound of running water fades and stops) eh, what happened to the water?

Kirti: What happened baba?

Subir: The flow stopped. The tank must be empty. But I can't complain because it was my duty to turn on the pump in the morning. I shall have to compensate fast. Here I go.

Anjali: Watch your steps. The space below the staircase is a bit slippery.

(Sound of pump being turned on. Flow of water returns in a few seconds.)

Kirti: It's ok baba. The water is back. I can wash my hands. Come Priyanka.

(Subir returns to the table)

Subir: We should also make the pump and tank intelligent. It's unnecessary to keep so heavy timeline of duties in mind.

Anjali: Enough Subir. You need not do all the AI work this morning. Please make the e-payment. They must have other orders to attend to.

Natasha: No hurry ma'm. We have recently expanded our team. We can wait.

(Subir taps a few keys on the phone and a notification sound is heard.)

Subir: There, the payment is made. Kirti, did the preparation of the bill seem anything new to you?

Kirti: Not really. We also talk to our Google assistants on our cellphones. My friend Amrita has Alexa at her home and the whole family keeps ordering it for a variety of tasks. Nothing new I suppose.

Subir: You do everything but possibly you do not realise that all these are products of AI. I shall explain but our guests seem to be in the mood for leaving.

Nandan: Right sir, we shall take your leave today. Please remember us and order whenever you like.

Subir: Sure. I shall see you off at the door.

Natasha: Bye everyone! (all others respond)

(Music to denote end of scene)

(The whole family is comfortably seated after their breakfast.)

Priyanka: So everything is being driven by Artificial Intelligence baba?

Subir: We have not reached that stage now.

Kirti: You were saying something about the involvement of AI in that bill preparation baba.

Subir: I shall take you to the beginning of AI activities. In August of 1955 John McCarthy, an American computer scientist, proposed something. He said that he and his friends Marvin L. Minsky, Nathaniel Rochester, and Claude E. Shannon is proposing a 2 month, 10 man study of artificial intelligence be carried out during the summer of 1956 at Dartmouth College in Hanover, New Hampshire. The study was to proceed on the basis of the conjecture that every aspect of learning or any other feature of intelligence can in principle be so precisely described that a machine can be made to simulate it.

Priyanka: AI is getting heavy baba! Could you make it a little easier?

Subir: You have to be a little patient dear if you are to reach the heart of it. They said that the speeds and memory capacities of present computers may be insufficient to simulate many of the higher functions of the human brain, but the major obstacle is not lack of machine capacity, but our inability to write programs taking full advantage of what we have.

Kirti: Today we are able to write those programmes, right baba?

Subir: I shall agree partially to that Kirti. But you must keep listening because in that proposal they said something very interesting about language processing in computers.

Kirti: I see.

Subir: They said that it may be speculated that a large part of human thought consists of manipulating words according to rules of reasoning and rules of conjecture.

Anjali: Ah! Computer scientists taking natural language seriously!

Subir: Yes. You teach philosophy in college and you know very well that how important it is to generalize things instead of dealing with individual examples.

Anjali: So they proposed generalization?

Subir: Yes they added that forming a generalization consists of admitting a new word and framing some rules so that sentences containing the word mean the same thing as are implied by others. Till then this idea was not worked out.

Kirti: I can sense some link between your history and our bill preparation.

Subir: Today there is something called Natural Language Processing and this is part of AI. It is usually shortened as NLP. Now this thing deals with the interaction between computers and humans using the natural language.

Kirti: What is the objective?

Subir: The ultimate objective of NLP is to read, decipher, understand, and make sense of the human languages in a manner that is valuable. We use the English language to communicate between an intelligent system and NLP plays an important role in various systems.

Priyanka: Could you give an example baba?

Subir: Suppose a robot is there and it is used to perform as per your instructions. It can understand your speech and could scribble something according to what you say.

Kirti: I get your point baba! In the case of bill preparation the cellphone was the robot and it prepared the required bill!

Priyanka: Wow, yes! When I am tired of typing I just dictate something to the phone by speaking and the phone searches by the words that I have spoken.

Subir: You both are very intelligent. I would only correct you on one point. The phone is not the robot. It is the concerned software programme that can be thought of as a robot. Of course, the circuitry of the cellphone and supporting programmes are there to make those successful.

Anjali: How bizarre! A programme that I cannot touch, cannot sense with my receptors is a robot!

Subir: Virtual my dear Anjali! Everything is virtual in this world. Now I want to tell you about another very important thing that McCarthy and his co-researcher proposed.

Kirti: About NLP?

Subir: No this is different. You know neurons?

Priyanka: I know. It is the nerve cell in our bodies. It is the functional unit of the system just as the somatic cell is in other parts of the body.

Subir: Very smart. The researchers took the concept of neuron and the network it forms and tried to apply it in computers. They asked, how can a set of hypothetical neurons be arranged so as to form concepts? They held that considerable theoretical and experimental work has been done on this problem by then but more is needed.

Kirti: They wanted computers to sense just like a human being does.

Priyanka: Fascinating!

Subir: You were asking whether AI is all over the place now? I disagreed but what I can say is that my credit card by which I made the e-payment just now is protected from fraud by artificial intelligence.

Priyanka: How?

Subir: Certain checks are there to find out whether some programme is stealthily trying to loot me. This helps to keep digital transactions safe.

Kirti: But baba...

Subir: (Raising his voice in a comic manner) I propose to end this discussion here because there are two back to back films on artificial intelligence on television today. We need to watch those.

Anjali: What films?

Subir: One is the old Sharukh Khan starrer 'Ra One' and the other is a Hollywood film 'A.I. Rising'. So no more words. Just keep silent as I turn on the tv. It's film time folks!

Anjali: Really Subir, you are wasting your talent by being an electrical engineer. You should have be an actor!

Subir: I already am an actor. But I perform only at home!

(Laughter around the room and the episode ends with jolly music.)

