

*(Reactive machines are the most basic type of AI system. This means that they cannot form memories or use past experiences to influence present-made decisions; they can only react to currently existing situations – hence “reactive.” In this episode we bring forth a scenario from a media house that seeks to stay ahead of its competitors using some new AI that is yet to make its appearance in the market. The software has been procured from the manufacturer on an exclusive basis and it will ‘react’ depending on how it is fed. The management deutes one of its young and IT savvy journalist for the feeding process and gives her access to sensitive inside information. The journalist takes on the challenge and goes beyond her ordinary routine to collect an array of information for feeding the machine. The company gains from her brilliant exercise and its circulation shoots up in a very small period. But does the journalist get rewarded or is she faced with an odd surprise? Did the company worry too much about sharing secret info with her? Does the whole process have a bearing on the development of this type of AI? This episode explains reactive machines with brilliant examples from the past like that of the chess playing machine Deep Blue created by IBM.)*

*(Two young journalists, aged around thirty are seated in adjacent cubicles of a media office. They are chatting about their daily chores.)*

*Characters*

*Rohit (Journalist age 30)*

*Nasreen (Journalist age 30)*

*Gopal: (Office Boy age 25)*

*Arpita: ( Head of the media Unit) (Age 45)*

*Sandhya and Santosh : Other employee of media Group*

*Bagwani: Friend of Nasreen (Same Age)*

*Mr Manchandani, ( Managing Director) Senior person*

**Rohit:** Yaar Nasreen, where is the interview you promised me? I can't complete my page make-up.

**Nasreen:** How much space do you need to fill up?

**Rohit:** A full column dear! If I report this to the editor then she will simply ask me to fill it up with some advertorial. I don't want to spoil my page Nasreen.

**Nasreen:** Ok ok, do not be so restless. I shall do the interview tonight and you will find the transcript on your desk tomorrow morning.

**Rohit:** You mean to say that you are going to do it on phone? Shame on you yaar, you are losing the high spirits of journalism. A forgotten film director planning a comeback with an exceptional film...and you plan to do the story over phone?

**Nasreen:** Come on, don't be so judgmental! I already had a meeting with him in person last Tuesday. But he looked disturbed on that day and so I could not broach any discussion on this interview. He seems to be in a good mood today. I received a message from him a couple of hours ago and the attitude is positive. So...

**Rohit:** So there is light on the horizon?

**Nasreen:** Yeah, bright and broad light Rohit. By the way, where is Gopal gone? I asked him to bring some coffee.

**Rohit:** Wait, I shall fetch it.

**Nasreen:** Don't be so generous Rohit. I have not delivered your material yet. (giggles)

**Rohit:** I am not being any different than I really am. I just want a cup for me as well. Back in a minute my lady!

(As Rohit departs Gopal, aged around twenty, approaches her desk.)

**Nasreen:** Where have you been Gopal? I asked you to bring coffee possibly an hour ago...

**Gopal:** Don't blame me didi, editor madam asked me to clean the corner room and I got engaged. She is calling you didi.

**Nasreen:** Me? What on earth has happened to cause my requisition? Any idea Gopal?

**Gopal:** No idea didi but editor madam is looking glum.

**Nasreen:** Hmm, I understand. The evening is spoilt. (Sighs) Ok, as she wishes...

*(Nasreen pushes the chair back to rise and heads towards the editor's room at the far end of the floor. She pushes open the glass door and enquires. Seated on the other side of the desk is the editor Arpitaa, aged around forty.)*

**Nasreen:** You called me ma'm?

**Arpita:** Yeah Nasreen, come, sit down please. Just give me a second to finish writing this email. (Utters the words loudly as she composes) Your help will be crucial for us in this regard...yours...ummm...done...sent...(heaves a sigh of relief).

**Nasreen:** Anything important ma'm?

**Arpita:** Of course it's important. Otherwise why shall I disturb you at this prime time of our operations? It's about something regarding which I need complete secrecy. Can I trust you Nasreen?

*Nasreen:* Of course ma'm, as you wish but I ...I mean I don't...

*Arpita:* You do not have a clue. That is expected. I have not discussed this with anyone after I received the message from our Managing Director. It is about something that even the air outside this room should have no clue.

*Nasreen:* I am scared ma'm!

*Arpita:* You are intelligent and hard working. You are ahead of others in handling computer software. That makes you the right candidate for this project.

*Nasreen:* What is it ma'm? I am dying of suspense.

*Arpita:* (Lets out a hushed laughter) We are going to embark on a system that will give us a fair idea about what our competitors are going to do. We shall remain ahead of them in planning and in execution.

*Nasreen:* A new system? But every media house has moles in other houses that passes on information about the future plans of the competitors. Is that not sufficient ma'm?

*Arpita:* Not at all! Think of this...me Arpita, you Nasreen, and the rest of us are quite sure about the mole in our office that helps other houses with our information. So we do not allow him or her to be a part of our most important meetings. We keep it secret. It is the same with other houses. So how do you get to know about the exclusivemoves that our competitors are going to make?

*Nasreen:* That's perfectly logical ma'm. But what is the new system like?

*Arpita:* It's a program that is based on AI.

*Nasreen:* Artificial Intelligence? How is that going to be useful to us?

*Arpita:* There comes your role dear! The system has to be fed intelligently so that it gathers maximum information about the functioning of a media house. This will help it to build up a model of the functioning of our competitors.

*Nasreen:* And then it will respond to our queries?

*Arpita:* You have already got the message. Now hurry up and move your workstation and other things to the room at the corner. Gopal has cleaned it and the electrician has checked the points. It's all ready to go.

*Nasreen:* You mean that I am no more a journalist from this evening? Only in charge of some secret operation?

*Arpita:* Calm down dear! You remain what you are, one hundred percent a journalist. But alongside, you have to feed the system and ask intelligent questions of it. Don't worry, the company will reward you accordingly.

**Nasreen:** Shall I be alone in that room?

**Arpita:** Whom can you trust? Rohit?

**Nasreen:** Yeah, I mean, if you...

**Arpita:** I know the chemistry between you but I am not hundred percent sure about Rohit's discretion.

**Nasreen:** You can leave that to me ma'm. Rohit will behave as you want him to. Is that all ma'm?

**Arpita:** Nasreen, it's a very important project for us. I hope you appreciate the full weight of this?

**Nasreen:** Rest assure ma'm, I shall do the needful.

**Arpita:** Ok then, you get back to your desk and start preparations for the new project.

**Nasreen:** Thank you ma'm.

[Nasreen comes out of the editor's room and as she nears her desk she finds Rohit looking askance at her.]

**Rohit:** Hello princess! What happened? Your coffee is as cold as the Antarctic ice sheets. And your waiter Rohit is not all amused!

**Nasreen:** Sit down Rohit, we have something serious to discuss.

**Rohit:** (Rohit sits down and draws his chair near Nasreen. Talks in hushed voice.)  
Serious? Retrenchment? Salary cut?

**Nasreen:** Come on! None of these. On the contrary your salary may be hiked if you agree to work with me.

**Rohit:** What are you saying Nasreen? Have I ever applied for a divorce, I mean a different desk? You won't find such a dedicated colleague.

**Nasreen:** Nonsense! There is something new that our house is going to start and...

(Sandhya, another journalist, a little younger than these two approaches Nasreen's desk and she had to pause abruptly.)

**Sandhya:** Hi Nasreen!

**Nasreen:** Hi Sandhya. What's up? You look a bit strained. Everything ok?

**Sandhya:** Strained? No, everything is ok. By the way Nasreen, what did editor ma'm tell you? I heard that you are going to move into that corner room? (Faking a smile)  
Getting a promotion I suppose!

**Nasreen:** No way Sandhya. It's something else.

**Sandhya:** Something secret? What is it actually Nasreen?

**Nasreen:** Rest assured Sandhya, it's nothing exciting. I am required to do some record keeping for our house in addition to my scheduled job.

**Sandhya:** Record keeping? Any damn fellow could have done that! (Smiling) You are lying Nasreen, It must be something more than that?

**Nasreen:** Then I am helpless Sandhya. Why don't you go and ask editor ma'm!

**Sandhya:** Oh no! Why shall I be bothered? I must hurry back to my desk. Need to upload that leopard killing story on our portal. Bye!

**Nasreen:** Bye Sandhya. Take care.

*(Sandhya departs. Nasreen turns to Rohit.)*

**Rohit:** Now I can understand that it is really serious.

**Nasreen:** How?

**Rohit:** The way you had to hide it from Sandhya makes everything clear. You always underestimate my intelligence but I am sharp.

**Nasreen:** Ok, ok, enough of bragging. Now listen to what I say and promise that you will not let out a word of this.

**Rohit:** Promise!

**Nasreen:** Look, our house has decided to...

(Music fades in and drowns the words signalling a scene change. Three days later we find Rohit and Nasreen in the corner room of the floor. Nasreen's phone is ringing.)

**Nasreen:** Hello Nasreen speaking. Oh Mr Bagwani, yeah...right...this must be your alternative number, no?

**Bagwani:** (on the other side of the phone) Yes madam. I do not use this often.

**Nasreen:** Right, I can understand. What about the information I had asked for...

**Bagwani:** Madam, I have checked with my friends. That company is going to purchase land in some suburban area. I am not sure of the place but the land is not here in the city.

**Nasreen:** You keep your vigil Mr Bagwani. This will be useful for us. Anything else?

**Bagwani:** No madam, that is all that I can tell you at the moment.

**Nasreen:** Thank you so much. Get back to me whenever you get some new information.

**Bagwani:** Sure madam. Bye.

**Nasreen:** Bye Mr Bagwani. Have a good day. (Nasreen hangs up.)

**Rohit:** If you can get information this way then why depend on artificial intelligence? Your intelligence is more than sufficient Nasreen. Why move into this corner room in stealth?

**Nasreen:** This is only fodder for the software Rohit. In the last three days since we moved here I have collected several such information. On-media and off-media. The response will be based on many such information. You know what name is given to this program?

**Rohit:** No idea. What?

**Nasreen:** It's quite poetic. It's being called Deep Response!

**Rohit:** Deep Response! Aha...rings a bell in my memory...deep ...deep...yes, I get it, Deep Blue!

**Nasreen:** Deep Blue? Any marine liner?

**Rohit:** No way. You have any interest in chess Nasreen? Any idea how a computer program plays chess?

**Nasreen:** Not even the least interest. Chess is very difficult Rohit. I had seen my grandpa playing the game with my uncle and I never showed any inclination to understand the moves or the plans.

**Rohit:** Perfect excuse. Difficulty! No one denies that it's a very difficult board game. Masters of the game are respected as genius. Bobby Fischer, Viswanathan Anand, Gary Kasparov, Nigel Short, Vladimir Kramnik – all giants of the game are extremely cool people. Very brainy!

**Nasreen:** I understand but what has that to do with our program?

**Rohit:** You can challenge the best in the game with machine programs. One such program was called Deep Blue.

**Nasreen:** Ah! That is why you are excited with the name.

**Rohit:** Exactly! Deep Blue first demonstrated its power in 1996, when it defeated Garry Kasparov in game one of a six-game match. At that time he was the reigning world champion. In an interview conducted after the game, Kasparov said that he was startled by the computer's capabilities.

**Nasreen:** Very interesting! I never knew about this.

**Rohit:** Immediately after the game, the creators of the machine heavily upgraded Deep Blue and invited Kasparov for a re-match. Kasparov accepted the challenge, and the match took place in May 1997. This time, Deep Blue defeated Kasparov and won the entire match.

**Nasreen:** You mean that Deep Blue is a complete machine with all the necessary hardware.

**Rohit:** You are right. I should have mentioned this earlier. In that stage of computer development you needed a full dedicated machine to run such a program. Things are different these days.

**Nasreen:** Tell me more Rohit. I am hooked.

**Rohit:** Kasparov got angry. He accused the concerned company of cheating because he said that the computer's moves were far too creative. He challenged Deep Blue for a re-match, but it was never organized.

**Nasreen:** Poor Kasparov!

**Rohit:** Deep Blue was then dismantled and retired. Nowadays its parts can be seen in the National Museum of American History and the Computer History Museum. The computer was capable of calculating 100 million positions in a single second.

**Nasreen:** Really?

**Rohit:** Although the analysis of the game has shown that Kasparov's moves were unusually faulty and poorly judged, Deep Blue's victory proved that a chess game could be won by disregarding human intuition and creativity, and using only complex mathematics.

**Nasreen:** Ok, let me think on my own. What you have said means that the victory was a proof of the complexity of artificial intelligence. It was clear that AI was coming up to the level of human intelligence and most importantly it showed that machines had become capable of defeating human champions.

**Rohit:** Absolutely!

**Nasreen:** Did our Anand play any such game? I mean against computers?

**Rohit:** In 1998 Anand got the chance to play with the machine called Rebel. This time the human player won and recovered some lost prestige for our species.

**Nasreen:** So happy to know that. I am a fan of Anand though I do not understand the game.

**Rohit:** Deep Blue is past now. You know Nasreen, the main flaw of such machines are that they are reactive.

**Nasreen:** Reactive means? Every system reacts to some stimulus!

**Rohit:** I meant to say that those machines did not have past experiences recorded on their memory and was not designed to act on the same. Deep Blue reacted to instant actions.

**Nasreen:** Things must have improved a lot now!

**Rohit:** No doubt Nasreen. The latest in the line is AlphaGo which learned chess in just four hours. This was designed by Demis Hassabis. Nowadays the competition is more between two chess software. The paradigm has changed.

**Nasreen:** Really?

**Rohit:** Of course. After having learned the game AlphaGo defeated the world's best chess software, Stockfish 8. It was a 100-game match and AlphaGo won convincingly.

**Nasreen:** Nice learning session Rohit. However, one more thing that I have learned in these three days is that our AI software is from a developer who is attempting to reach General AI levels.

**Rohit:** That is a far call dear. General AI is nowhere yet on the horizon. Let us concentrate on our program for the moment.

**Nasreen:** Tell me Rohit, are you not impressed with this program? It is giving us good lead. We are already able to predict some moves that our immediate competitor is going to make in, say... a month.

**Rohit:** That is all very ok Nasreen but it is still at a very basic level. You feed and it reacts. It is not made to act on past experiences. It does not have space for past instances in the media world.

**Nasreen:** Memory space is no problem these days Rohit! Come on.

**Rohit:** It's not about memory space. It's space for decision making, processing of data at a very high speed and most importantly in a novel way. This AI is nowhere near that.

**Nasreen:** Ok then, if you say so. But I have to discharge my duties...

**Rohit:** You are right. Let's focus on our present job instead of worrying too much on the future of AI.

**Nasreen:** I shall have to go to the city police headquarters. Mind accompanying me?

**Rohit:** I do not mind but you have given me so many things to upload!



**Nasreen:** Oh sorry, sorry! I completely forgot. You carry on, I shall be back in a while.

**Rohit:** Bye. Take care.

[Nasreen departs. Music signals change of scene. She is now seated before an officer, Mr Santosh, aged around 4 years, of the cyber crime department.]

**Nasreen:** Any development on the data theft case Mr Santosh?

**Santosh:** I told you that I shall call you if there is some new development, there was no need to come.

**Nasreen:** Yes you told me so but as you can understand, it's a fiercely competitive field and everyone is looking to stay ahead on this case. The city is keen to know how the theft occurred.

**Santosh:** We can feel the pressure madam. The company is a leading one and they are engaged in public service. Naturally, people are not only keen to know but they are afraid as well. Cybercrime is no more a fancy term these days. It's hard reality.

**Nasreen:** By the way, one thing I heard a couple of hours ago and I want to verify it Mr Santosh. Is it true that Zeta News is going to host a private party for the cybercrime department officials?

**Santosh:** I cannot comment on that. Besides, what has that to do with the data theft case?

**Nasreen:** There is no connection at all, I agree. I was just curious. Is it really happening?

**Santosh:** These are for our higher officers to know madam. I do not have any information.

**Nasreen:** Ok, I won't pester you anymore. It looks like the news is true.

**Santosh:** Please madam, do not put words into my mouth. You can easily ask the Deputy Commissioner if you like.

**Nasreen:** No need Mr Santosh. This is not for any news story. I am just curious. Bye.

**[Nasreen departs and heads for office. Music signals change of scene.]**

**[Four months later a press conference is being hosted by the house where Nasreen and Rohit works. All the management heads of the house are present. Assembled journalists are talking among themselves. Editor Arpita is addressing the journalists.]**

**Arpita:** I welcome all my fellow journalists to this meet. More than a press conference this is an opportunity for announcing our celebrations on the occasion of the completion of ten years of our journey. I would request Mr Manchandani, our

Managing Director, to address the gathering first. Then we can have a question-answer session.

**Manchandani:** Ladies and gentlemen, it is a very happy occasion for all of us. As you know that in the last quarter our media wing has registered a steep rise in circulation. We are very proud of our team of journalists and editors. I do not want to bore you with a long speech. But I must say that our company upholds the true spirit of journalism and we are here to be a sentinel for democracy. I thank you for coming. I hand the mike over to our editor.

**Arpita:** Thank you Mr Manchandani for the short and sweet address. The floor is now open for questions.

**Journalist1:** Could you tell us Mr Manchandani the real reason for the sudden rise in circulation in the past quarter. It has been a sudden and steep rise. Everyone in the media market is dumbfounded.

**Manchandani:** Thank you gentleman for your question. I told you that we are thankful to our team of journalists and editors. They have worked as per a very well formulated plan. Arpita, our editor, has led from the front.

**Journalist1:** I would like to know from the editor about any particular contribution from one or two employees that has given you the edge.

**Arpita:** That is a very good question. We treat our workforce as a family. Everyone has contributed and therefore I do not think that it will be proper to name one or two members of our team.

**Journalist2:** Could you please explain Mr Manchandani why two of your best journalists, Nasreen and Rohit, has been sacked a few days ago? Nasreen is an international awardee for reporting disasters.

**Manchandani:** Well, I do not think that it should be called sacking. It's a dynamic world. Everyone has a right to opt for a job that he or she thinks to be better. They had tendered their resignations and those were accepted So, I mean...Arpita might like to comment on this.

**Arpita:** Our Managing Director is right. Rohit and Nasreen are very good journalists. They have every right to choose their career path. I wish them all the best for their future. Meanwhile we have planned to recruit some new reporters who are fresh pass-outs from colleges.

**Journalist1:** I have another question.

**Arpita:** Don't you think that we should be heading for lunch now? I personally feel very hungry. Why Mr Manchandani?

**Manchandani:** Yes, we can chat over lunch. I invite all to lunch. Please join us.

*[Journalists are pretty dissatisfied with the sudden conclusion of the meet. They talk among themselves uttering words like ‘they want to hush up things’, ‘Nasreen got to know a lot of secrets’, ‘why did they arrange this meet at all’, ‘right you are’ etc.]*

*[On the highway, Rohit is driving a motorbike carrying Nasreen in the backseat. Traffic noise heard.]*

**Rohit:** We are on a long drive after months Nasreen.

**Nasreen:** Yeah but your bike has become too old. The shock absorber is not working properly.

**Rohit:** Old machines are like old friends dear! I am opposed to change.

**Nasreen:** Could you sense their move Rohit?

**Rohit:** I got a hint from Sandhya about two weeks back. I could read the signal better than your AI program.

**Nasreen:** I still cannot believe what Arpita did. I was expecting a bonus and she asked me to resign!

**Rohit:** We had been privy to a lot of information Nasreen! This was bound to come.

**Nasreen:** You mean they did not trust us anymore? Even after what we had done for the house?

**Rohit:** Yes, even after doing ground breaking work with cutting edge artificial intelligence.

**Nasreen:** What shall we do now Rohit? Can't remain job less for long. I have to pay for my father's medicine, my brother's tuition.

**Rohit:** We are going to start a new company.

**Nasreen:** Start a company? What are you saying Rohit? We are not businessmen, we are journalists.

**Rohit:** Journalists of course but not of the old type. We are digital age innovators. The developer of that AI program called me last night. He wants us to start a consulting company that can sell guidance to just any house. He says that the market has already opened up in the country.

**Nasreen:** Really?

**Rohit:** Believe me Nasreen. He says that big data companies will be willing to tie up with us and that makes response from the program deeper. You will no longer need to collect data on your own and visit police headquarters asking awkward questions. Respective agencies will take care of all that.

***Nasreen:*** That means Arpita and company will not remain the only players in the field. Every house will be able to utilize our AI system?

***Rohit:*** No doubt dear! Now hold me tight, I just want to taste some more speed on the highway.

***Nasreen:*** Okay! Here we come cyber world!

***(Episode concludes.)***