

# The Machine

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Kirti felt the subtle vibration of her mobile phone in the back pocket of her jeans trousers.

She was riding the escalator of the Garuda shopping mall in Bangalore. She needed to buy herself a pair of running shoes and a tracksuit. Only yoga and weight lifting exercises won't suffice for her freelance fitness modelling. She needed cardio exercises as well.

She was a sensation in her university campus, especially, among the male scholars (and also secretly to some of the young faculties) of the department of robotics and artificial intelligence, where she enrolled herself for her PhD on Artificial Intelligence and Advance Robotics, which demanded the development of a humanoid robot with a reasonable emotional quotient for fitness exercise.

Humanoid robots are robots that resemble human beings; they can be so realistic that one may find it difficult to identify them as non-human. A perfect humanoid would have the same numbers of degrees of freedom as a human being, with realistic facial expressions and gaze. To make it more realistic, it may perspire, display emotions, learn from the environment, and take decisions autonomously.

It was evening. The mall was crowded. She reached the third floor of the shopping mall and made herself comfortable on a bench, looking at the screen of her phone.

She noticed that she had missed a few calls. From Sandip! She called back immediately.

The call was quickly picked up as though the other end knew that she would call back. A male voice answered the call.

"Sandip wants to see you. Saturday evening, at 7 PM."

Brief, to the point. "Hello...but..." It was disconnected.

Kirti sighed. Saturday, that meant, only two days to go.

A month ago, Kirti chanced upon a printed interview of a young man called Sandip Srivastava who had significantly contributed to the branch of humanoid robotics. She was excited and promptly shot a mail seeking an interview, stating her mobile number.

After a week, Kirti missed a few calls from an unknown number. She decided to call back.

"Hello," the voice on the other side was deep, matured, and masculine. The type that Kirti admired.

"I missed calls from this number," Kirti enquired.

"Yes. This is Sandip this side."

"Sandip Srivastava? The humanoid creator?" Kirti was excited.

"Yes. Are you Ms Kirti?"

Kirti swallowed in excitement. Sandip Srivastava was in his thirties. A dashing guy, sportsperson by look, who developed his doppelganger humanoid Robot. He named his humanoid robot 'Sandip'.

Sandip created Sandip!

She replied, "Yes, I am."

The voice from the other side said, "I have received your mail, Ms Kirti. You desired to visit me and see Sandip."

"Yes, I do wish to see," Kirti was suppressing her excitement.

"That's fine with me. And, hopefully, with Sandip, too. Before that, I require to ask you the purpose of your visit."

Kirti replied, "I am a PhD student working on humanoid robotics. My subject is athlete humanoid with emotional intelligence. I have read one of your interviews in a magazine and felt that your interest matches with mine. It will be an academic meet."

A long pause at the other end.

"Hello," Kirti wanted to confirm that the other side was online.

"Yes, Ms Kirti, you are most welcome. When do you wish to come?"

Kirti was not ready for that question. After a few seconds, she replied, "What about next Saturday?"

"That's hardly a week from now. I am afraid that may not be possible. Currently, I am working on the emotional API of Sandip. Do you know what is an API?"

"Application Program Interface. The interface through which one interacts with the operating system," Kirti replied.

The other side seemed impressed, "Yes. I am currently working on the emotional API. Two subroutines are not working as desired. Sometimes it is falling in the trap of an endless loop. Sometimes the anger expression is replaced with a happy expression. I am still trying to figure it out. There is a problem with the power system as well."

"What's the problem with the power system?"

"The built-in UPS is not working. When I simulate an input power failure, Sandip is getting turned off."

"Oh! When do you suggest I should come?" Kirti was disappointed.

"Maybe after a month. By then I hope to fix both the API and power-related problems. Also, by then I will be able to provide enough training to the machine learning system of

Sandip regarding physical exercises and massages. I will call you once everything is ready.”

“One month!” Kirti was disappointed.

“Have patience, Kirti,” Sandip said, “you are planning to come with a purpose. Let me keep everything ready. I will call you when everything works.”

Finally, the call came. Brief, to the point. Within two days, Kirti found herself in Ranchi. She was adventurous and travelled all alone.

When she asked the receptionist of the Park Prime hotel, where she checked in on Saturday afternoon, she was told that Sandip Srivastava stayed 3 to 4 kilometres away.

When she came out of the hotel to visit Srivastava, it was 6.45 PM. Public vehicles were not readily available. When she almost lost hope, an auto driver came to her rescue.

“Where would you like to go, ma’am?” He asked.

“Pahari Mandir.”

“Where in Pahari Mandir?” He asked the exact location.

Kirti scrolled through her mobile and got the address in the WhatsApp conversation with Srivastava. She showed the address to the auto driver.

“Whom would you wish to meet?”

“Do you know Mr. Sandip Srivastava? The robot maker?” Kirti disclosed.

The auto driver laughed. “I see. You want to meet Srivastava. Get in. I know his address.”

Kirti boarded the auto. Soon, she sent a WhatsApp message to Sandip about her inadvertent delay.

The message remained unread even after ten minutes of the ride. Her auto was stuck in traffic.

While the driver was waiting for the signal to become green from red, he said, “Do you have an appointment with Srivastava? Asking because I have not seen him outside his house for the last three weeks. I stay in his locality.”

“Yes, I scheduled an appointment with him,” Kirti said.

“Srivastava ji does morning and evening walks regularly. He goes to play basketball as well. I know his daily routine. He remained extremely occupied for the last six months with his robot. His behavior was changed. For the last three weeks, I didn’t even see him.”

It was about 7:40 PM when she reached Srivastava’s apartment. She went to the third floor and rang the bell of his flat.

“Come in.” A voice was heard.

She entered, and felt an unmistakable repulsive ambiance. There were two chairs on which two Sandip Srivastavas were sitting!

Yes, two Sandip Srivastavas!

One was original, while the other was a humanoid. Extremely difficult to identify which one was what. Both were identical. The skin, hair, eyes, all minute details were taken care of while making the humanoid Sandip Srivastava. Kirti found it difficult to figure out who was real.

The room was stinking. Everywhere electronic components were spread, along with mechanical parts. Also, a laptop.

The silence broke when suddenly one of them stood straight and laughed. “Sandip Srivastava,” he stretched his hand towards Kirti.

Kirti shook her hand with the incredible engineer. An engineer who could create such a marvel in humanoid robotics.

“Let us start the interview. It is late already,” Sandip was outspoken.

Kirti was visibly embarrassed. True, she was late. Sandip’s time was indeed valuable.

“I am so sorry. I was delayed.” Kirti apologized.

“I will not hang you by neck for that. Be easy,” the reply was spontaneous, “or, should I?” A smart dashing smile sported on his face.

Kirti smiled. He was irresistibly flirtatious, to the extent she secretly admired.

“May I ask you a personal question?” Sandip asked.

“Sure. Go ahead,” Kirti was surprised.

“What do you do in your leisure time?”

“I...I read books. I am a fitness model as well.” Kirti fumbled while answering.

“I could figure it out. I can see that you are a fitness model.” Sandip measured her with his eyes from top to bottom.

How did Sandip know that? Did she ever disclose that? She could not recall.

She was feeling uneasy. “Do you stay alone?” She asked.

“What makes you feel so? I stay with Sandip.” He pointed his index finger to the clone of Sandip sitting on the chair.

“Sit, Ms. Kirti. Let the interview begin.”

Kirti sat on the sofa. Sandip looked at her and said, “I have one good and two bad news to share with you. Which one would you like to listen to first?”

Curiously, she said, “the good one first.”

“The good news is that I will be able to answer all the questions you may ask on Sandip. Any question.”

“And, the bad news?” Kirti was becoming easy with that outspoken prodigy.

“The first bad news is that Sandip is down today. I may not be able to demonstrate him to you soon, as promised.”

Kirti was angry inside. She hid her emotions and said “You could have told me that beforehand. I would not have come.”

Sandip stared at her. Kirti’s anger transformed to fear. An unknown fear.

“And what is the second bad news, may I know?” Kirti managed to ask.

“You will come to know. Now you may start.”

Sandip posed like a film star. Kirti shot a couple of pictures. Both Sandips were captured in a single frame. The other Sandip was feeble, trying to open his lips and say something.

“Just a minute.”

Sandip left his chair and went to the other Sandip lying on the chair. He pressed a part of the shoulder of the sitting Sandip which immediately turned him off. The head hung to one side.

Sandip came back to the chair, sat down, and turned to Kirti. “His auditory system was active. So were different APIs. Since we would talk now, I needed to turn him off. Otherwise, he would have interfered in our conversation. He is equipped with Natural Language Processing or NLP. He can speak in Hindi, Marathi, and of course, English.”

“How does he work?”

“Because of his deep learning features, he learns from experience and improves his skill. His response is internet-based and hence his response-speed depends on the internet speed.”

“What about his emotional intelligence?”

“It is all about the emotional API I have developed. He can be angry, happy, surprised, sad, confused as well as sexually turned on. He does sentiment analysis and reacts accordingly.”

“Why is it so challenging to make a humanoid robot?”

“Well, you need expertise in many disciplines. From physics to biology, from electronic to mechanical to computer science. And of course, robotics.”

“Tell me about his emotional API.”

“Sandip can become extremely motivated when he reaches his target in running or walking. His forward and reverse kinematics are incredibly fast. There are sensors embedded in him to calculate how much work he has done, and how does it convert to the calories burnt. Once he is happy, he may hug people. There are piezoelectric crystals that simulate his heartbeat, the current sensor to sense the stress he has undergone, which, in turn, modulates his skin temperature, his breathing rate, and pulse rate. Also, sweat. I have simulated the human metabolism in him.”

“Does he get angry?”

“If something he doesn’t like, Sandip gets annoyed. There are motors within his face that simulate the appropriate expressions.”

“I see!” Kirti was astonished.

“Sandip can run at a stretch up to one kilometre. Then the power system can no longer support. He can, at present, hold objects up to ten kilograms of weight.”

“What else can Sandip do?” Kirti was amused by now.

“Sandip’s some of the emotional API subroutines have gone crazy. Two subroutines, which were supposed to be independent, have started interacting with each other. As a result, he has developed some strange behavior.”

“What is that?” Kirti was curious.

“His subroutines for anger and excitement started interacting. As a result, if Sandip gets excited due to any reason, he may kill someone.”

Kirti was extremely curious. “Is that the reason behind your keeping him disabled during our discussion?”

“Precisely.”

“What would have happened otherwise?”

“Who knows? He could have become excited by seeing such a beautiful fitness model at home.”

“Would he have killed me?”

“Possibly.”

“It is too dramatic to be credible,” Kirti smiled.

There was silence for a minute.

“Why can’t you believe?” Sandip asked with an expressionless face.

“It is incredible! If whatever you are telling is true, it can be used to simulate some of the psychological disorders. Nobody has so far used humanoids for psychological experiments.”

“Is that impossible?” Sandip was serious.

“I don’t believe it,” Kirti was stern.

“Why!” The politeness in Sandip’s face evaporated.

“Because it is impossible. Your emotion API cannot mimic human emotions.”

Sandip stood up from his chair. His eyes were glowing in anger. “The word impossible is absent in Sandip’s dictionary. You better withdraw your comments.”

“I won’t. What would you do?”

“Withdraw your comments and apologize. Come on.” Sandip started approaching her.

“Sandip, Sandip!” Kirti shouted. “I will call the police.” She took her mobile out.

Sandip snatched the phone from her hand and threw it off. Kirti tried to reach the door, but before that, she was pinned to the wall.

“Sandip! Don’t.” She shouted.

The humanoid lying on the chair showed some sign of life. His NLP and Linguistic Interpretation systems got activated, it seemed, by hearing his own name.

Sandip didn’t notice that.

He grabbed Kirti’s throat with his right hand.

“You are hurting me.” Kirti tried to resist. She was suffocated and overpowered. Sandip’s fingers squeezed her throat hard. Her eyes bulged, tongue protruded, and when she was about to pass out, the power went off.

It was pitch dark. She gave a last try to loosen the fingers of the demon. She was successful. The grip loosened. She started gasping heavily in the darkness.

Why did Sandip release her? He could have killed her easily.

Suddenly, she heard a sound of something heavy dropping on the floor. She was clueless, and still gasping. Suddenly, the power was back.

Kirti discovered Sandip lying on the floor on his chest. Unconscious. There was neither any wound nor bleeding.

She shouted. “Sandip!!!”

From the chair that was near the wall, a feeble voice was heard, “Leave it alone, Kirti. Give me a glass of water.” The extremely feeble ‘Sandip’ lifted his hand to call Kirti near him.

“It won’t wake up now. Its power system is interrupted. It doesn’t deserve revival, either.”

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