

SATVIK GOLECHHA



Dystop.ai

A cautionary tale that is soon to be stale.

Dystop.ai

(a novel)

(useless blank page)

Chapter 1
2050 — Nayi Dilli, Bharat

“No, R2, it’s a Saturday.”, mumbled Dr. *Urvi Sancheti*. She’d gotten pretty tired working up late last night.

“Urvi, it’s time to wake up.”, it replied. It pronounced her name perfectly. /urvi/. Starting with “oo” as in food and ending like the common name Harvey. She had always hated the common English mispronunciation rhyming with Scurvy, a disease common when she was born.

“Not on Saturdays.”, she fought back, “And that’s my bum.”

“Sorry.”, it replied, “But you’ve got an 11 o’clock research talk at *Bharti-595*, IIT Delhi. There’s going to be more traffic today, so you should take a shower fast.”

The reply was coming from invisible woofers on all sides of the room. The conversation was happening in Hindi, Urvi’s mother tongue.

“You must wake up!!”, it said once again, this time a bit obstreperously.

Unfortunately, it was correct. It always was. After all, it was fine-tuned every week with lots of new information. Gone were the days when AI had just started beating humans at playing chess and understanding natural language. Today AI was so good that humans didn’t doubt it on such trivial matters. Urvi called hers “R2”.

As a scientist, Urvi got very amused by the surreptitious, hermetical control humans had given to AI in the last couple of decades. She didn't really support or oppose it, even though as an AI researcher herself she was kind of playing a role in its development. But mostly, she just wondered about it. An agent could be taught about your choices, your calendars, your food preference, your opinions, your sense of humor, your trigger points, your relationships, and so on — all of that she understood very well. “Trillion-dimensional manifolds”, she thought. A company had even combined all of it into one single encrypted cluster of all your life's data and called it your LifeStore, sold at a thousand rupees monthly. What she found really amusing was that humans started subconsciously trusting the AI's decisions and thoughts more than their own.

Everyone had their own personal assistant, and if yours said you should buy a new pair of shoes because it thought they'd look good on you — despite your thinking otherwise, you would be expected to buy them. Or for instance, if on a Saturday morning, you were feeling particularly sleepy, but your assistant yelled:

“Wake UP!!!”

She got up, gave her body a good, long stretch, and yawned.

This is called pandiculation, and it is quite involuntary.

Do all scientists like converting every mundane thing into a trivia fun fact?

Oh my god, it's 8:35.

When I was eight, I woke up at my beautiful home in Bareilly to the jarring honking on the streets.

Now, at thirty-five, I wake up to pin-drop silence.

Get a life, Urvi.

Last-to-last year, Sancheti's group had won the best paper award at the NeuraLIPS Conference for their work on learning-aware reward shaping through multimodal human feedback, which was basically the algorithm R2 was trained on. More technically, it was just "finetuned" using it. Since then, a number of universities and labs had started inviting her for research talks like this one at IITD. While the talk felt quite repetitive, she liked these events overall. One of the few occasions when she got so much undeserved attention; these were also a chance to know what others had been up to.

Thank goodness they don't offer virtual attendance.

She washed and got ready, planning to check her e-mails on the way — now that she didn't need to look at the road once in a while, thanks to her company gifting her the all-new *Tata D4 Auto*. Some people still liked or preferred to drive themselves, but like most others, Urvi thought it was too risky.

Before leaving, she checked the fridge. As a single woman living alone, she had the acquired imperative tendency to eat whatever she could get without too much effort or complaints. She found some purple sweet lime on the top shelf.

Mausambi. Or Santara?

Urvi hazily remembered it being a yellow-green fruit during her childhood. Twenty years ago, a company came up with a new genetically modified variety that had way more shelf-life than the original and was richer in *anthocyanins* — water-soluble, vacuolar pigments that made them even better antioxidants. Within two winters, the markets were full of them. Now it was difficult to find the yellow-green ones.

She left her apartment, quelling an instinct to turn off the blinds, the lighting, and the air purifier. The main door locked automatically as well. Her ex-husband was a charming musician who still had those old-school manual fan regulators installed in his house. She had spent more hours playing with those regulators than she should have.

Oh, move on, Sancheti.

She sat in the automatic and started scrolling and swiping on a screen placed exactly where once used to be the most important part of a car — the steering wheel.

Chapter 2
2050 — São Paulo, Brazil

The state of São Paulo in Brazil is home to numerous stunning beaches, art museums, and churches. It is home to lush green forests and the diverse wildlife that habitates them. It is also home to the unique food and music of the *Caipira* tradition and the industrial city of São Carlos.

It is also home to Miguel Serrano Lacerda. A home he had to leave tonight.

I need to fly to Navi. And I need to meet Sancheti. And get her to speak.

Miguel worked as a geneticist at the *Hospital Geral de Pedreira* and had a specialized degree in medical genetics. He was up for a promotion next month, but none of it mattered now. He had made up his mind to do what he should have done months ago. To go save his dear friend — to whom he owed his life and much more. He regretted wasting so much time in the first place. What if they'd done something to him? He was packing all the things he thought he might need.

Three full-sleeved shirts. Two pairs of Capri. Insulating underwear. Five pairs of socks. Walking shoes. Flip-flops not needed on this trip. A brown leather belt. A cap. A compact, quick-drying towel. Toothbrush. Toothpaste. Shampoo. Soap. A razor. A laundry bag. First aid and prescribed medicine. No time for laundry. A bottle for water. Food supply. Sunglasses. High SPF sunscreen. Phone charger. An international adapter for it. Blood pressure cuff, just in case. His passport. Some local currency — Rupees. A RuPay/Visa credit card. His copy of "A Hundred Years of Solitude". Headphones. A water-proof bag.

This is not a vacation. There would be no time to read.

He threw out the book from his bag and added another set of undergarments. He had no idea when he would be returning home. Not before saving his dearest friend.

And if what I fear is true, a far greater number of lives are in danger.

He booked a Taxi to the international airport. Miguel was not someone who missed things. Yet, he double and triple-checked every single item in his backpack. On second thoughts, he picked up the book again. He had seventeen hours to spend without connectivity. He was not a rich-ass official who could arrange a supersonic that went straight to Mumbai in four hours.

Like the fucking CTO of Brakonics.

Chapter 3
2050 — IIT Delhi

Sancheti had made a personal habit of keeping at least thirty minutes after her research talks for questions and discussion. There was no point otherwise; the students could just as well have watched the stream. It was these discussions that she enjoyed the most as well — she believed that she had as much to learn from these young, talented minds as they had from her. But the man in a black uniform walking towards her did not look like a student at all. On his right shoulder was a big, discernible logo:

HGP

A foreign office worker? At an Indian Institute of Technology? Walking towards me?!

“Dr. Sancheti, I’m sorry to disturb you, but I need you for a minute.”, he said. She couldn’t ignore the thick accent, and from the way he said her surname, he clearly wasn’t Indian.

“Yes it’s called “San-kitty”, thank you very much.”, she thought.

“Hi. Yes, sure, how can I help you?”, she replied instead.

“I am Miguel Serrano, a geneticist from Brazil.”, he said. He took Sancheti’s hand and shook it. His eyes were dead serious and focused.

Miguel. Serrano. A geneticist. From Brazil. Nothing could be less related to me.

“Hi, Mr. Serrano. I’m sorry, but there must be some confusion. I don’t know you.”, she said.

“Yes, there’s quite a lot I need to tell you. But first, please answer this one question I have.”, he said, “In your research work, are you involved with the firm Brakonics in any capacity?”

I wish.

Brakonics Inc. was the world’s third-largest company with a market cap of 4.3 trillion WCUs¹. It was the industry leader for all things related to biotechnology — R&D in bioprocesses, stem-cell therapy, genetics, genomics — you name it. Headquartered internationally, it had research labs in almost all major countries and produced top-notch research in *Nature* every year, with the following vivid logo at the top left:



“No.”, she said curtly. Sensing a sudden awkwardness, she added “Their only contribution to my work has been through making my eyesight better so I could read posters from thirty feet without glasses. And my only contribution to their work has been the money for that treatment.” The silent response from Miguel emphasized that he was not in the mood for any tomfoolery.

¹ Countries had to agree on WCU (or world currency unit) as the unit of global purchasing power. It was roughly equal to 0.7 dollars or 28 rupees at that time.

“I understand.”, was his reply. Miguel looked into her heavy, brown eyes for a long time. His were light hazel with golden flecks. And for the time being, they had somehow forgotten how to blink.

“If what you’re saying is true”, he replied, “then I need your help — and so does your country. Brakonics is performing large-scale, unsafe, and unauthorized trials on human subjects in India, and your work is involved in the same.”

Okay, Urvi. Now you can panic a bit.

“Excuse me?!” , started Sancheti, “Well, there clearly has been some mistake. I have never worked with Brakonics, and I’m an AI researcher, not a genetics person.” She felt dumb saying “genetics person”.

It’s a geneticist, you dummy.

Miguel was still gazing into her eyes. “Does the following paper look familiar, Dr. Sancheti?” he said, and showed a research paper on his phone:

Sancheti et al. "Reward Shaping for Unbounded Learning-aware Monte Carlo Algorithm Search" Communications of the ACM, 2037.

“Yes, this was my post-doctorate thesis. How is this even related to anything?”, asked Sancheti. “Also, can we walk towards the basement while we discuss? My car’s parked there.”, she added, after noticing two rusty sophomores trying to eavesdrop.

“Sure, let’s walk.”, replied Miguel, “Unfortunately, this paper has everything to do with it. The lead of this project in question was a Brazilian *Brakonic* named

Lúcio Henriques. Lúcio came to India two years ago to work on a top-secret research project. On his team was my dear friend, Hugo. When Hugo was asked to join them in India for a long-term, top-secret project, he naturally started exploring more about it. Very soon, he realized that Lúcio was planning a large-scale, barbarous project that threatened not only the lives of a million Indians, but also, if successful, the future of all of humankind.”

They had reached the dim basement of IIT Delhi. Urvi said “I’m here” on her phone, and twenty meters away, her matte black Tata D4 Auto sprung to life. He gave it a moment for the stakes to sink in. He had replayed this narrative a hundred times over the last month, ever since he had read that letter.

He continued, “As soon as Hugo had an inkling of the scheme, he decided to bail out. ‘I’m not going to India’ — he had told me over the phone. But he didn’t tell me why, he just told me he wanted to stay at home, and I was happy for that decision. Two days after that, news came that he was missing. They later found his burnt remains in a secluded part of a forest. I was grieved beyond words. However, a month ago, I discovered that all of it was a lie.”

Is this a murder mystery series? God, please don’t make me part of one.

She tried to leave. She was saying, “I’m sorry, Mr. Miguel, but I don’t know you and I would much rather not get involved with anyth —”, when he held her hand and cut her off mid-sentence. He said, “I know, Ms. Sancheti, that it’s a lot for you to process at once. But please understand this: a month ago, I found this research paper of yours with a letter from my friend. I need you to help me.”

Run away, Sancheti. There’s still time.

“Why would there be a copy of my research on a geneticist’s desk?”, fought back Sancheti. While her paper had thousands of citations and over a hundred thousand monthly reads on Arxiv, she didn’t expect people “outside the community” to be reading it for fun. It was quite technical.

“In simple words, it so appears that Brakonics is using your technology to kill people.”, said Miguel, “And thus I need your help to collect proof of what is going on, and to figure out how to stop it.”

“I would suggest you go to the authorities. I could connect you with the police and they can —”, said Sancheti. Once again, she was cut off.

“Like I didn’t.”, replied Miguel, “Your authorities do not even let out a fart without a warrant. And my authorities . . . well, they’re not really concerned about either Hugo or a million Indian lives, or corrupt, or both.”

“Well, what about the CBI?”, asked Sancheti. “Bharat’s Central Bureau of Investigation.”, she added.

“Yes, I know what the CBI is. I’m on a Visa here. And leaking international-scale, life-threatening secret missions without proof doesn’t really come under “tourism purposes”.”, said Miguel. Before she could even reply, he shoved a large brown envelope into her hands and turned around.

“What’s this?”, asked Sancheti.

“Tickets. We need to leave for Navi on Friday. Pack light.”, he said, facing away. He started walking outside.

“I’m sorry, but I do not know you at all, and whatever it is that Brakonics is doing, I’m not getting involved.”, said Sancheti.

“It has my number. At least give me a call tomorrow at 8 pm once you’ve looked at the letter.” was the only thing Miguel Serrano said before running off outside the basement into the daylight.

Chapter 4
2050 — Nayi Dilli

Urvi couldn't really answer the students' doubts or discuss research after what had happened, and a few minutes after Miguel had left, she left for home too. As she latched her apartment door from the inside, she felt a distant yet forceful sense of disquietude. She never used to physically bolt the door, but today her heart pumped not Oxygen but trepidation into her brain. And it did that pretty fast too.

Just don't call him. Forget that this incident ever happened. Go on with your life.

“What life?!” she yelled, startling even herself.

While her life was in all practical terms very “sorted”, she was at the same time in a total mess. She was fit and healthy — yet full of insecurity. She was very well-respected in the research community — but equally unwanted at weekend parties. She could play sports and crack jokes — but didn't have too many friends to do so with. She had money but didn't know what to do with it that could make her happy. She had regrets. She had fears. On top of all of that, she had had a crushing divorce last year that left her both angry and disgusted with herself. As she looked at her own reflection in the glass wall — a reflection that was five kilograms more than she — her mind wandered to a conversation she had had with a friend years ago. Drishti. Drishti the wise, as she used to call her. She was the opposite of Urvi in every sense fathomable.

Urvi loved math and the sciences, and Drishti hated them.

Drishti loved to dance and sing songs, and Urvi hated them.

Urvi loved decaf and philosophy, and Drishti . . . well, she loved them too, and that's how they had spent more than a thousand evenings — decaf and philosophy.

“I love this song,” Drishti had said, to the following very old song playing on a speaker nearby:

*Teri Mitti Me Mil Jaawaan,
Gul Ban Ke Main Khil Jaawaan,
Itni Si... Hai Dil Ki... Aarzu²*

And Urvi hated it.

She had said, “Soldiers are stupid. Why give your own life to fight? And that too fight for a country. I mean, the idea of the existence of different nations is itself something that divides the world. And patriotism is stupid — reinforcing this divide, and willing to die for it. I can never, ever want to become a soldier.”

“Urvi, you don't understand what it means to love something more than yourself,” said Drishti. “Heck, you don't even know what it means to love, period.” They were sipping coffee while walking on the pavement beside a chain of eucalypti.

² To immerse myself in your soil and to be reborn as a flower — is the only desire of my heart.

For a while, nobody said anything. The pause was gravid. It started raining. Tiny drops that are enough to make Drishti excited and Urvi afraid.

“You know, Urvi, what your problem is?”, asked Drishti.

Urvi looked at her. It was not possible to look into Drishti’s eyes — she never made contact.

“You’re impelled by fear. There are only three things that can motivate us humans — fear, duty, and love. You are one hundred percent fear. Dury or responsibility doesn’t impel you because you fear the risk of the burden. And love ... well...”

“... how can you love, when you’re... afraid... to... fall...”, sang Drishti.

Urvi hated songs.

That was over twenty years ago, and here she stood, all alone in a fully-furnished flat, holding a brown envelope close for the fear of losing it. Healthy for the fear of death. Rich for the fear of poverty. Uptight for the fear of roughhousing. Single for the fear of love.

Urvi Sancheti tore open the big brown envelope.

Chapter 5
2049 — Shirdi, Maharashtra

The revered spiritual leader *Sai Baba* was born in the 19th century and is believed to have arrived in Shirdi as a young man and lived there for several decades. He performed many a miracle and spread the message of love, compassion, and unity. His teachings and spiritual practices attracted devotees from far and wide, eventually transforming Shirdi into a sacred pilgrimage site. Today, Shirdi is home to the renowned Sai Baba Temple. While the overall number of people believing in spirituality has dwindled rapidly over decades, thousands of devotees still congregate every month to pay their respects. All around the town, the past and the present were transfused by old, dusty huts embedded between glass-floored mega-skyscrapers.

It was a dull summer evening. Currents of heated winds drifted through the entire city. A signboard beside a dull building's second-floor window said:

**TO AVOID FAINTING,
DO NOT STAY OUTDOORS FOR LONG.**

It was the second of October 2049, the birthday of Mahatma Gandhi, and for a certain man named Laksh, it was all getting too much to bear.

“I’m sick of it.”, grumbled the 5-foot 9-inch Laksh, who was hanging upside-down from the top of a 110-floor building with a steel cord. He had a spray-can in his hand and was tinting the windows with a triple-protection UV tint.

“Damn, we surely don’t get paid enough.”, replied a little person named Ravi. He had dwarfism and had a much tougher time with the whole painting business. He was also slightly afraid of heights, and from there even large vehicles seemed like tiny dots.

Laksh said, “We should be glad that we found this job, to be honest. Do you know most places have already replaced all their sweepers and workers and painters with robots? I saw Taru the other day — he was looking almost as bad as those jobless slum-dwellers. Guess he couldn’t find a job after being fired.”

It was hard to judge how much of it he actually meant.

Ravi sighed, “ Yeah, you’re right, captain. The world has truly become a shitty place, hasn’t it.”

“No need to call me that, Ravi . . .”, said Laksh, “titles like those don’t exist anymore. Maybe it’s for the better. Maybe the so-called peace that we soldiers swore to die for has been achieved.”

They were one of the few groups in the city that still conversed in respectable Marathi.

”But you know what, captain? Sometimes it feels like a curse that we didn’t actually have to die for it.”, said Ravi. “I envy Jinky and the gang — bastards lived and died like true warriors — as we should’ve as well.”

“Come on Ravi, snap it out. I know our lives are a lot different now but you gotta look at the bright side. A lot of people are happy now.” said the former commander Laksh.

“Are they really, captain?” was the reply from Ravi. It was always when the level of dullness of the conversation reached somewhere around this level that Maggie had to step in to stop them.

“He’ll never stop calling you captain, Laksh, so drop that look and finish up your work. Gosh! How many more windows do you have left?”, a cheerful voice from the far left shouted. Maggie was wearing her hair in a bun so they wouldn’t fall upside down.

Maggie was just like that. Even during her strike days, she was always perky and zestful. She was the main reason behind the strong morale of their team, both then, in team Yajna, and now, in team Maggie-Ravi-Laksh who took up odd jobs here and there so they didn’t have to sit at home and risk paranoia.

“Just one more left for me, what about you two?”, replied Laksh. Tinting windows at a height of a thousand feet wasn’t his favorite assignment.

Maggie had finished hers whereas Ravi still had five more windows left. Laksh aggressively told him to pick up the pace and went on to finish his last window.

Laksh always peeked inside the windows he did so he could see what actual humans were doing. Their lives had become ever so mechanical. Stress, anxiety, anger, and fear were the dominant emotions displayed by them — the emotions that Laksh was more than familiar with. Though there were the occasional glimpses of smiles and laughter, they were still very few in number. Despite that, it was enough for Laksh to deem that his life had meant something. This particular window, the last window Laksh was tinting for the day, was the window of one such person — a woman, probably in her early 30s. She had a beautiful face with a great figure, but that wasn’t why Laksh was spending an

extra fifteen minutes washing her window. He simply liked her eyes — strong but affectionate, aggressive yet calm. Something that was so rare those days.

This was why Laksh did not notice that Ravi, who was usually the fastest of the three, did not even finish his windows that day.

As they hoisted themselves down towards the roof to leave, Maggie saw tears rolling up Ravi's forehead. The last time he had cried was in 2041 when their trio, with forty thousand other soldiers, had been suspended by the Bharat Army. Replaced with AI-based robots that were “more resourceful, more efficient, and more reliable, thus a “must-use” for domains of national importance”.

“At least they don't cry better than us.”, Maggie had said that night.

Eight years later, Ravi sat in a taxi that was already waiting for him outside the building. He didn't need to tell the car where to go. It was pre-paid to reach a tenebrous street behind the *Sri Shirdi Saibaba Temple*.

Chapter 6
2050 — Nayi Dilli

Urvi Sancheti tore open the big brown envelope. It had four items:

1. A letter, written by hand in hurried, blue strokes (a photocopy of it);
2. Two physical tickets for a flight from Dilli to Navi (for two different times, whichever suited her better);
3. A small piece of paper with a phone number, presumably Miguel's; and
4. A copy of v1 of Sancheti's research paper

She gave the other side of the letter a quick glance (it was empty except for a few brown blotches of dirt), and started reading it carefully, word by word:

Dear Miguel

I hope you never get to read this letter. But if you do, it means that they've taken me hostage. Don't trust them - I don't know if I'll be alive when you read this but do not trust anything they say. They'll search and destroy any evidence in my house, but they won't be able to

find this - because you are the only person on Earth who knows this place.

Brakonics is run by heartless businesspeople who do not have a single cell of conscience in their pitiless, callous bodies. They have leverage over my family and I can't reveal their shit to the public, but you can. I'll just tell you that they have built the infra to run millions of genetic experiments on live human subjects in India. They are going to use it to train an Axl agent using Dr. Sancheti's algorithm on reward shaping, and then use the algorithm to create the biggest business edge this world has ever seen since the iPhone.

Millions of lives are at stake, and potentially, even the future of humanity itself. If possible, try to save us, please.

Your friend,
Hugo

Urvi read it again. And again. And a third time before she finally tossed it on the carpet and pressed her temples. She had a slight headache.

She read the abstract of her own paper, which she regretted writing more than anything else. She looked at the tickets and other things in the brown envelope.

And she picked up her phone and typed in Miguel's number.

Chapter 7
2050 — Navi

Navi, formerly called *Navi Mumbai*, is the world's largest planned, modern city. In the heart of the state of Maharashtra, it has numerous skyscrapers, malls, temples, and parks. It has a population of over 2 million.

“The perfect place to orchestrate this crime.”, thought Miguel to himself. He was on a call.

“Yes.”, replied the officer. “She has been spending all her time as a research scientist and has no involvement in the affair other than that research paper of hers. I have been tracking her for a week and there's nothing outside the ordinary. We can trust her.” Miguel ended the call without another word. He knew that end-to-end encryption in calls was provably secure, but he still had that eerie feeling that someone was listening to everything he said, looking at every step he took.

Miguel was sitting on a bench outside the Navi International Airport, waiting quite impatiently for Sancheti to arrive.

Urvi was sitting on the plane, waiting for it to land. She tried to think about the whole thing and how it related to her research. She remembered very vividly winning the best paper award for this paper:

Sancheti et al. "Reward Shaping for Unbounded Learning-aware Monte Carlo Algorithm Search" Communications of the ACM, 2037.

While the applications of her work could be many, Sancheti knew that the algorithm worked particularly effectively for online learning in sparse-reward settings. How this particular Brakonics employee, Hugo, got hold of this research, and how they had planned to use it, she had no clue whatsoever.

“Maybe someone is trying to use reinforcement learning for gene editing?”, she thought. This was a very viable idea, except that there was nothing really special about it. Hundreds of research labs were working on this exact problem, trying to find out good action sequences for gene editing on the human genome.

The plane landed. She took her luggage and got out. This one did not separate hand baggage and check-in baggage. Instead, they had lots of space for it in the cabin space itself, with extra space for an additional fee. She got to the location the officer had shared with her and found someone, presumably Miguel, standing there looking at something on his phone. When she approached nearer, he was fully alert.

They both stood straight, x-raying each other up and down for a full minute. And then they said “Hi.” and “Hello.” simultaneously.

“Thank you for coming, Ms. Sancheti.”, said the man with a thick accent.

San-kitty again. As an extremely low-priority task, I need to tell him how to say my name correctly.

“Couldn’t say I had much of a choice there, Mr. Lacerdy, after what you had shared in that envelope.”, was her reply.

“Please, call me Miguel.”, he said, not realizing that she had just used his last name to get back to him for his utter mispronunciation of hers.

“Okay, Miguel.”, she said. “Now, as I had told you on the phone, my involvement is only —”, said Urvi, and she was cut yet again. This was becoming a habit.

“I completely understand.” said Miguel, “and thank you. I’m sure you have many questions, so should we go ahead and get to business?”

(to be continued)

Thank you so, so much for reading. I’ll buy you some chocolate.