



# KUCHELA.AI

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## Chapter 1 KUCHELA.AI

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I have been unable to focus on any work for the last few days. KUCHELA.AI is the name I gave to the new Artificial Intelligence project that I started.

Since the day I started planning this project, my mind has been busy with random thoughts. It is going astray. I haven't felt this uneasy, this acute feeling of emptiness since I immigrated to the United States twenty-five years ago. What is happening to me? The cross-functional dream team that I wanted is ready. The project kick-off meeting was scheduled to start at 10 a.m., but it is 10:15, and I'm still sitting in my office, thinking.

Assuming I'm busy with some in-depth conceptual planning, my executive assistant, Erlyn, has hesitated to disturb me. But with the team waiting in the conference room, she knocks softly on my glass door, calling out, "Krish. Krish!" She points at her watch.

## **Chapter 2 Friendship is life**

Indian Institute of Technology, Kanpur:

I fell in love with Kanpur when I went along with my dad to be admitted to the IIT. It was a long, twenty-hour train journey, but I was full of excitement and hardly slept on the train.

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When first-semester results came out, Kumar got the highest marks, and I came in second. It gave me more focus to concentrate and study. Kumar's friendship also forced me to learn more about American universities, schools, and programs. The ambition to go there and pursue higher studies took deep root. I became quite busy with my classwork. Gradually, the letter-writing to home, the occasional communication with Saradhi—it all started fading away.

Professor Sanyal taught us Automata Theory, and Professor Kameswara Rao taught Advanced Communications. Kumar and I became the most coveted students for both these teachers. I got a severe viral fever during the second year, during which time I could not even go out of the hostel. Roommates brought me medicine from the clinic. As I was not attending the classes, Professor Kameswara Rao inquired after me, and one day ended up visiting me at my hostel room along with a doctor. That was an honor that I could never forget.

Once I recovered and went back, he repeated the classes that I'd missed, giving some vague excuses for doing so. My classmates realized that he was doing it out of favoritism to me and were quite jealous. The real bonding between a good student and a teacher has no boundaries. Students were usually scared even to raise their voices against Professor Kameswara Rao. But, based on that incident, they realized how soft his inner self was. Even our dean was surprised at this gesture by Professor Rao.

I remember one other event, vividly. Dr. Sanyal would often set very high standards for his exam. We were all sitting at multiple levels on the benches in L5 Lecture Hall to take his final exam. Kumar and I were in the first row, near the ground level. Dr. Sanyal gave us the question papers first and then went up the steps to distribute the same to the rest of the fifty-plus-student class. It took him about twenty minutes to come back down. As he returned, we both turned in our answer sheets. Dr. Sanyal smiled and said, "I will not be surprised if all of you turn in blank papers. I have made the test very hard."

Kumar and I simultaneously answered, "No, sir, we answered 100 percent of the questions and are done with our exam."

## Chapter 8 Team, Trailblazers

We had a new group of interns joining one week. Even though they all had formal backgrounds, I wanted to explain the terminology so that all were on the same page.

“Team, welcome to the Research Labs. You will have a great time here. We use the terms; artificial intelligence, machine learning, and deep learning quite often in our discussions. Let me elaborate on some of these terms with examples so that we are all speaking the same language.

“You all know how John McCarthy, the father of AI, defined artificial intelligence. Machine learning is a part of artificial intelligence. Even when not coded with all the rules, these machine language systems can learn and change their behaviors. It sounds strange, but these systems are similar to how children grow in their learning, based on various experiences that they encounter. Based on the data points that are emerging, these machine learning computers can improve their accuracy over a period of time in doing their tasks.

“Another concept within machine learning is deep learning, which has dramatically advanced the field of AI. These systems can create a variety of synthetic data and scenarios themselves and verify their outcomes for accuracy. They can do this both with trained data and new data. Based loosely on how the brain's neural network operates, these programs typically need much more significant and robust computing power.”

## Chapter 17 Demo

San Francisco, USA- April 2020

It's been about four months since we started the KUCHELA.AI project. When I saw the calendar invite asking me to attend the prototype demo of KUCHELA.AI, my respect and admiration for the team grew enormously.

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The room becomes dark, and the projector lights up.

Slide-3:

KUCHELA.AI: How to download the App?



“What is that fifth point on decentralized marketing, Krish? Who gave that idea? Can you elaborate?”

Sandeep responds before I can. “Oh, some of the catalog ideas came from Krish’s friends, during his discussions with them. Krish, you can explain better than me, please elaborate.”

I remember the arguments I had with my friend Kumar.

“Folks, in the USA, and probably across most of the Western world, we have out-sourced our manufacturing needs to low-cost countries such as China. From an economic perspective, that has worked quite well for our people as well as the corporations. However, this single dependency on manufacturing out-sourcing has several large-scale implications. For example, if the global supply chains break down, during wars or when natural calamities occur, these countries such as China may not be able to supply the goods to us.

“More importantly, due to this continuous out-sourcing, we’ve lost the ability to produce them locally. Imagine if there is a pandemic? From face-masks to ventilators, we are dependent on Chinese manufacturers to build and supply them.”