Society has forever changed since the adoption of computers and farming. People go to food market to pick up food instead of shopping for food because all the farming work have been taken over by robots and there is no cost of labor for producing food. Ever since the year of 2050, when Boston Dynamics, the engineering and robotics design company and The Food and Agriculture Organization, the United Nations’ international agency teamed up and developed a set of robotics that could research and learn about agriculture and command other robotics to perform the entire farming process, human labors are no longer needed in the world. Food are grown everywhere, including desert and rocky area because the intelligent robotics can research and find solutions to solve the impossible tasks. People all over the world now have high quality food for free everyday and this all began with the development of artificial intelligence and machine learning.

In the beginning, agriculture researchers only needed computers to aid them in their studies, but it led to something magnificent that they could never imagine—computers now can do studies on their own. With the learning ability, computers were getting smarter everyday and eventually became a knowledge base (in a central computer) that kept on growing. The knowledge base can now study different types of land and based on the local population to decide how much food is needed and what type of food are preferred in that area.

Not only the knowledge base knows how about agriculture, it also has access to the information of the people in different locations. The computers will send survey drones first to gather the geographic information of the land and based on the seasonal environment, it will select the crops that is suitable in that land for the season, then it surveys the local population about what kind of food are prepared and calculates how much food will be consumed by the local people. After a series of calculation, the central computer will decide the type and amount of food to grow, that way, we can preserve the exceeding land for future use or grow extra food for other locations or storage.

After deciding the type and amount of crop to grow, the central computer will study different sample of seeds, and only the best will be selected. The central computer simulates the local environment and test each sample of the seeds in a virtual environment and make predictions about the outcomes of growing each samples of seeds. The best seeds should produce better quality of food and have better survivability. The study results in the virtual environment and the results in the real world after production will be saved in the central knowledge base. This information can be used to refine our decision making algorithm, and the refining process is also performed by the central computer itself automatically.

Before sowing, the land needs to be plowed. In the old days, we need human drivers to drive those huge tractors in the land to do the plowing work, which is not only slow but also damage
the area of the land where the huge wheels of the tractors running through. Because they were so huge, we can only use a small number of tractors at a time, and when there are mechanical issues, the work will get delayed. Nowadays, human driving tractor are so last century technology—Our central computer commands survey drones to gather geographic and environment information then it sends out a swarm of small-sized multi-purpose robots to plow the land. Because they are so light-weight, it doesn’t damage the land, and when one robot breaks, the other robots can simply pick up the job because there are so many of them working together.

After plowing the land, the same multi-purpose robots can also do the sowing. The central computer will assign multiple missions to each group of robots so that different types of crops can be sowed right next to other types of crops simultaneously. The perfect amount of seeds can be sowed accurately by the robots very quickly. At this point, all the preparing work is done, the next step is caring for the crops.

The growth of plants require sunlight, water, oxygen, mineral nutrients, and/or support. Each plant is surveyed daily by robots and the condition is reported to the central computer, then based on the conditions of each plant, the central computer will access its knowledge base to give the cares needed by each plant, such as when there is not enough light, we use artificial lighting to supplement sunlight, and hydroponic systems are used in the areas that lack of water. The degree of detailed care of each plant was not possible by human labor in the past. With the new technology, we can mimic the nature recourse and recreate the environments that can support the growths of the crops. Not only we can grow crops in the naturally resourceful land but also in the harsh environment like desert and rocky area.

When the harvesting season comes, the central computer will send a swarm of robots to gather the ripe crops from the fields. Different type or robots will be sent in order to perform different tasks. For example, grain requires cutting, so reaping robots will be sent first, then the products will be refined again by other robots to separate the grain from husks and straw. Other crops are all harvested and produced accordingly, like grapes will be packaged as fresh fruit and also sent to wine yard to produce wines, corns used to produce syrups and flowers, etc.

We still get all kinds of food products we normally get, and because of the engineered process, the quality and quantity are ensured. Except, human labor is no longer required, and everyone gets their fair share for free. No matter where you live, no matter how harsh your residential land condition is, you will get enough food just because everyone is a resident of earth, and should get a fair share of the resource.