

# Abhishek Bhagat

Delhi

*Abhishek Bhagat (19) is a young student from Bihar who has developed a machine, which can cook food automatically and like one's mother would do. Sounds interesting, read on!*





## Automatic Food Making Machine

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*National Third Award – Utility; Scout: Direct*

Hailing from Bhagalpur district of Bihar, Abhishekh Bhagat was born in a middle class family. His father is a businessman and runs a general merchant shop. His elder brother is presently pursuing C.A after his graduation in commerce while Abhishekh has enrolled himself for a course in animation. While the going has been tough, his father has managed to take care of the educational needs of both of his sons to the best of his ability. In studies, Abhishekh was an average student primarily because he believed in doing things on his own and not just follow what has been told. Physics has been his all time favorite subject and painting his favorite pastime. While in class 9, he received the First prize in the state in a painting competition on jointly organized by Indian Oil, Bharat Petroleum, Hindustan Petroleum and Indo-Burma Petroleum Company limited. His first innovation, when he was just twelve years old, was a timer operated explosive device, which scared his parents so much that they packed him off to a boarding school. But this did not deter him even slightly.

## **The taste of mother's recipe**

Every day he used to see his mother cooking food for the family and spending many hours in the kitchen. Once it so happened that due to his mother's illness, he had to cook food instead of her.. He then realized how tedious the job was for ladies to do every single day throughout the year. This motivated him to develop a machine for his mother, which could cook food automatically and save her the pains. With just a burning desire and little technical knowledge, he set about designing this machine. While he was thinking of different ideas to develop this machine, it happened so he was in his hostel having his dinner, which did not taste good. A thought came to his mind to incorporate the cooking style of his mother in his to-be-developed machine. Perhaps, this way he would be able to have his food, which tasted as if his mother had cooked, anywhere and anytime.

He conceived a rough idea about a machine, which would have boxes to hold different ingredients of a particular recipe. The machine would be operated using a recipe card, which will be programmed as per the cooking style of the person for that particular dish. Abhishek wrote to NIF, which linked him to ISM, Dhanbad. The machine could be made but how to make the card, which will make it operate, became the biggest problem there. After spending some time there, Abhishek came back and pondered over the problem. He took help of his Physics books and using a normal watch, he designed a card, which could be programmed. The first version of this machine made successfully in 2009 could make tea and *kheer* (kind of rice pudding). This innovation won him the first prize in the Ignite 2009 (national competition of students' ideas and innovations) competition. He received the prize at the hands of Dr APJ Abdul Kalam at IIM Ahmedabad, who appreciated his machine very much. NIF also filed a patent (729/KOL/2010) in his name.

Later NIF supported him to develop an improved prototype with eight boxes for different ingredients and some other technological refinements. A Delhi based designer has also been engaged to further develop the prototype and make it into a marketable product. Abhishek also participated in the Innovations' Exhibition at the President House in March 2011 and was the INK Fellow in 2011.

## **The automatic food making machine**

This machine is an electrically operated automatic food making machine where only ingredients are loaded in boxes and the cooking is completed according to the recipe card being used.

The machine has eight boxes and a central container. The boxes house the different ingredients, which fall into the central cooking container as per the predefined timing in the recipe card. This recipe card is pre programmed. Once the recipe card gets inserted,

the display on the machine shows the information about the different ingredients that need to be put in the respective boxes. Once this is done, the user may sit back and relax. The machine will automatically sound an alarm once the recipe gets made. The machine can also be used as a mild mixer. Prior art search did not find any previous reference of this machine in art or market.

While he was making this machine, he had to struggle a lot with finances first and then with the limitations of his knowledge. After he completed the machine 'Kitchen King' successfully tested it once, he invited his relatives to see its working. However, when he tried to start it before them, there was a short circuit, which destroyed some components. His was teased a lot by them for this. However, determined, he went ahead and completed it successfully.

During the course of the development of this machine, his mother provided strong support to him, helping him cope up with bouts of depression and setbacks. She, along with his cousin sister, helped him develop the recipe modules based on which the recipe cards were designed. This machine, undergoing value addition right now, would be very helpful for the old, bachelors and people with various disabilities as it will do away with the requirement of supervising the whole cooking process. Moreover, the person would be able to taste homemade food anywhere away from the home.

### **The innovation streak**

Abhishek was invited by NIF to be the innovator-in-residence for a period of two months to work on his innovation of the automatic food making machine. Not only did he work on his previous innovations, he also developed a new one, which is the scissor with a measuring tape. It simply means that while you cut a cloth with your scissor, you can see how much inches/feet of the cloth you have cut. So now no need to mark on the cloth, just keep on cutting till you get the right reading on the scissor!

Observing that the sunflower turns its head towards the direction of the sun, Abhishek has also thought a solar light and solar cooker based on the same idea. The solar panels on these would automatically detect the motion of the sun and move accordingly. Thus, they will always be facing the sun and obtaining maximum energy. Another of his concept is the smart watch, which can be programmed for twelve hours to do general household work like switching on bulbs and other appliances. He has many more other ideas to his credit. The list is never ending and his mind is always buzzing with something or the other. Being enrolled in an animation course now, he is discovering the artistic side of his persona now. We hope to soon see how he combines both of his abilities, technological and artistic to come up with something new. After all he says,



*“Sirf study karna and exam me pass hona hi study nahi hota. Padhai ko use karke kuch new karna study hota hai”*

*Study is not only about reading and passing exams. To use what you have learnt to do something new is the real study.*

