

## Novel robot to assemble furnitures in just 10 min

Singapore, April 22: Scientists have developed a robot with a 3D camera and two arms equipped with grippers that can autonomously put together ready-to-assemble furniture without interruption.

The robot assembled a 'build-it-yourself' chair in 8 minutes and 55 seconds. Prior to the assembly, the robot took 11 minutes and 21 seconds to independently plan the motion pathways and 3 seconds to locate the parts.

"The job of assembly which may come naturally to humans, has to be broken down into different steps, such as identifying where the different chair parts are, the force required to grip the parts, and making sure the robotic arms move without colliding into each other," said Pham Quang Cuong, assistant profes-

sor at Nanyang Technological University in Singapore.

"Through considerable engineering effort, we developed algorithms that will enable the robot to take the necessary steps to assemble the chair on its own," said Mr Cuong.

"We are looking to integrate more artificial intelligence into this approach to make the robot more autonomous so it can learn the different steps of assembling a chair through human demonstration or by reading the instruction manual, or even from an image of the assembled product," said Mr Cuong. Researchers believe that their robot could be of greatest value in performing specific tasks with precision in industries where tasks are varied and do not merit specialised machines or assembly lines. The robot is designed to mimic the genericity of the human "hardware" used to assemble the objects through a 3D camera

— PTI