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SCI/TECH

Robots of the East

There used to be a time when robots were just mere fictional conceptions and could only exist within the realm of our imagination. However, over the course of time, the efforts of human beings to change fiction to reality has come true. On April 8, the students of BRAC University Electrical and Electronic Club (BUEEC) in its endeavor to promote engineering among all general students took up an initiative of holding a Robotic Exhibition, to showcase their ingenuity. Various robotic systems were exhibited at the event, which were developed by the students with the aid of the faculties of School of Engineering and Computer Science.

This exclusive exhibition was supervised by Dr Md Khalilur Rhaman and was organized by students with the aim of bridging the gap between developers and science fiction fans. The exhibition displayed robotic systems such as the Multi-model Human Interaction Based Human assistant robot which can be driven, is able to detect human hand position and can also be used to drive a car thus enabling us to have an automated car driving system. A robot named An Eye Controlled System was also exhibited there. Supposedly, this robot allows having an automated system that can be controlled by the use of human eyes. There were other robots named Robotic Arm with 3 degrees of freedom, Under Water Exploration and Salvage ROV, Humanoid Walking Robot, Demo Self Driving Car, Ropon Robo (a mechanical system that can autonomously dig holes for plantation), Whe-Car (a joystick controlled wheel chair for the disabled) and a Stair Climbing Robot.

The main attraction of the exhibition was ChondRobot. This robot was a stepping stone in terms of progress of Bangladesh in the world arena in the field of developing robotic systems. So far,

BRAC University has been reported to be the only private university from Bangladesh to send a robot to NASA's Lunabotics Mining Competition.

The Lunabotics Mining Competition is a university-level competition designed to engage and retain students in science, technology, engineering and mathematics (STEM). NASA will directly benefit from the competition by encouraging the development of innovative lunar excavation concepts from universities which may result in clever ideas and solutions which could be applied to an actual lunar excavation device or payload. The challenge is for students to design and build an excavator, called a Lunabot, that can mine and deposit a minimum of 10 kilograms of lunar simulate within 10 minutes. The complexities of the challenge include the abrasive characteristics of the BP-1, the weight and size limitations of the Lunabot, and the ability to autonomously control the Lunabot from a remote mission control center. This year the scoring for the mining category will not be based primarily on the amount of material excavated in the allowed time but instead will require teams to consider a number of design and operation factors such as dust tolerance and projection, communications, vehicle mass, energy/power required, and level of autonomy.

BRAC University intends to participate in the event, which will be held from May 21 till May 28 at the Kennedy Space Center this year. The students of BRAC have been reported to develop an improved version of ChondRobot for the Lunabot competion, where newer additions to its features have been made to improve the existing version.

Photo: BRACU