

Universiti Brunei Darussalam

Faculty of Science

Mohd Hilme Bin Mohd Yahya,

Haji Isyrah Fahmi Bin Haji Osman,

Lim Ren Foo

Robocon Egypt this year was a great experience for us Samot GenNext, representing our country, Brunei Darussalam. Samot GenNext is a team of three which was brought together by our supervisor because of the same interest and passion for robotics. It was a pity that there was no local competition in Brunei Darussalam because there were no other competitors. As a result, we were automatically selected to represent the country.

Being one of the smallest teams in ABU Robocon, there were a lot of problems that we encountered. One of the biggest problems was to design a robot which was capable of delivering the blocks deep enough into the pyramid and being stable at the same time, especially for the manual robot. To solve this problem, we planned the best strategy for the manual operator to place the block on the pyramid and by distributing most of the weight to the back of the robot to balance the load.

The lifting and pushing mechanism on the manual robot was another obstacle for us. The robot needed to be able to lift more than 2kg of blocks at a time in order to be able to finish the pyramid in time. This was a problem to us because our resources were very limited. The motors were not strong enough to handle the weight. To solve this, we implemented a pulley system. However, by doing so we traded speed for power.

After the design process, we spent quite some time learning to make the components we needed since none of us had any engineering background. However time was limited and we had no choice but to send some of the parts to be made in local workshops because it took far too much time for us to produce them.

The control of the robot was the easiest part because we were provided with a simple microcontroller kit that had most of the sensors we needed. However, we were not able to make the robots work accurately even until the end which was why the robots kept hitting the fixed block. We believed that it was due to our design which made it difficult to align the robot at the start zone.

There were a lot of other problems that we encountered mainly due to lack of experience and skills. And hence, we set our goal of coming to Egypt not only to compete, but also to learn from other teams. For us, Robocon was about learning and sharing knowledge. Taking part in this competition was very fruitful especially during the packing up time in the pit area. Many were very willing to share their knowledge and skills despite the language barrier.

Being in the competition was tough. We were constantly worrying that our robot might fail on the spot. The fact that we had to compete with others in a very short period puts an even greater amount of stress on us. Most of us were completely worn out at the end of the competition day. Even so, it was an unforgettable and fun experience which we are looking forward to again in the coming year.

Robocon had influenced us in many ways. Despite our loss in the competition, we have acquired a lot by learning from other teams and watching the competition. We have put our best effort for Robocon and with the support and help from our families and friends, we were proud to participate in Robocon. Robocon is a contest that requires a lot of commitment and determination and so our advice to new comers and juniors would be to never give up and always do their best even when the odds are against them because we never will know what the outcome will be until the very end.

Authors:



From left to right: Haji Isyrah Fahmi Bin Haji Osman, Ong Wee Hong (Supervisor), Mohd Hilme Bin Mohd Yahya, Lim Ren Foo