

Programming Experience of Humanoid Robot NAO and Workshop on Regional and International Cooperation

Date	Place	Partner Organization	Students' Major and Grade	Participants' Information	SIT Instructor
February15 ~February19, 2021	Japan	Universiti Teknologi Malaysia	Department of Engineering Science and Mechanics Functional Control Systems <ul style="list-style-type: none"> • Undergraduate 2nd grade • Undergraduate 3rd grade • Undergraduate 4th grade 	(SIT) Students 12, TA 4, Professor 4 (Universiti Teknologi Malaysia) Students 12, Professor 1	MATSUHIRA Nobuto (Department of Engineering Science and Mechanics) TACHIBANA Masahiko (Innovative Global Program) YOSHIKUBO Hatsuko (Innovative Global Program) ISHIZAKI Hiroyuki (SIT Malaysia satellite Office)



Image1 Programming at SIT

We conducted a global PBL as a hybrid online/face-to-face gPBL with UTM, on the theme of "Programming NAO, a humanoid robot" via ZOOM online.

12 students from the second year of the Department of Engineering Science and Mechanics and the third year students assigned to the Intelligent Mechanical Systems Laboratory participated, and 12 students from UTM participated in the programming PBL using NAO, a humanoid robot, in three mixed groups. As a tool, we used Choregraph, a program development environment, and two actual NAO robots were placed in Toyosu. Both sides jointly developed programs in Choregraph, and the students in Toyosu implemented them on the actual robots and conducted experiments. The final task was to finish the maze by looking at the markers. Due to the effects of dynamics and friction on the actual robot, each group struggled to make adjustments, but managed to achieve their goal. Malaysian students were actively engaged in this global work shop under their circumstances of movement control order. Their satisfactions were conveyed through their smiles.

Other lectures on cultural exchange (Prof. Tachibana), community robotics (Prof. Matsuhira), and soft robotics (Prof. Maeda) were also well received. It was a pity that the lecture by Mr. Hashimoto of Daikoku Denki, who cooperated in the use of NAO, had to be cancelled due to other job.

In this program, we also conducted the Cross-Cultural Competency Assessment.



Image2 Experiment by NAO

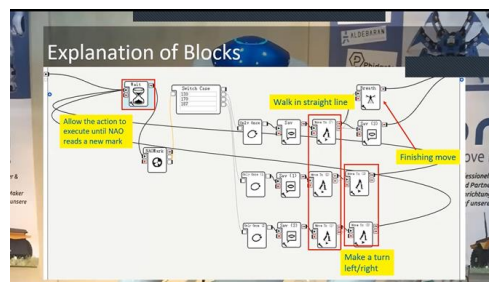


Image3 Programming by Choregraph



Image4 Group Photo