

Person Following Mobile Robot Development PBL

Implementation period	Implementing country	SIT's implementation partner organization	Target students	Participant	SIT instructor
2019/11/22 ~2019/12/03	Japan	Obuda University	<ul style="list-style-type: none"> •Electrical Engineering and Computer Science •Master 1st grade、Master 2nd grade 	(SIT) Students 4, TA 2, Professor 4 (Obuda University) Students 7, Professor 2	YOSHIMI Takashi(Department of Electrical Engineering)

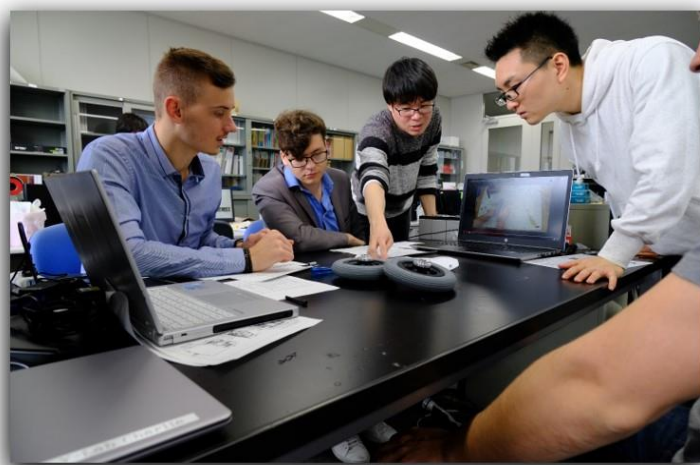


Image1 Mobile Robot Assembly

We conducted a PBL program to develop a human-following mobile robot from November 22nd (Fri) to December 3rd (Tue), 2019 by accepting seven graduate students of master and doctor course from Obuda University, Hungary, and together with four master course students from Robot Task and System Laboratory, Graduate School of Shibaura Institute of Technology. Three mixed teams of Hungarian and Japanese students were constructed and each team assembled a mobile robot, considered the method how to find people and how to follow them, and constructed and implement the program of these functions to the robot, then evaluated it through experiments. The fields of expertise of participants from Obuda University are computer engineering, applied mathematics, applied informatics, etc. so the assembly of the mobile robot was the first experience for them and they enjoyed it very much. Each team devised and developed the mobile robot which has the ability of person following, and through this PBL, they were able to learn the hardware configuration of mobile robot, human sensing technology and mobile robot motion control technology. In addition, during the 8 days PBL period, the students enjoyed the technical tour of four robotics labs. (Yoshimi Lab., Hasegawa Lab., Ando Lab. and Abiko Lab.) in the department of Electrical Engineering, SIT, visited and had a technical exchange at the laboratory of Associate Professor Mihoko Niitsuma, Department of Precision Mechanical Engineering, Chuo University, who conducts interesting robot research, and visited JUKI Corporation to observe the state-of-the-art high-speed chip moulder and full-automated industrial sewing machine technologies. Through this program, the students could touch many kinds of robot and mechatronics technologies in Japan. The students from both Hungary and Japan who participated this program could have a meaningful time with each other not only in the technical field but also in cultural exchange. We would like to continue this PBL program every year in the future based on the experience of this year.



Image2 Mobile Robot

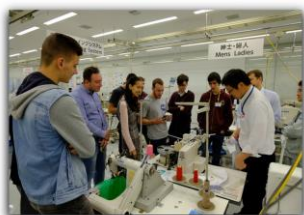


Image3 Company Tour



Image4 Welcome Party



Image5 Kamakura Short Trip