

gPBL for traffic safety research

Date	Place	Partner Organization	Students' Major and Grade	Participants' Information	SIT Instructor
Sep10 ~Sep21,2021	Japan	Loughborough University	<ul style="list-style-type: none"> •Department of Machinery and Control Systems •Undergraduate 4th grade •Master 1st grade •Master 2nd grade 	(SIT) Students 16, Student Staff 2, Professor 1 (Loughborough University) Professor 1	ITO Toshio (Department of Machinery and Control Systems)

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Anomaly detection

- Anomaly score represent the how the image is different from dataset
- Residual loss is the difference between test and Generated image
- Discrimination loss is the difference between test and Generated feature vector
- Our setting $\lambda=0.8$

$$\begin{aligned} \text{Anomaly score} \\ = (1 - \lambda) * \text{residual Loss} \\ + \lambda * \text{discrimination Loss} \end{aligned}$$



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Shibaura Institute of Technology

Loughborough University

Image1 DR material of Team1

PBL was carried out by dividing the participating students into three teams with the Traffic safety research center of Loughborough University and took the themes of the unsolved problem of automated driving. The three themes discussed by the three teams were how to convey to drivers to takeover from autonomous driving to manual driving, whether the driver can respond appropriately during takeover, and problems in environments where autonomous and manual driving vehicles are mixed. They had been well-reviewed online over the 11th in their three design reviews, and received high praise from Professor Morris of Loughborough University. The time zone to connect with Britain was nighttime because of the time difference with Britain, and the PBL which extended to daytime and a long time of the student's examination worked hard well.



Image2 DR material of Team2

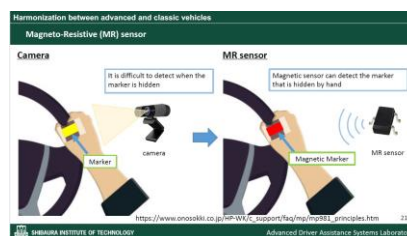


Image3 DR material of Team3

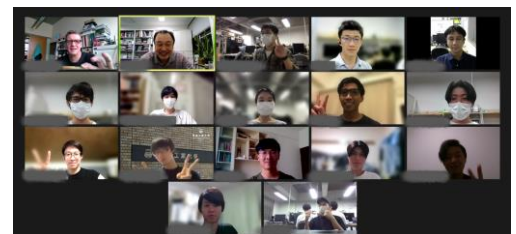


Image4 GroupPhoto