Theme : Cognitive Edge Computing

- Sub Theme : Cooperative Machine Learning on Edge Devices

Usually, the common way to deploy cognitive services which is based on the machine learning models is that training models in the cloud and requesting inference is made in user devices in real time. However, in recent, problems with data security, information privacy, and network connectivity are making the paradigm shift of cognitive applications getting the cognitive computing inside “Edge devices”.

We especially expect to discover novel solution for bringing machine learning based cognitive computing on edge devices which are short on computing resources such as power, network, storage, computing, etc. With the constrained resources, this solution needs to suggest efficient way of model training and inference request for handling high density IoT data streams.

The topics we pursue through this GRO are as follows:

- Cooperative light-weight machine learning technology that efficiently runs on resource-constrained edge devices.
- Bandwidth-efficient deep learning / cognition algorithms / resource management technology for multi edge device environment.

※ The topics are not limited to the above examples and the participants are encouraged to propose original idea.

※ Funding : Up to USD $200,000 per year