**Technical Writing Week3 Homework** – revised proposal

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The topic I choose was “Edge-Cloud Collaborative Systems for live video analytics”. In this seminar video that I found, they introduce on-device approach and edge-cloud collaborative approach. I want to research more about edge-cloud collaborative approach. It is more powerful than on-device approach, but processing latency benefit is quickly compromised by data transmission latency. So, the problem is how we can send data through network efficiently.

They proposed two ways, split inference approach and DNN-aware compression approach. First way is to split the data in two and process a part of data in on-device and the other part in cloud. It will be fast and energy efficient than using only one way. Data can be split in two ways, layer and content. When it split by content, big and easy part like face detection will be processed in on-device, and small and hard part like identity clarification will be processed in cloud because it is more powerful in computing in cloud. Like these, it will be more efficient when data is divided in two part and processed in each way.

The second way is to compress the data and reduce data size. When data size reduces, it will be faster to send data to cloud. It divides data to hard objects and easy objects. The hard objects are compressed in high-quality, and easy objects are compressed more than hard objects and be low-quality. By compressing data, it will be more efficient because they don’t have to send a large size of data and send only hard objects in high-quality so it will be easier to process.

Like these edge-cloud collaborative systems, I think there will be much information about this topic. It is researched by many researchers nowadays, so I want to find more about it.