

## TECHIN515 Lab 5 - Edge-Cloud Offloading

### Discussion

#### 1. Is the server's confidence always higher than the wand's? Why?

Not always. The server usually has higher confidence because it uses a more powerful and complex model. The wand uses a simpler model, so its confidence might be lower.

#### 2. What is the data flow in this lab?

- The wand first analyzes data with its own model and makes a prediction.
- If the confidence is high, it uses the wand's result.  
If the confidence is low, it sends the data to the server.
- The server uses a stronger model to predict and sends the result back.
- The final result is shown to the user.

#### 3. What are the pros and cons of the "edge-first, fallback-to-server" approach?

- **Reliance on connectivity:** The edge device works mostly offline, but if it needs the server, it requires a good network.
- **Latency:** The edge device is fast, the server is slower due to network delay.
- **Prediction consistency:** The models on edge and server may differ, causing slightly different results.
- **Data privacy:** Most data stays on the device, safer, but sending data to the server risks exposure.

#### 4. How to reduce at least one of these limitations?

- Use **data encryption** when sending data to the server to protect privacy.
- Improve the edge model's power with techniques like model compression or knowledge distillation to reduce sending data to the server.