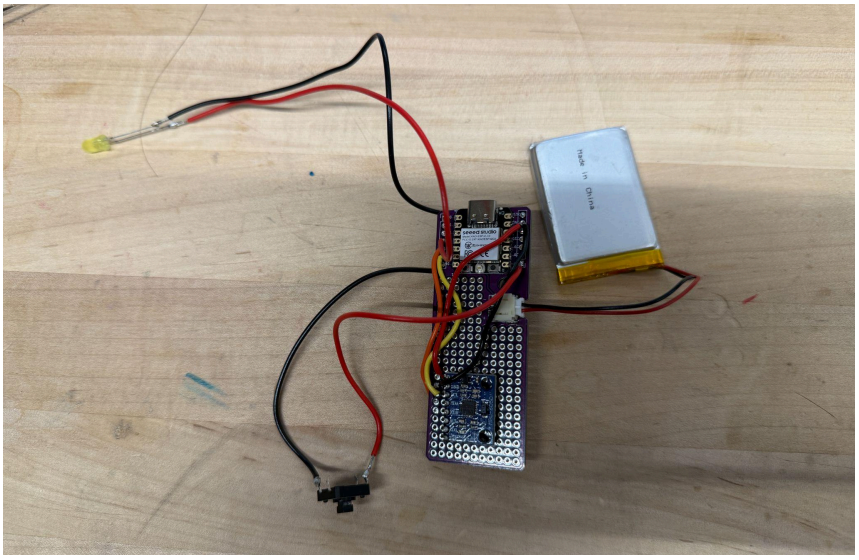
TECHIN 515 A: Hardware Software 2

Lab4: Magic Wand

Jialu Huang

Github link:

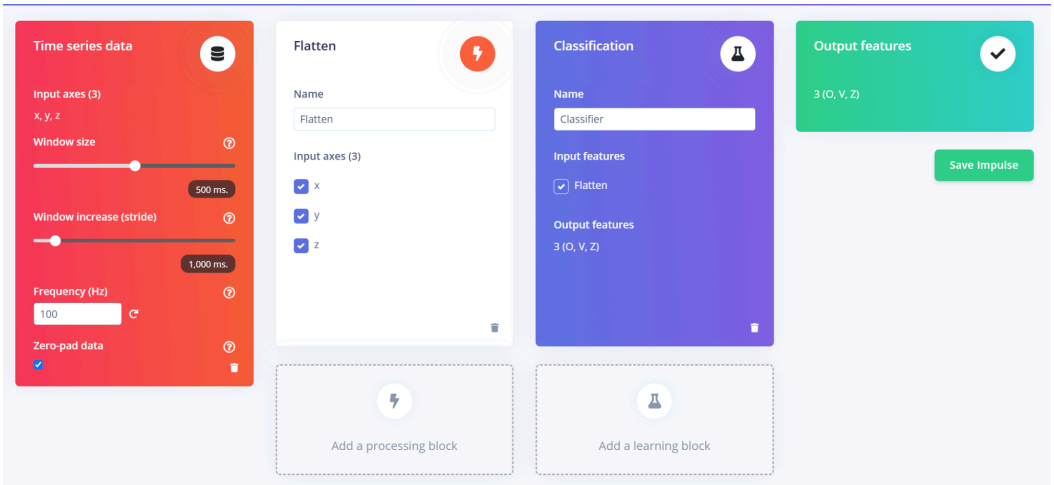
- **Pictures of hardware setup and connections**



- **Data collection process and results**

Discussion: Why should you use training data collected by multiple students rather than using your own collected data only? Think about the effectiveness and reliability of your wand.

- **Edge Impulse model architecture and optimization**



Discussion: Discuss the effect of window size. Consider:

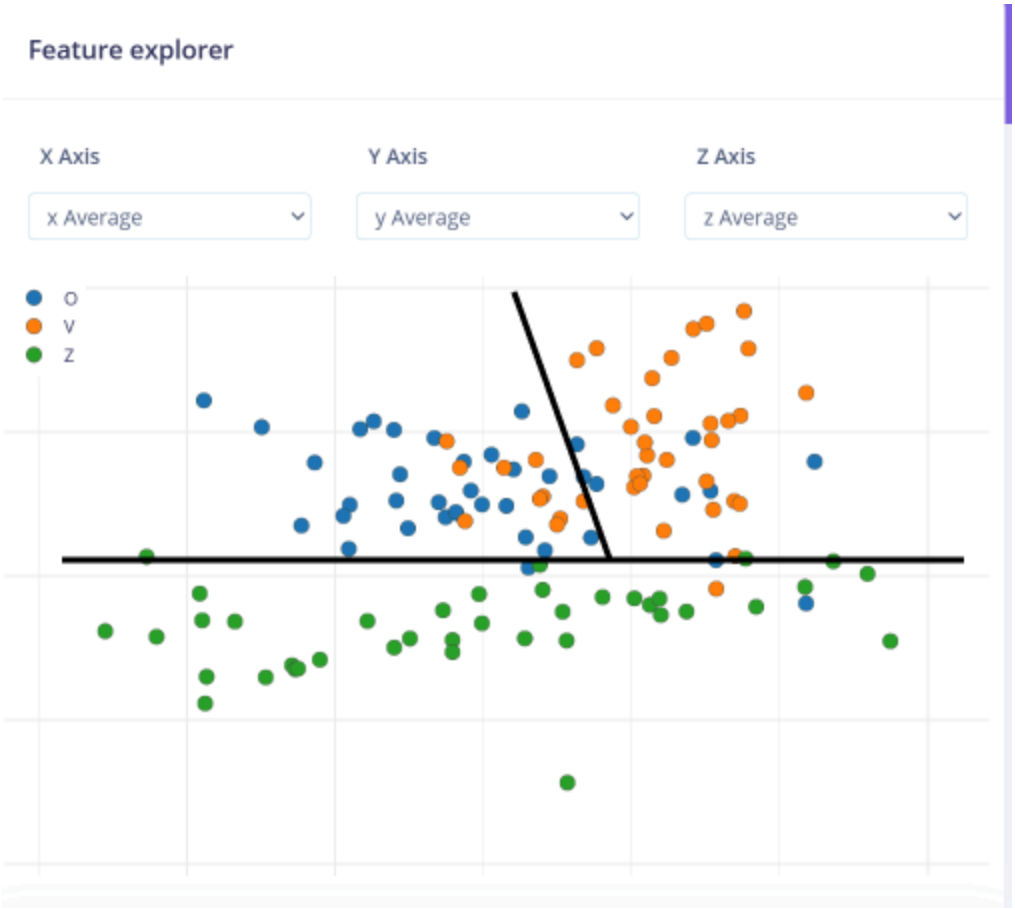
the number of samples generated

the number of neurons in your input layer of neural network

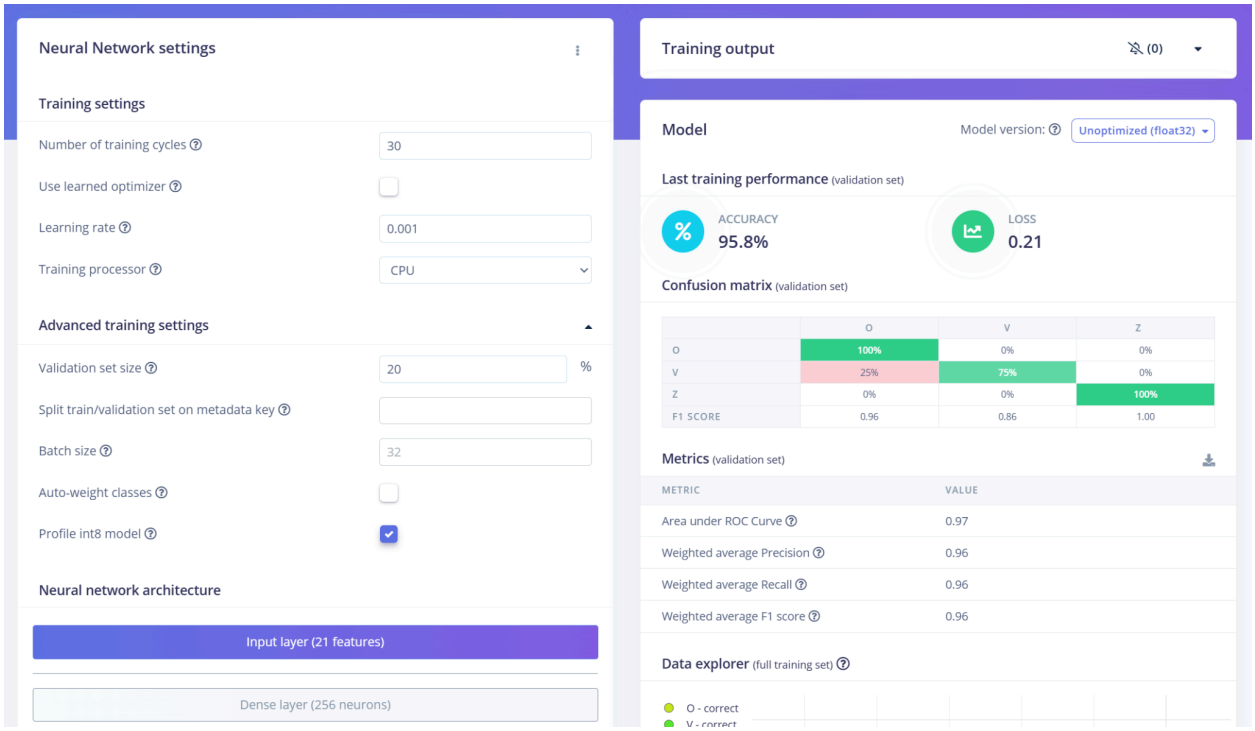
effectiveness when capturing slow-changing patterns

DSP:

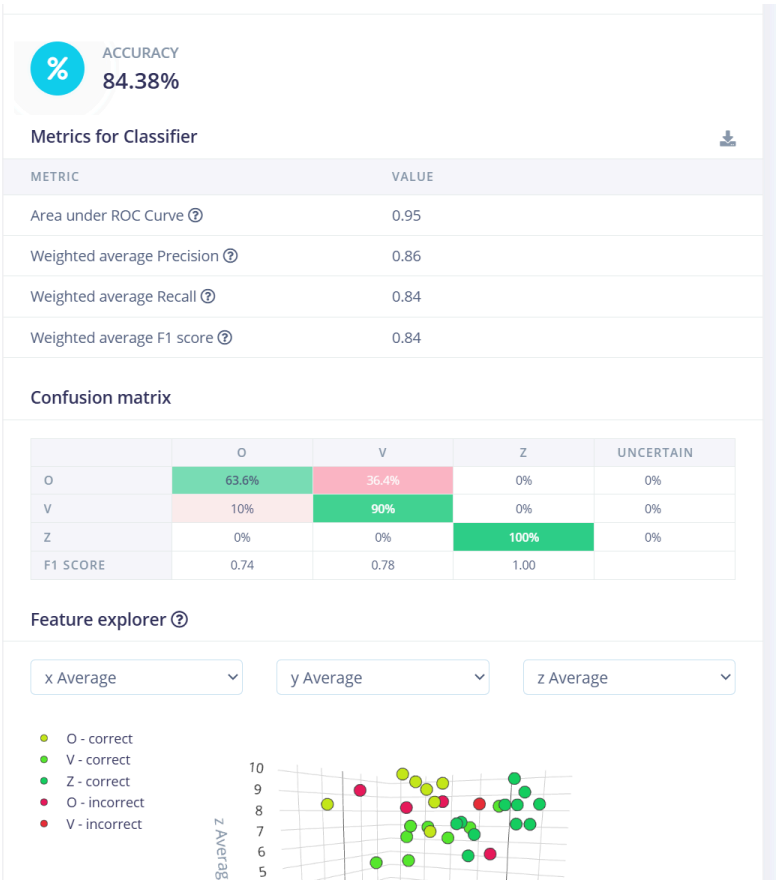
Take a screenshot of your generated features, and sketch a rough decision boundary between classes. Explain why do you believe the generated features are good enough.


Feature explorer
X Axis
x Average
Y Axis
y Average
Z Axis
z Average
O
V
Z

- Performance analysis and metrics



Report the learning performance, your choices of hyper-parameters, and architecture.



Use "Live classification" and "Model testing" in sidebar to test your model performance. Please clearly document all metrics being used, e.g., accuracy, TP, FP, F1, etc.

- Demo video link

https://drive.google.com/file/d/1dJ1nCBW1ngumgJDYZwLNuXaana4SIWxQ/view?usp=drive_link

- Challenges faced and solutions