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From: TOP GUN

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Summary

The Top Gun team made a dataset from the new Gala apples and completed making the application. Top Gun added functions and solved problems for the Deep learning model.

What TOP GUN completed this week:

- Top Gun took pictures of 600 Gala apples and measured sugar levels to make a dataset because there was not enough data from Pixie crunch apples.
- Top Gun created a confusion matrix to display the performance of the image classification Deep learning model.
- Top Gun implemented the function to show the images that were incorrectly predicted.
- Top Gun uploaded the Machine learning and Deep learning models to the server.
- Top Gun built a connection between the server and the application.
- Top Gun developed a function to pre-process the images for Deep learning and Machine learning in the server.
- Top Gun created a function to run Deep learning and Machine learning models in the server.
- Top Gun repositioned the image on the select and result page to the center.
- Top Gun modified the Abstract and Introduction of the IEEE paper.
- Top Gun fixed the problem with the camera in the Android emulator.
- Top Gun fixed the problem where the album button went to the next page instead of the album.
- Top Gun resized the album page.
- Top Gun created the function to display Brix levels in the UI.
- Top Gun completed building the application.

Things to do by next week

- Complete getting data from the apples.
- Pre-process the image data
- Test the models with the new data and different hyperparameters to find the best performance model.
- Ensemble the two models to make a Hybrid Machine learning model.

- Complete writing the IEEE paper.
- Prepare for the final presentation.

Problems or challenges:

- It was time-consuming to make the dataset.
- It was difficult to fix the problem with the camera in the Android emulator.
- It was challenging to fix the version difference problem of python.

References

Chu-Hui Lee and Jhih-Chen Jhou*. * “A Non-Invasive Method to Classify the Sweetness Levels of Apples,” in *Proc*. *2021 Artificial Intelligence and Virtual Reality (AIVR) (AIVR 2021) Association for Computing Machinery* pp. 128–134, July 2021. [Online]. Available: *<https://doi.org/10.1145/3480433.3480453>*

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