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From: Coyote2

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### Summary

- Team Coyote2 had a meeting with ph.D Mia and Team Coyote1.
- Team Coyote2 finished experimenting and training models using image, audio dataset.
- Team Coyote2 wrote the paper.
- Team Coyote2 tried to connect the microphone on Raspberry Pi.
- Team Coyote2 started to make presentation documents.

### What Coyote2 completed this week

- Team Coyote2 met with ph.D. Mia and team Coyote1 about our progress and plan.
- Team Coyote2 experimented with various models using feature extraction and made a table and figures for the comparison.
- Team Coyote2 wrote a paper about methodology, experiments, and literature review[1][2][3][4].
- Team Coyote2 setup a microphone to the local computer and Raspberry Pi.
- Team Coyote2 made presentation documents (scripts, powerpoint) for the final presentation.

### Things to do by next week

- Complete preparation presentation of final project.
- Start to adjust hyperparameters of the model to get best performance.
- Complete setting microphone with Raspberry Pi.
- Combining code with Network Team.

### Problems or challenges

- Team Coyote2 tried to make an effective figure and tables for the final paper.
- Using the trained machine learning model, Team Coyote2 detected the Coyote howling with a microphone, and found that there was a delay time between input sound and output results.

### References

- [1] H. Xu, L. Lin, X. Sun, and H. Jin, "A new algorithm for auditory feature extraction," in 2012 International Conference on Communication Systems and Network Technologies. IEEE, 2012, pp. 229–232.
- [2] D. M. Agrawal, H. B. Sailor, M. H. Soni, and H. A. Patil, "Novel teo- based gammatone features for environmental sound classification," in 2017 25th European Signal Processing Conference (EUSIPCO). IEEE, 2017, pp. 1809–1813.
- [3] J. Xie, K. Hu, M. Zhu, J. Yu, and Q. Zhu, "Investigation of different cnn-based models for improved bird sound classification," IEEE Access, vol. 7, pp. 175 353–175 361, 2019.
- [4] S. Kahl, T. Wilhelm-Stein, H. Hussein, H. Klinck, D. Kowerko, M. Ritter, and M. Eibl, "Large-scale bird sound classification using convolutional neural networks." vol. 1866, 2017