Animal Classification - Group Proposal

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The Team would explore the topic of computer vision primarily, applying the image classification technique to animal detection. The animal classification could be used in animal management and tag the different animal species, for further application, it could be developed and suitable for animal photo recognition, early childhood education science, and image content analysis, to help people get a better idea of animals and the diversity of nature.

The team is going to use the “Animal Image Classification Dataset,” a source from Kaggle, which contains 12 classes of animals and at least 1,400 image files for each class, which is enough to train the common architectures in the convolutional neural network, besides, data augmentation would be used, it will expand up the training dataset.

The team would use the convolutional neural network which is one of the common ways applied to analyze visual imagery. The team would compare the state-of-the-art pre-trained models and the model with our customized architecture.

The team is using TensorFlow to implement the network. TensorFlow is a powerful and mature deep learning library with strong visualization capabilities, and there are multiple options for advanced model development.

• What reference materials will you use to obtain sufficient background on applying the chosen network to the specific problem that you selected?

The original dataset would be split into training, validation, and testing dataset. In training, the loss and accuracy of train and validation would be detected; In testing, the predicted result would be used in judging the performance of the network. In the list of evaluation metrics, the team would use accuracy score, xxxx. The accuracy score is one of the most straightforward metrics in machine learning, which can tell how accurate the model is, and how the predicted result matches the target; xxxxxxxxxx

* Provide a rough schedule for completing the project

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| Date | Task |
| March. 30th | Dataset Search |
| April. 2nd | Dataset Understanding |
| April. 5th | Data Preprocessing (train test split) |
| April. 10th | Define Model |
| April. 20th | Model Evaluation |
| April. 25th | Model report |