

Classification Game

1. Provide the data sets

Print out a copy of each data set (**training-data** and **test-data**) as well as the **feature-sheet** for every group of students. Keep them hidden for now.

2. Create teams and provide training data

Divide the students into teams of one to three people and provide each team with a **feature-sheet** and **training-data**. Explain that the goal is to provide a list of features (e.g. pointy ears or the ratio between the length of the nose and the width of the head, ...) corresponding to images of either **cats** or **dogs**.

3. Teams train their model

Now the students have a few minutes (e.g. 10) time to write down their selected features. It is important, that these features are written down, as in the next step the **feature-sheets** will be shared between groups, therefore the students should write in a **readable way and understandable language**.

4. Switch models

Let the students switch their **feature-sheet** with other teams.

5. Test the models

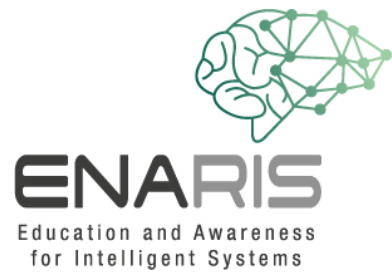
Now provide the groups with the **test-data** and let the students use the new **feature-sheet** to label the images as **cats** and **dogs**. If there is no clear solution, students can also provide probabilities of how well each description fits. As a final metric one can divide the number of correct result by the number of total images to get an **accuracy percentage** of the **model**.

6. Compare the results

Finally each group presents their result and how well the model worked. In the end it is a good idea to **discuss** the problems of the **models** and to try to figure out why some performed better than others (e.g. more objective features, generally more independent features so that at least some fit, ...).

7. Material

- SL - Trainings Data.pdf
- SL - Test Data.pdf
- SL - Feature Table.pdf



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