

Fish Ovary

Each folder starting by `oocytes_` contain a dataset. See the `README.md` file inside each folder for further information about each one.

The data are in the files `XX_R.dat` (e.g. `oocytes_merluccius_states_2f_R.dat`). These data are texture features of oocytes extracted from histological images of fish ovary of species *Merluccius* and *Trisopterus*. There are 4 data sets (each one corresponds to a different combination of texture features, as described in the reference below):

Set	Instances	Inputs	Classes
Merluccius States	1022	25	3
Merluccius Nucleus	1022	41	2
Trisopterus States	912	25	3
Trisopterus Nucleus	912	25	2

The values of each input are standardized with zero mean and standard deviation one. The classes in the *Merluccius* and *Trisopterus* state data sets are ordinal, i.e., there is an order from class 0 to class 1 and from class 1 to class 2, which the three classes are states of development of oocytes. Therefore, these two data sets are ordinal classification problems.

The folders starting by `reinhardtius_` contain data from species *Reinhardtius hippoglossoides* with six developmental states: primary growth (pg), alveoli cortical (ac), vit1 (vitellogenetic sub-level #1), vit2 (vitellogenetic sub-level #2), vit3 and vit4: the file `reinhardtius_hippoglossoides-leave-one-image-out.tar.gz` has 16 directories, each with the training, validation and test sets of each one of 16 images of this species using a Leave-One-Image-Out validation, i.e., for the *i*-th trial, the training and validation sets contain patterns from all the images but the *i*-th image, and the test set contains patterns from the *i*-th image.

The file `reinhardtius_hippoglossoides-mixed-images.tar.gz` contains 10 directories, each one with a training, validation and test files: both three files contain patterns from the 16 images, in order to develop a 10-fold cross validation. All the patterns have 25 inputs: the 10 first are grey level texture features (Local Binary Patterns); the last 15 are chromatic features. The following table specifies the instances and number of patterns of each class for each image

Image	Instances	pg	ac	vit1	vit2	vit3	vit4
1	668	239	124	177	128	0	0
2	685	539	146	0	0	0	0
3	820	470	184	166	0	0	0
4	507	195	87	86	40	99	0
5	840	330	167	158	185	0	0
6	97	27	16	19	0	0	35
7	472	0	103	158	211	0	0
8	919	443	128	206	140	2	0
9	544	258	13	103	42	128	0
10	539	98	68	68	1	304	0
11	518	0	204	314	0	0	0
12	408	66	76	71	173	22	0
13	205	0	54	45	0	70	36
14	153	65	18	22	0	0	48

Image	Instances	pg	ac	vit1	vit2	vit3	vit4
15	191	91	35	22	0	0	43
16	349	150	64	35	0	7	93
	Sum	2971	1487	1650	920	632	255

Reference

```
@article{rufino13,
  author="E. Gonz\'alez-Rufino and P. Carri\'on and E. Cernadas and M. Fern\'andez-Delgado and R. Dom\'inguez-Petit",
  journal={Pattern Recognition},
  pages = {2391–2407},
  title = "{Exhaustive comparison of colour texture features and classification methods to discriminate cells categories in histological images of fish ovary}",
  volume = {46},
  year = {2013},
}

@article{perez15,
  author="{M. P\'erez-Ortiz and M. Fern\'andez-Delgado and E. Cernadas and R. Dom\'inguez-Petit and P.A. Guti\'errez and C. Herv\'as-Mart\'inez}",
  journal={Neural Processing Letters},
  title = "{On the use of nominal and ordinal classifiers for the discrimination of states of development in fish oocytes}",
  pages = {1--16},
  url={http://dx.doi.org/10.1007/s11063-015-9476-8},
  doi = {10.1007/s11063-015-9476-8},
  issn="1573-773X",
}
```

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INFORMACIÓN

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DESCARGAR

-  Repositorio Gitlab
-  Descargar de Gitlab

PUBLICACIÓNS

On the use of nominal and ordinal classifiers for the discrimination of states of development in fish oocytes
Neural Processing Letters, 2016

Exhaustive comparison of color texture features and classification methods to discriminate cells categories in histological...
Pattern Recognition, 2013