

## Estructura del projecte

```
penguins_project/
    README.md
    environment.yml
    models/
        knn_model.pkl
        logreg_model.pkl
        svm_model.pkl
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    client/
        client.py
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        penguins_size.csv
    scripts/
        train_knn.py
        train_logreg.py
        train_svm.py
        train_tree.py
        utils.py
        __pycache__/
            utils.cpython-311.pyc
app/
    app.py
```

## **Contingut de environment.yml**

```
name: penguins-env
channels:
  - defaults
dependencies:
  - python=3.9
  - pandas
  - seaborn
  - scikit-learn
  - flask
  - requests
  - numpy
  - joblib
  - pip
```

## Execució del client

```
Testing model: logreg
Sample 1 using local model (API unreachable)
{
  "class": 0,
  "species": "Adelie",
  "probabilities": [
    0.9969775597955256,
    0.0024222509447436352,
    0.0006001892597307583
  ]
}
Sample 2 using local model (API unreachable)
{
  "class": 0,
  "species": "Adelie",
  "probabilities": [
    0.9934563693998775,
    0.005949595637878076,
    0.0005940349622443113
  ]
}

Testing model: svm
Sample 1 using local model (API unreachable)
{
  "class": 0,
  "species": "Adelie",
  "probabilities": [
    0.9918544451263396,
    0.003925854539258974,
    0.004219700334401474
  ]
}
Sample 2 using local model (API unreachable)
{
  "class": 0,
  "species": "Adelie",
  "probabilities": [
    0.9910567732514018,
    0.0039977529788696115,
    0.00494547376972864
  ]
}

Testing model: tree
Sample 1 using local model (API unreachable)
{
  "class": 0,
  "species": "Adelie",
  "probabilities": [
    1.0,
    0.0,
    0.0
  ]
}
Sample 2 using local model (API unreachable)
{
  "class": 0,
  "species": "Adelie",
```

```
"probabilities": [
    1.0,
    0.0,
    0.0
]
}

Testing model: knn
Sample 1 using local model (API unreachable)
{
    "class": 0,
    "species": "Adelie",
    "probabilities": [
        1.0,
        0.0,
        0.0
    ]
}
Sample 2 using local model (API unreachable)
{
    "class": 0,
    "species": "Adelie",
    "probabilities": [
        1.0,
        0.0,
        0.0
    ]
}
```

#### Comentari dels resultats:

Les quatre peticions corresponents a cada model retornen la mateixa classe (Adelie) amb probabilitats molt altes per a aquesta espècie. L'arbre i el KNN retornen una probabilitat de 1.0, mentre que la regressió logística i l'SVM assignen gairebé tota la massa de probabilitat a Adelie.