

Group 3

SPRINT 3



Agenda

Non-functional Tests

Machine Learning

Next steps

01 Non-functional Tests

Security

- JWT - token
- Lockout after repeated failed login attempts
- SQL injection in user operations
- Changing authentication information

old system

```
Test Suites: 4 failed, 1 passed, 5 total
Tests:      10 failed, 4 passed, 14 total
Snapshots:  0 total
Time:       2.275 s
Ran all test suites.
```

new system

```
$ npm test

> rnf-seguranca@1.0.0 test
> jest

PASS src/tests/envConfig.test.ts
PASS src/tests/databaseORM.test.ts
PASS src/tests/userController.test.ts (5.403 s)
PASS src/tests/authMiddleware.test.ts (5.524 s)
PASS src/tests/authController.test.ts (10.813 s)

Test Suites: 5 passed, 5 total
Tests:      14 passed, 14 total
Snapshots:  0 total
Time:       11.745 s, estimated 17 s
Ran all test suites.
```

02 Machine Learning

Classification AI

- Classification focused on **Level 2**

KNN model

- Train acc: 72%
- Tests acc: 68%

NORAM data

- 100.000 data (25%)
- Train: 70%
- Test: 30%
- + 10 isolated tests

```

y_pred_2 = neigh.predict(x_test_2)
y_pred_2

array(['Temporary Personnel Services', 'Talent Management',
      'Software & Support', 'Talent Management', 'Facilities Services',
      'Temporary Personnel Services', 'Talent Management',
      'Food & Beverage', 'Computer Hardware', 'Talent Management'],
      dtype=object)
```

```

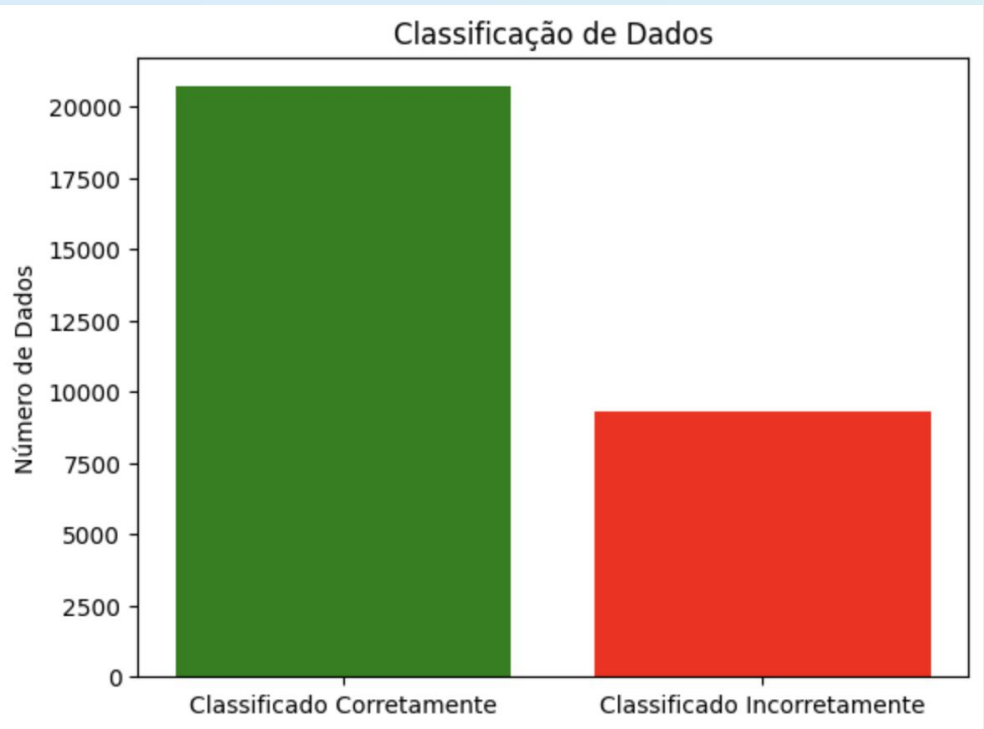
Acurácia de treino e teste

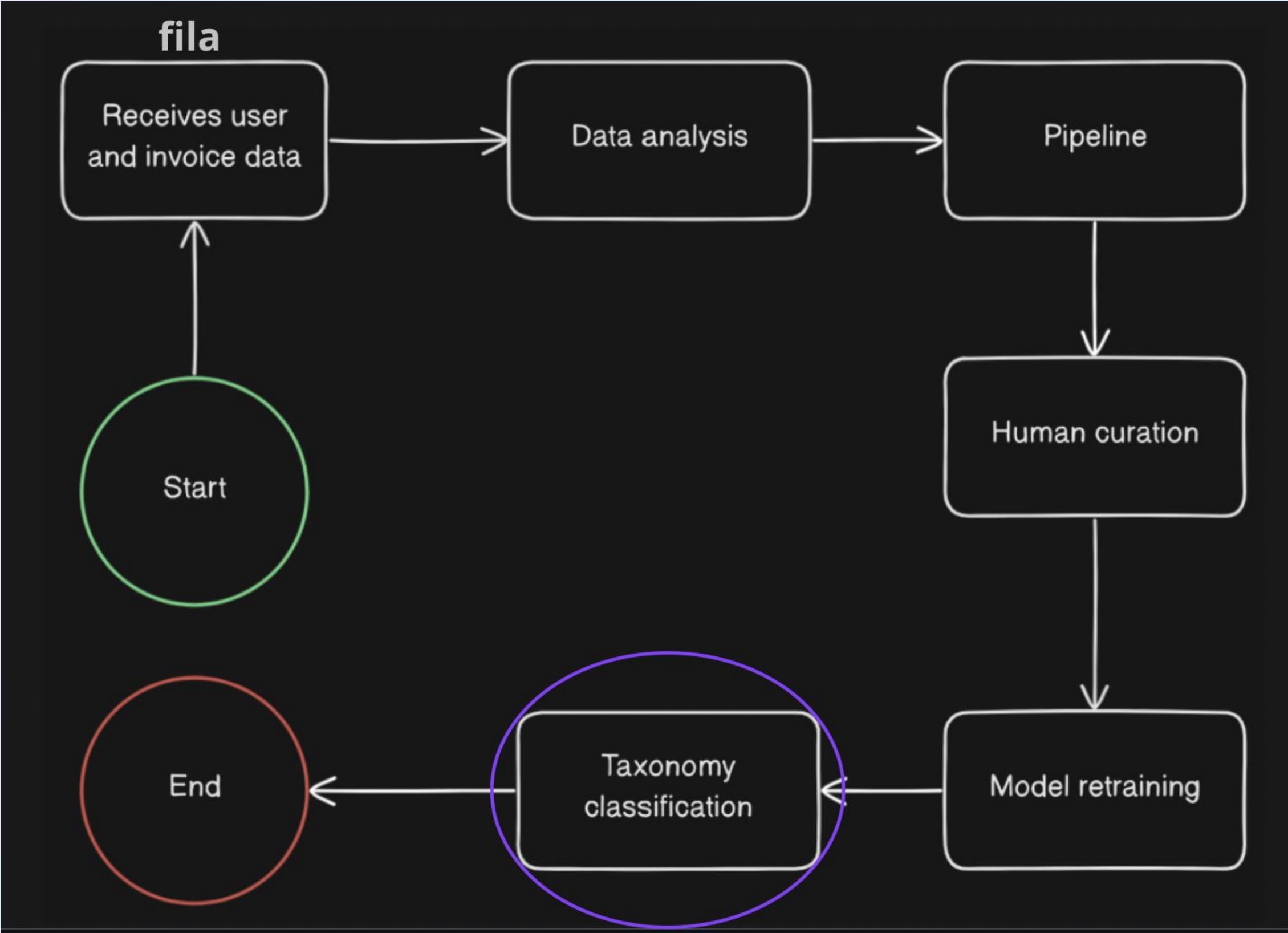
print('Acuracia (treino): ', neigh.score( x_train, y_train ))

Acuracia (treino):  0.7182571428571428

print('Acuracia (teste): ', neigh.score( x_test, y_test ))

Acuracia (teste):  0.6880666666666667
```





03 Next steps

01

- Business understanding
- RNFs
- Data analysis
- Simulations v01

02

- Assessment of the current system (technologies)
- Architecture 2.0 (specification and enhancement)
- Explore AI entry points
- Component simulation

03

- Development of non-functional tests
- Implementation of architectural mechanisms
- TDD

04

- Machine learning improvements (data normalization, other features...)
- Profound analysis on the results
- Architecture trade-offs

05

TBD

 Meta

inteli 