

Funções Principais

Aplicativo

desktop

V3.1.4

15/01/2025

Criar Nova Análise


Quality Control

 Home Artificial Intelligence Dashboard Image Mosaic Lot Info Classification Report Export Data Export Images Compare


Cloud | Local Server

 Upload Analysis

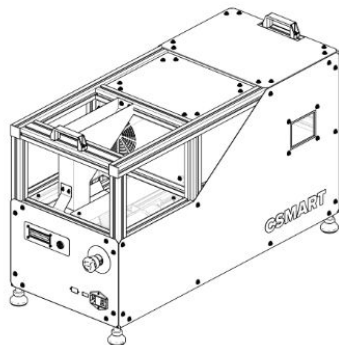
AI Model | Dataset

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CSMART
DIGITWelcome to Csmart Digit
The AI-Enabled Coffee Seed Classifier

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Criar Nova Análise

1. Clicar no botão **Home**
na barra lateral2. Clicar em **Create New
Analysis**

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New Analysis



1. Select the folder to create your analysis

Select Folder

D:\Csmat_Digit\Analysis

4

2. Type the name of the file

File name

5

Record New Analysis

< Back

Criar Nova Análise

3. Clicar em **Select Folder** caso queira modificar a o local onde será salvo a análise.

4. O endereço onde fica salvo o arquivo aparece logo abaixo do botão.

5. Digite o nome da análise no campo indicado. O nome do arquivo pode ser qualquer palavra ou número que seja possível identificar a amostra a ser analisada.

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New Analysis



The screenshot shows the 'New Analysis' screen with a large black image area on the left and a control panel on the right. Numbered callouts point to specific controls: 6 points to the 'Start' button, 7 to the 'Stop' button, 8 to the 'Light' toggle, 9 to the 'Belt' toggle, 10 to the 'Feeder' toggle, and 11 to the 'Feeder Speed' slider. The status bar at the bottom shows 'Detected Kernels: 0' and 'Seed Area: 0 mm²'.

Record

Start

Stop

Device Control

Light

Belt

Feeder

Feeder Speed

100

Detected Kernels: 0 Seed Area: 0 mm²

< Back

Criar Nova Análise

6. Aperte **Start** para iniciar a gravação

7. Na sequência aperte **Light** para ligar a luz


8. Verifique se a amostra já está na moega e aperte **Belt** para iniciar a esteira

9. Aperte **Feeder** para iniciar a vibração da calha e a amostra começar a se movimentar.

10. O **Feeder Speed** serve para aumentar ou diminuir a velocidade da quantidade de café

11. Aperte **Stop** para parar o processo e encerrar a gravação

Quality Control

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
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1. Select the AI model to classify the analysis file

12

Select Model

Selected Model: 224_MCL_CNVNXT_L_ARA_BRA_MIXEDV4_E97

Classification Methods: COB, NY
Classes: Black, Broken, Floater, Fox Bean, Husk, Immature, Insect Dam, Ok, Parchment, Pod, Rocks, Shell, Sour
Species: Arabica
Variety: Mixed
Origin: Brazil
Region: Sul de Minas/MG
Processing Method: Mixed
Accuracy: 97.0%
Database Name: MCL_MixedProcessing_v04
Model Issued: October/2024
Model Version: 39

[Edit this model](#)

2. Adjust the 'Pixel/cm' in the analysis file

 Save

3. Select the AI model to remove duplicate seeds

Do Not Remove Duplicates ▼

4. Click 'Run Analysis' to start classification

13


Run Analysis

Criar Nova Análise

12. Após finalizado a gravação é a hora de fazer a análise. Clique em **Select Model** e escolha o modelo de Inteligência Artificial

13. Clique em Run Analysis para rodar a análise, e finalizar o processo.

Quality Control

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
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Run Analysis

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Abrir Arquivo Existente

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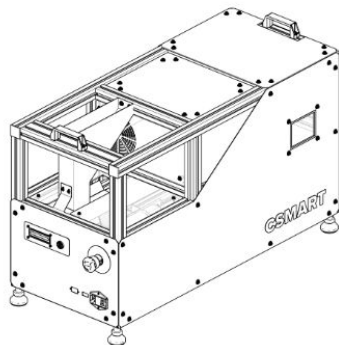
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Abrir Arquivo Existente

1. Clicar no botão **Home** na barra lateral
2. Clicar em **Open Existing Analysis** e selecione o arquivo de análise a ser aberto

Painel de Resultados

Csmart Digit

v.3.1.4

File Name

Peneira18

File Location

D:\Csmart_Digit\Analysis

Last Analysis Model

224_MCL_EFB0_ARA_BRA_MIXEDV5_W96

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Dashboard

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1

Relative to Weight

Total Defects

24.97%

Area: 11355

Primary Defects

1.35%

Area: 613

Secondary Defects

23.63%

Area: 10742

Foreign Matter

0%

Area: 0

Inspected Seeds

870

Est. Weight: 132g

COB Protocol

Tipo 6/7

Eq. Defects: 116

Dominant Color

RGB(147, 149, 121)

Screen Size Distribution

OK: 75.0%

NOK: 25.0%

Cumulative %

Aggregated Area

Screen Size

10-

11

12

13

14

15

16

17

18

19+

0.0%

0.0%

0.0%

0.2%

0.0%

0.2%

0.6%

13.6%

65.8%

19.6%

Screen Size

Area

Percentage

Cumulative %

Screen 10

0

0.00%

100.00%

Screen 11

0

0.00%

100.00%

Screen 12

0

0.00%

100.00%

Screen 13

106

0.23%

100.00%

Screen 14

0

0.00%

99.77%

Screen 15

86

0.19%

99.77%

Screen 16

285

0.63%

99.58%

Screen 17

6164

13.56%

98.95%

Screen 18

29937

65.84%

85.39%

Screen 19

8890

19.55%

19.55%

☐ Good

☐ Defects

☒ Both

Min and Max Screen

10

19

Save Image

Generate Plot

Classes Distribution

OK

Primary Defects

Secondary Defects

Foreign Matter

Disregarded

Class

Area

Percentage

Subset

Black

0

0.00%

Primary Defects

Broken

125

0.27%

Secondary Defects

Floater

0

0.00%

Secondary Defects

Abrir Arquivo Existente

1. Após aberto a análise é aberto a tela do Dashboard, onde consta toda a informação referente a amostra:

Total Defects: Defeitos Totais

Primary Defects: Defeitos Primários

Secondary Defects: Defeitos Secundários

Foreign Matter: Matéria Estranha

Inspected Seeds: Quantidade de Sementes

Dominant Color: Cor Dominante

File Name
Peneira18File Location
D:\Csmat_Digit\AnalysisLast Analysis Model
224_MCL_EFB0_ARA_BRA_MIXEDV5_W96

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☒ Relative to Weight

Total Defects

24.97%

Area: 11355

Primary Defects

1.35%

Area: 613

Secondary Defects

23.63%

Area: 10742

Foreign Matter

0%

Area: 0

Inspected Seeds

870

Est. Weight: 132g

COB Protocol

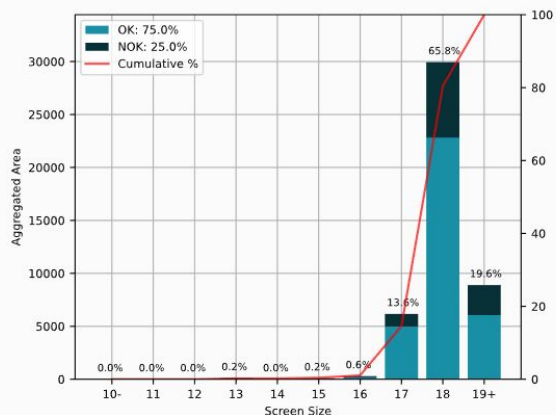
Tipo 6/7

Eq. Defects: 116

Dominant Color

RGB(147, 149, 121)

Screen Size Distribution

2

Screen Size	Area	Percentage	Cumulative %
Screen 10	0	0.00%	100.00%
Screen 11	0	0.00%	100.00%
Screen 12	0	0.00%	100.00%
Screen 13	106	0.23%	100.00%
Screen 14	0	0.00%	99.77%
Screen 15	86	0.19%	99.77%
Screen 16	285	0.63%	99.58%
Screen 17	6164	13.56%	98.95%
Screen 18	29937	65.84%	85.39%
Screen 19	8890	19.55%	19.55%

3☐ Good ☐ Defects ☒ Both

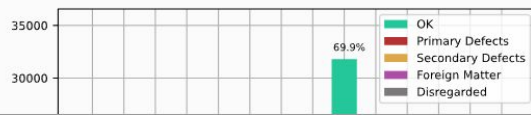
Min and Max Screen

10 19

Save Image

Generate Plot

Classes Distribution



Class	Area	Percentage	Subset
Black	0	0.00%	Primary Defects
Broken	125	0.27%	Secondary Defects
Floater	0	0.00%	Secondary Defects

File Name
Peneira18File Location
D:\Csmat_Digit\AnalysisLast Analisis Model
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Dashboard

4. O quadro **Classes Distribution** mostra a distribuição das classes classificadas na amostra

5. Na tabela indicada é possível verificar o percentual de cada classe

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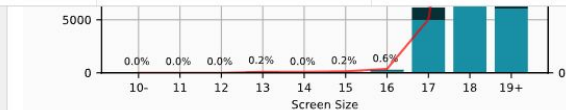
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☐ Good ☐ Defects ☒ Both

Min and Max Screen

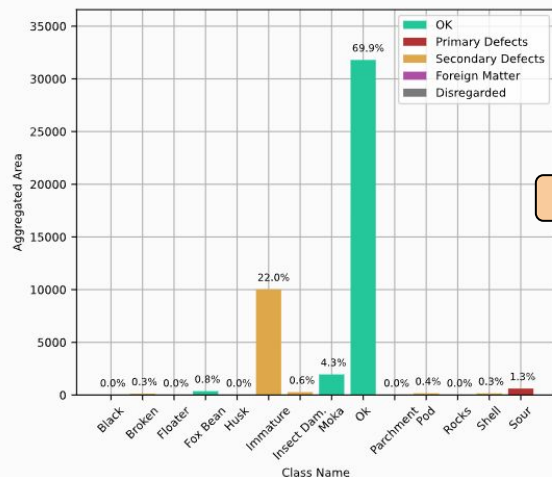
10 19

Save Image

Generate Plot

Classes Distribution

4

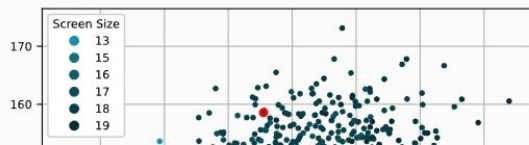


5

Class	Area	Percentage	Subset
Black	0	0.00%	Primary Defects
Broken	125	0.27%	Secondary Defects
Floater	0	0.00%	Secondary Defects
Fox Bean	365	0.80%	OK
Husk	0	0.00%	Secondary Defects
Immature	10025	22.05%	Secondary Defects
Insect Dam.	272	0.60%	Secondary Defects
Moka	1953	4.30%	OK
Ok	31795	69.93%	OK
Parchment	0	0.00%	Secondary Defects
Pod	161	0.35%	Secondary Defects
Rocks	0	0.00%	Foreign Matter
Shell	156	0.34%	Secondary Defects
Sour	613	1.35%	Primary Defects

Save Image



Feature Analysis



Plot Parameters

☒ Scatter☐ Hexbin☐ Log

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Classification Methods

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Total Defects

216

Weight Factor: 2.27

Method	Equivalent Defects	Type
COB	116	Tipo 6/7
NY	130	NY 6/7

COB

NY

Class	Original Count	Weighted Count	Factor	Equivalent Defects
Black	0	0	1 to 1	0
Broken	3	7	5 to 1	2
Floater	0	0	5 to 1	0
Fox Bean	7	16	0	0
Husk Small	0	0	3 to 1	0
Husk Medium	0	0	3 to 1	0
Husk Large	0	0	1 to 1	0
Immature	190	432	5 to 1	87
Insect Dam.	5	11	5 to 1	3
Moka	37	84	0	0
Ok	610	1386	0	0
Parchment	0	0	2 to 1	0
Pod	3	7	1 to 1	7
Rocks Small	0	0	3 to 1	0
Rocks Medium	0	0	1 to 2	0
Rocks Large	0	0	1 to 5	0
Shell	3	7	3 to 1	3
Sour	12	27	2 to 1	14

7

AI Model Parameters

Dashboard

6. No quadro Classification Methods pode ser verificado o métodos de classificação como COB ou NY

7. Na tabela ao lado pode-se verificar a quantidade de ocorrências por classes e os defeitos equivalentes para cada tipo de defeito.

Mosaico de Imagens

Mosaico de Imagens

1. Clique em **Image Mosaic** para ver em detalhes cada foto da análise

2. A esquerda ficam os grãos sem defeito

3. A direita os grãos com defeito

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Non Defective Seeds

OK Classes ▾

368 Seeds | 86.56%

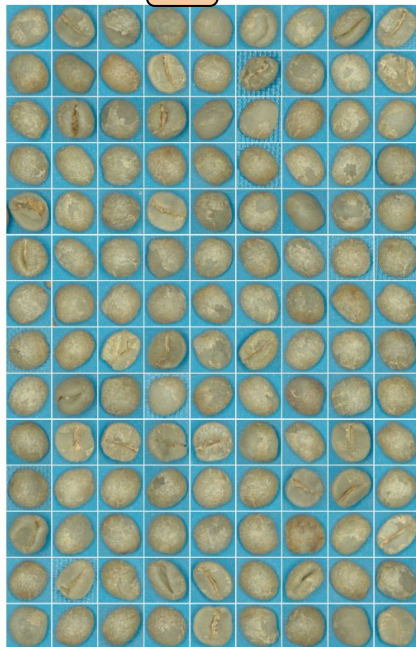
Dominant Color

RGB(155, 152, 120)

- ☒ Color by Class
- ☒ Draw Perimeter
- ☒ Draw Min Axis

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Edit Selection



Defective Seeds

NOK Classes ▾

76 Seeds | 13.44%

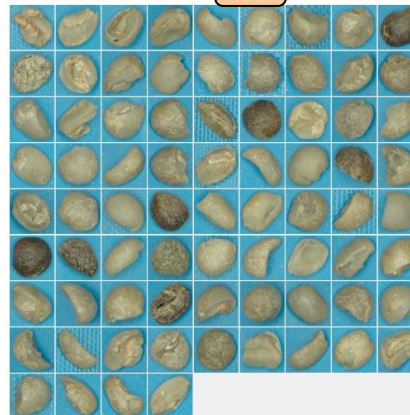
Dominant Color

RGB(145, 144, 115)


- ☐ Color by Class
- ☐ Draw Perimeter
- ☐ Draw Min Axis

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Clear Selection



Exportar Imagens

**Csmart Digit**
v3.1.4

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TribodaCafeina_Lote325_23

File Location
D:\Csmat_Digit\Analysis

Last Analysis Model
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 → ?

Quality Control

Export Images

1. Please select the image export mode:

☒ Export all classes (Classification results)

☐ Export as a single class (Dataset creation)

☐ Export corrected images only (Model improvement)

2. Click 'Export Images' to save individual images

Export Images

☒ Open folder after saving

3

2


Exportar Imagens

1. Clique em **Export Images** para abrir a tela de salvamento de imagens.

2. Clique em **Export Images**

3. Certifique-se de que o botão **Open Folder After Saving** esteja habilitado para que a pasta com as imagens se abra ao término

Exportar Relatório

Csmart Digit
v.3.1.4

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  → ?

Quality Control

Classification Report

1. Select the report language:

Portuguese

2

2. Specify if the percentage refers to count or weight:

☒ Relative to Weight

3. Specify the 'Screen Distribution' mode:

☒ Only Good ☐ Only Defects ☐ Both

3. Specify the minimum and maximum screen sizes:
10 19

5. Select detailed classification methods to include:
No classification methods available

6. Select extra features:

☒ Screen Sizes Plot and Classes Distribution Plot

☒ Sample images of Good and Defective Coffees

☐ Correlations Plots

☐ Artificial Intelligence Metrics

☐ Descriptive Statistics

7. Click 'Generate PDF' to export the report:

Generate PDF

4

Open Pdf after Export ☒

5

Exportar Relatório

1. Clique em **Classification Report** para abrir a tela de exportar relatórios.

2. Selecione Português para exportar o relatório em português.

3. Clique em **Only Good** para apresentar no relatório as peneiras somente de café bons (café catado).

4. Clique em **Generate PDF** para gerar o arquivo final de relatório

5. Certifique-se de que **Open PDF after Export** esteja habilitado para que o relatório abra automaticamente.



CSMART COFFEE TECHNOLOGIES SA

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