

Monitoramento de idosos através de câmeras e detecção de objetos usando redes da “família” Yolo

Bianca Cristina dos Santos Brito – 202006840016
Gilton Conceição Caminha – 202106840008

Instalação e Execução do Sistema

Instalação:

- O Projeto encontra-se no GitHub, para baixá-lo:

```
git clone https://github.com/caminha96/ic.git
```

- Para instalar as dependências, executar esse comando (dentro da máquina virtual do projeto):

```
pip install -r requirements.txt
```

- Em caso de teste com vídeo: o video no diretório: IC/data/video_final alterar o path do vídeo no arquivo modelo.py (linha 29)
- Em caso de teste com webcam: descomentar a parte referente à webcam no código.
- Após os passos anteriores, rodar:

```
python ./scripts/modelo.py
```

Configuração do Dataset

Create New Version

Prepare your images and data for training by compiling them into a version.
Experiment with different configurations to achieve better training results.

- ✓ **Source Images**
Images: 99
Classes: 4
Unannotated: 0
- ✓ **Train/Test Split**
Training Set: 77 images
Validation Set: 11 images
Testing Set: 11 images
- ✓ **Preprocessing**
Auto-Orient: Applied
Resize: Stretch to 640×640
- ✓ **Augmentation**
Flip: Horizontal
Crop: 0% Minimum Zoom, 25% Maximum Zoom
Grayscale: Apply to 20% of images
Hue: Between -25° and +25°
Saturation: Between -25% and +25%
Brightness: Between -15% and +15%
Blur: Up to 2px
Noise: Up to 0.97% of pixels

- 5 **Create**
Review your selections and select a version size to create a moment-in-time snapshot of your dataset with the applied transformations.

Larger versions take longer to train but often result in better model performance. [See how this is calculated ↗](#)

Maximum Version Size

253 images (3x) ▼

- ✓ **Source Images**
Images: 232
Classes: 4
Unannotated: 0
- ✓ **Train/Test Split**
Training Set: 161 images
Validation Set: 35 images
Testing Set: 36 images
- ✓ **Preprocessing**
Resize: Stretch to 640×640
⚠ Auto-Orient: Not Applied (But Highly Recommended!)
- ✓ **Augmentation**
Flip: Horizontal
Crop: 0% Minimum Zoom, 25% Maximum Zoom
Rotation: Between -5° and +5°
Grayscale: Apply to 20% of images
Hue: Between -25° and +25°
Saturation: Between -25% and +25%
Brightness: Between -25% and +25%
Blur: Up to 2px
Noise: Up to 0.97% of pixels
- 5 **Create**
Review your selections and select a version size to create a moment-in-time snapshot of your dataset with the applied transformations.

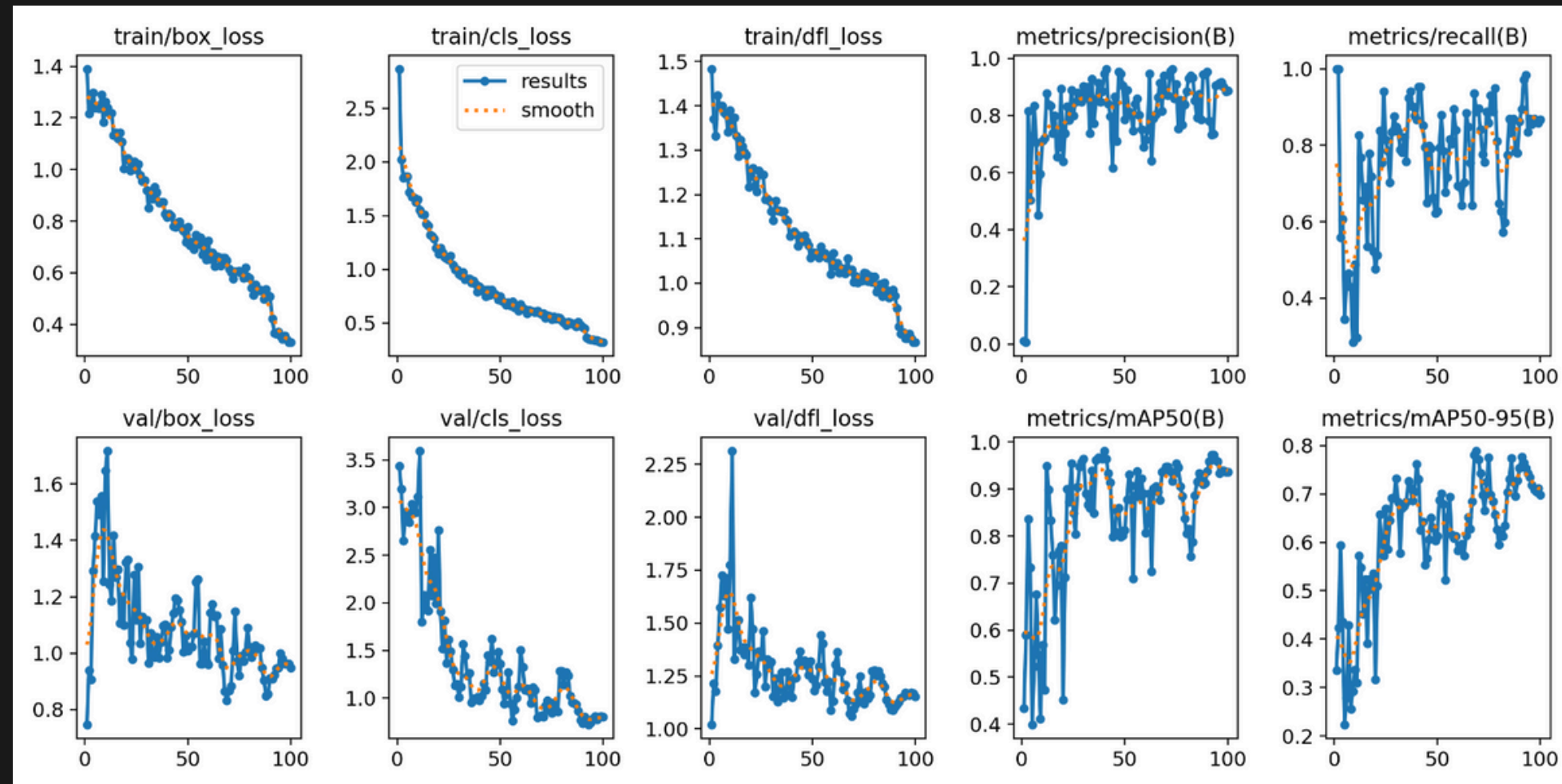
Larger versions take longer to train but often result in better model performance. [See how this is calculated ↗](#)

Maximum Version Size

554 images (3x) ▼

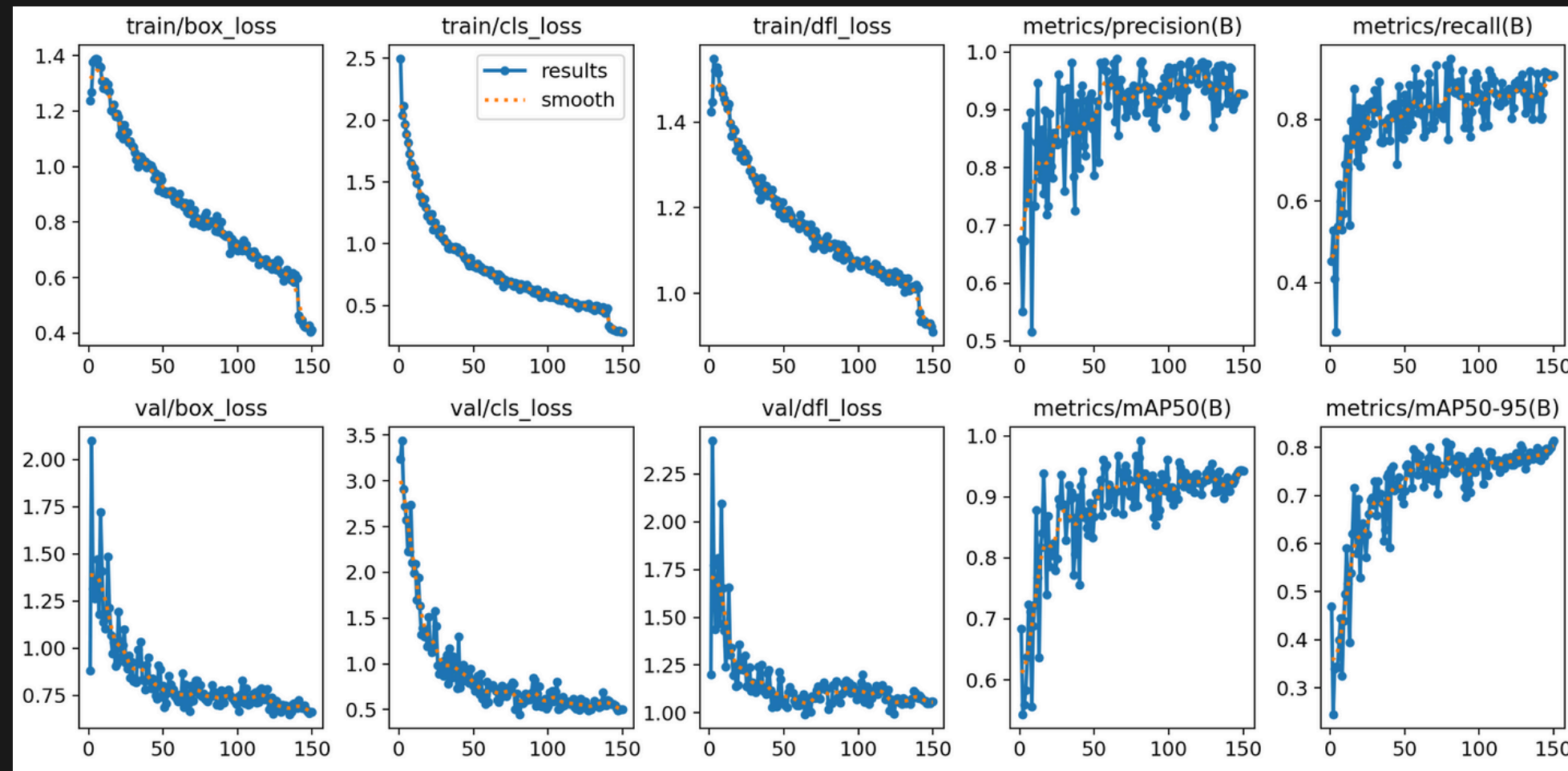
Create

Resultado



Parâmetros do treinamento:

- Epochs: 100
- Imgsz: 640

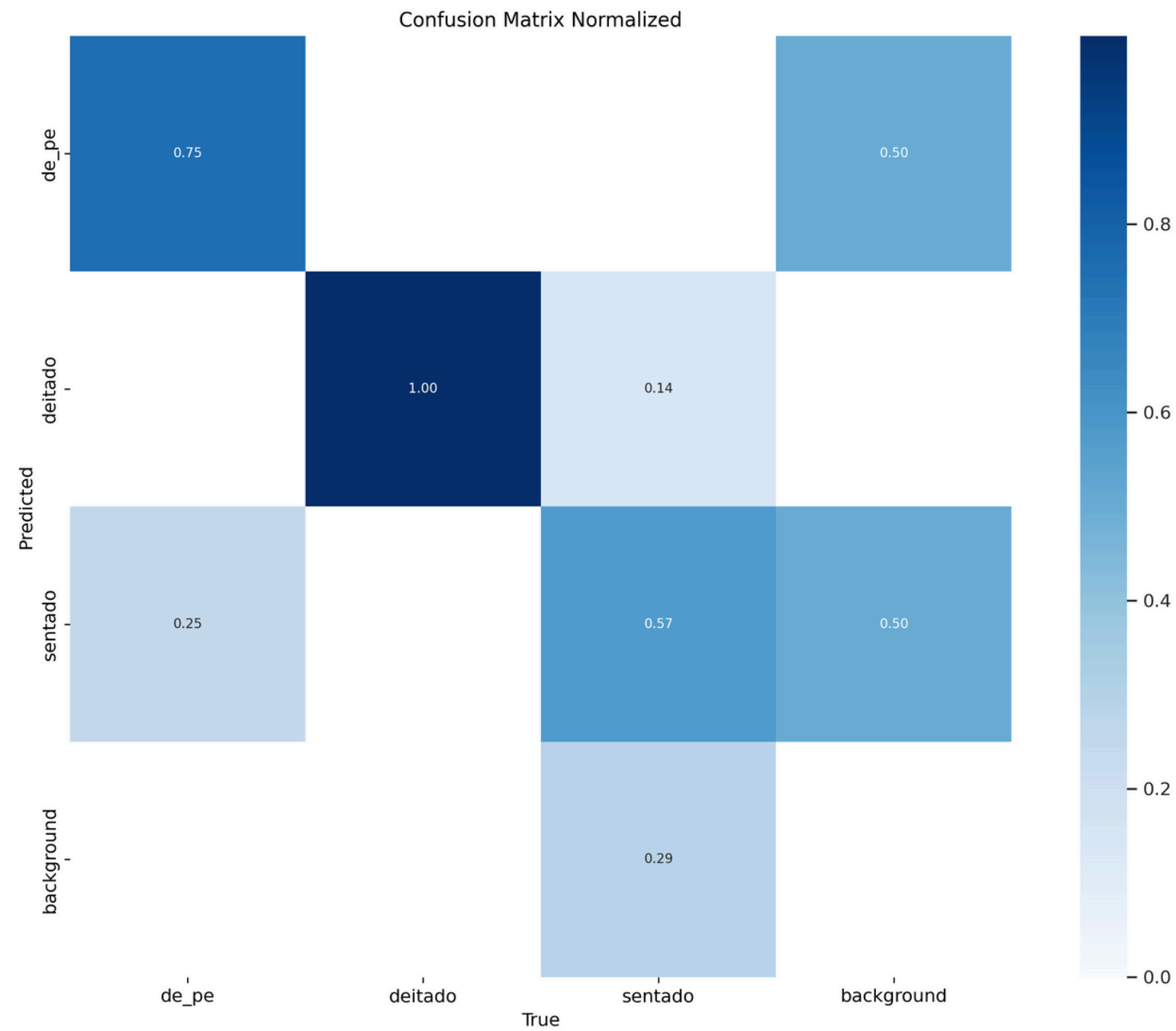


Parâmetros do treinamento:

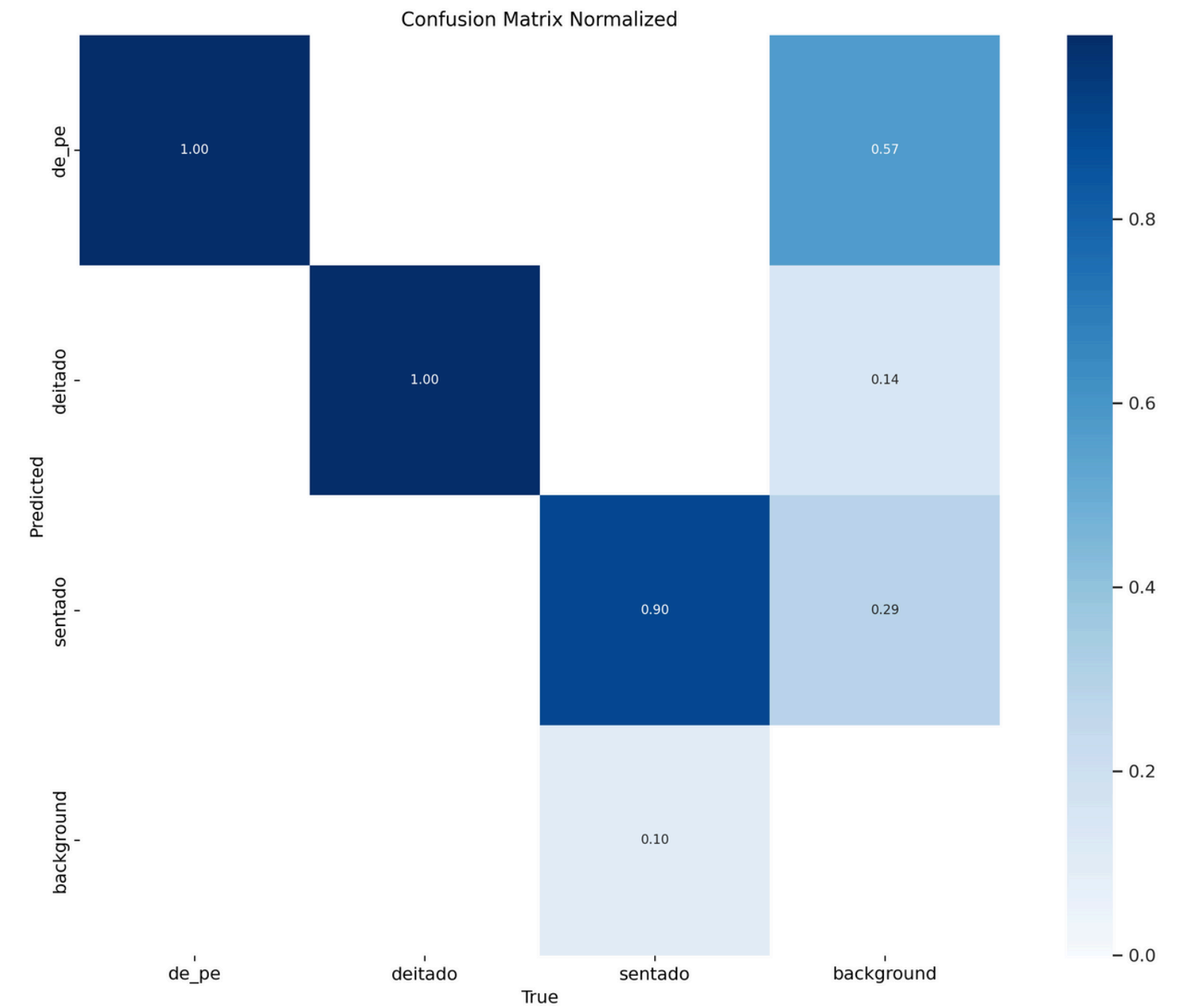
- Epochs: 150
- Imgsz: 640
- Bach: 16



Matriz de Confusão



acurácia: 66,3%



acurácia: 87,5%

