

CIHAM (UMR 5648), CNRS

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# eScriptorium Workshop

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## 1 Kraken, eScriptorium, HTR?

1.1 Kraken

1.2 eScriptorium

## 2 HTR Workflow

## 3 Demonstration

## 4 Guided Exercise

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## 6 Références



## Kraken

- Layout analysis and HTR tool
- Based on deep learning
- Developed by Ben Kiessling within the Scripta project (PSL)
- Code : <https://github.com/mittagessen/kraken>
- Documentation: <https://kraken.re/master/index.html>
- Usable directly via command line or through the eScriptorium interface

## eScriptorium

- Open-source software for segmenting documents, detecting lines, transcribing, training HTR models, and applying them to sources
- Developed within the Scripta project (PSL)
- Connects to Kraken for layout analysis and HTR
- Must be deployed on a server by an institution
- Source code: <https://gitlab.inria.fr/scripta/escriptorium>
- Demo videos: <https://escripta.hypotheses.org/escriptorium-video-gallery>
- Online tutorial: <https://openiti.org/assets/documents/eScriptorium-Tutorial.pdf>

To use eScriptorium, you need:

- To open an account on an available eScriptorium instance (<https://cremmacall.sciencescall.org>) or install a local instance
- Access to image files of your sources: either local files or images downloaded directly from an institutional site via a IIIF manifest, e.g.:

[https://gallica.bnf.fr/iiif/ark:  
/12148/btv1b84259980/manifest.json](https://gallica.bnf.fr/iiif/ark:/12148/btv1b84259980/manifest.json)

*eScriptorium* is a web interface that allows you to:

- segment a document page (regions and lines)
- transcribe documents
- train an HTR model
- apply an HTR or segmentation model to a document



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- Load the images
- Segment image regions
- Segment text lines
- Predict the text in the image
- Export the data (txt, ALTO, PAGE)

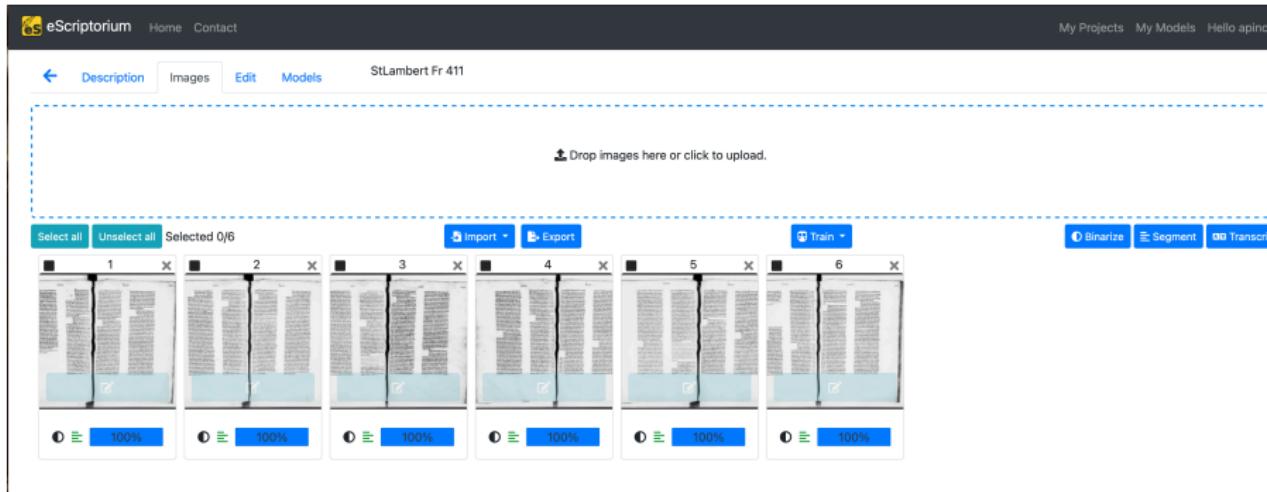


Figure: eScriptorium interface

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- ① Log into the server: <https://escriptorium.inria.fr>
  - login: apinche\_formation – password: training1234
- ② Create a new project: YourName
- ③ Upload 2 pages from the source:  
*La vie des saints en francoys* – BnF, Réserve des livres rares,  
VELINS-68, 15<sup>th</sup> c.  
<https://gallica.bnf.fr/ark:/12148/bpt6k9909876/f13.item>
- ④ Apply a segmentation model (blla.mlmodel)
- ⑤ Correct the segmentation
- ⑥ Apply a transcription model (CATMuS-Medieval)
- ⑦ Make necessary corrections
- ⑧ Export the data

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# Exercise (1)

- Create a new project, then a new document
- Import JPEG images
  - Download 2 images from Gallica from one of the following sources:
    - *Le Misanthrope* by Molière:  
<https://gallica.bnf.fr/ark:/12148/btv1b8610797j/f31.item.r=moliere>
    - BnF, NAF 23686 (Lives of Saints in French):  
<https://gallica.bnf.fr/ark:/12148/btv1b8446925z>
    - BnF, Latin 5335 (Latin, *Vita Sancti Martini*):  
<https://gallica.bnf.fr/ark:/12148/btv1b8529515t/f14.item>

# Exercise (2)

- ① Import 2 images
- ② Apply a segmentation model (regions, then baselines)
- ③ Apply an HTR model:
  - Use a pre-existing model: **CATMuS-Medieval** (DOI: 10.5281/zenodo.10066219) or **CATMuS-Print** (DOI: <https://doi.org/10.5281/zenodo.10592716>)
  - For medieval documents, download the CREMMA Medii Aevi keyboard:  
<https://github.com/HTR-United/CREMMA-Medieval-LAT>
  - Correct the transcriptions
- ④ Export results:
  - Export the transcription as a plain text file
  - Export the transcription as ALTO XML

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- 1 Install your own eScriptorium instance:

<https://gitlab.com/scripta/escriptorium/>

Video on the topic: <https://www.canal-u.tv/chaines/enc/21-fondue-a-lightweight-htr-infrastructure-for-geneva>

- 2 Use Kraken from the command line:

<https://github.com/mittagessen/kraken>

- ketos train -r 0.0001 --lag 20 --augment --device cuda:0  
--preload -f alto -e val.txt -t train.txt —batch-size 16 -u  
NFC -o modelCremma-Medieval

- 3 Improve layout analysis by training a model with YALTAi:

<https://github.com/PonteIneptique/YALTAi>

CLÉRICE, Thibault, “You Actually Look Twice At it (YALTAi): using an object detection approach instead of region segmentation within the Kraken engine”, 2022,

<https://hal-enc.archives-ouvertes.fr/hal-03723208>

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