NANOPERANDO

Groupement de recherche CNRS

LRCS

2019

ENERGY RS2E

Atelier traitement d'image, plateforme plug im!

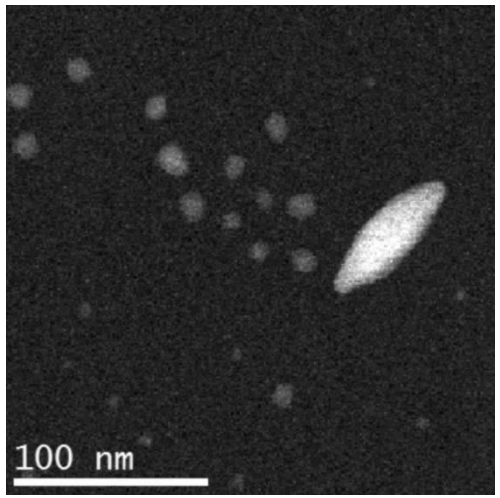
M. Moreaud, PhD, HDR, R&I project leader

maxime.moreaud@ifpen.fr

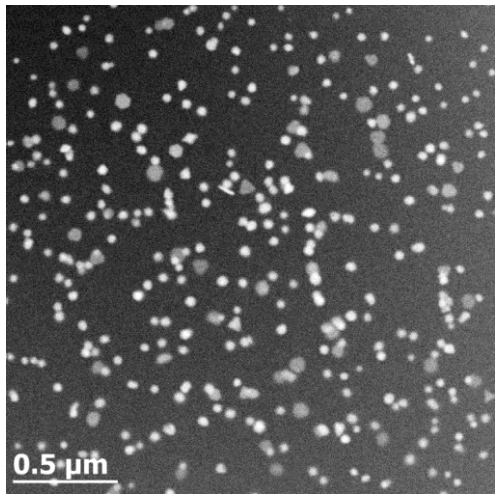
plug*im!*

IFP Energies nouvelles

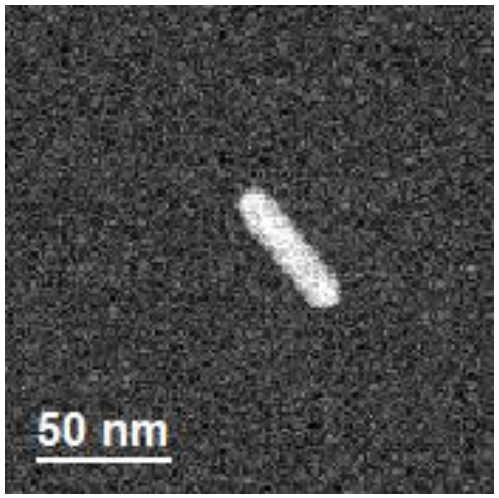
Data : image sequence from video



Au serie[1], 952x954, 63 images



Np serie [2], 744x744, 24 images



vid serie [3], 173x173, 180 images

Objective : track each objects of interest, compute morphological characterization

1 K. Aliyah et al., sumitted in revision Nature Chemistry
2 D. Alloyeau et al. Nano Letters 15 2574-2581
3 D. Alloyau et al., in preparation

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First, get sample data and plug im!

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www.plugim.fr

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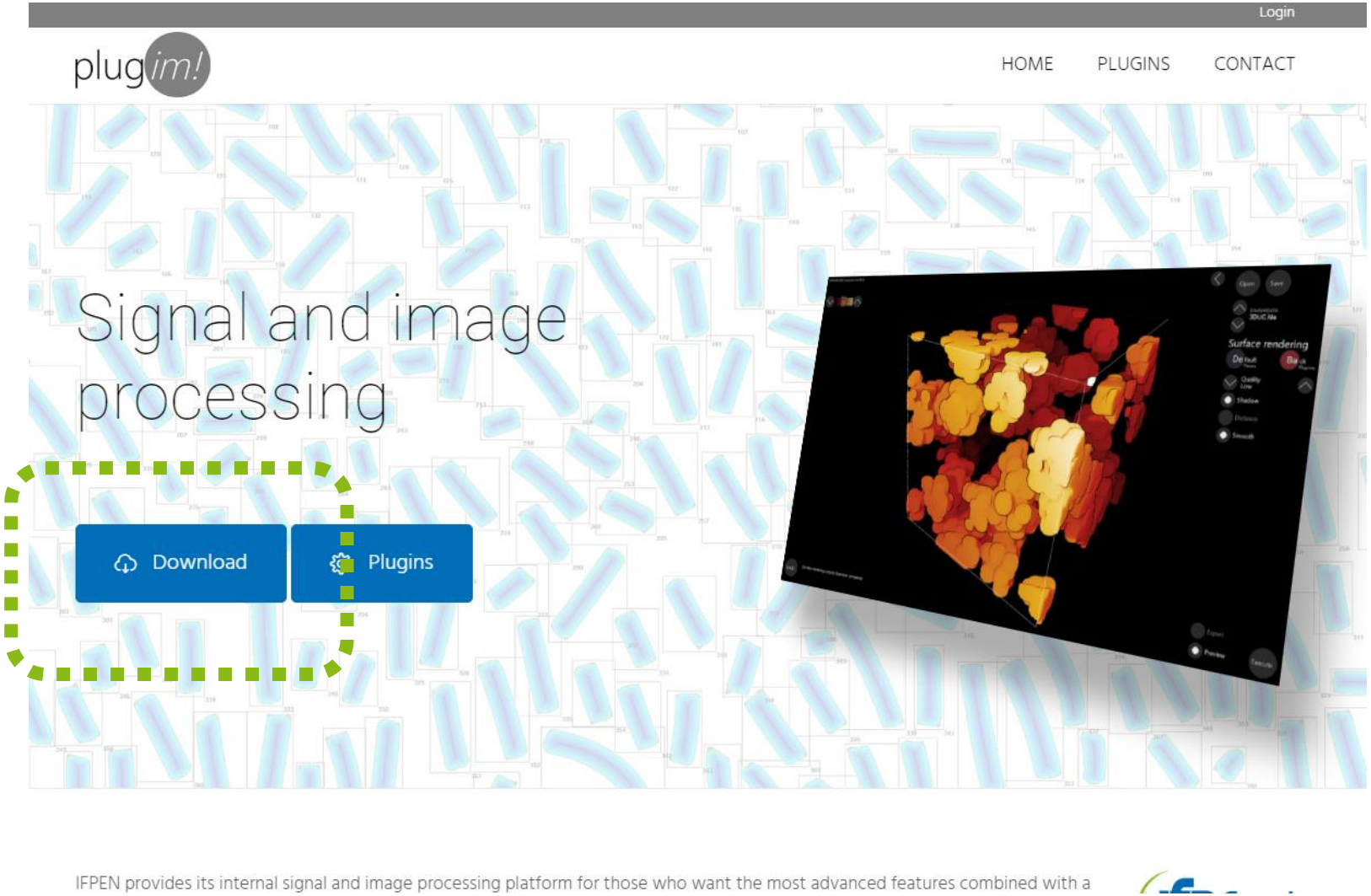

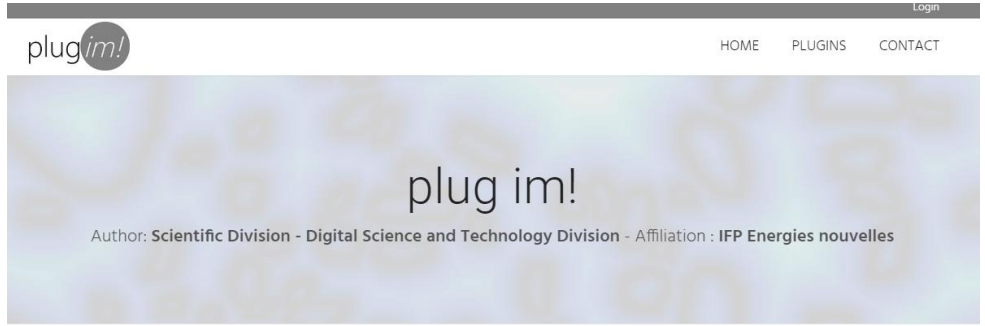
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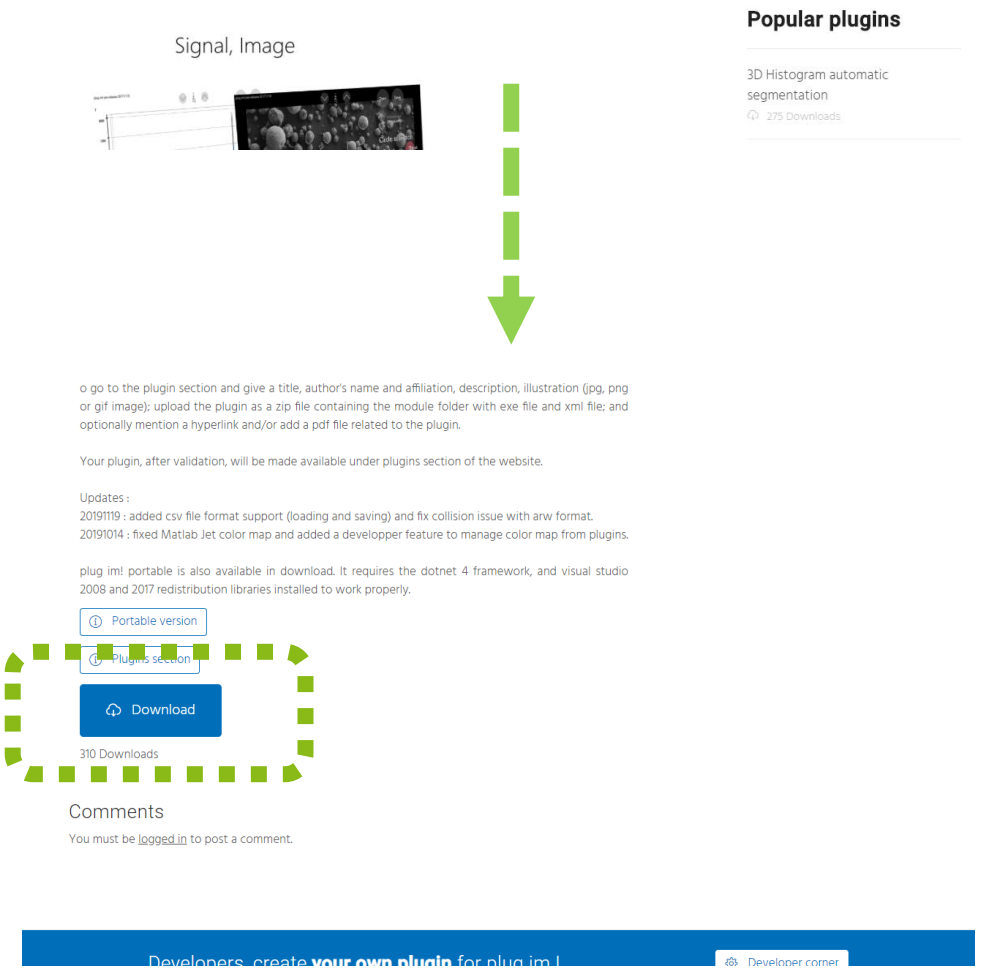
Author: Scientific Division - Digital Science and Technology Division - Affiliation : IFP Energies nouvelles


Signal, Image
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o go to the plugin section and give a title, author's name and affiliation, description, illustration (jpg, png or gif image); upload the plugin as a zip file containing the module folder with exe file and xml file; and optionally mention a hyperlink and/or add a pdf file related to the plugin.
Your plugin, after validation, will be made available under plugins section of the website.
Updates :
20191119 : added csv file format support (loading and saving) and fix collision issue with arw format.
20191014 : fixed Matlab Jet color map and added a developper feature to manage color map from plugins.
plug im! portable is also available in download. It requires the dotnet 4 framework, and visual studio 2008 and 2017 redistribution libraries installed to work properly.
Portable version
Plugins section
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310 Downloads
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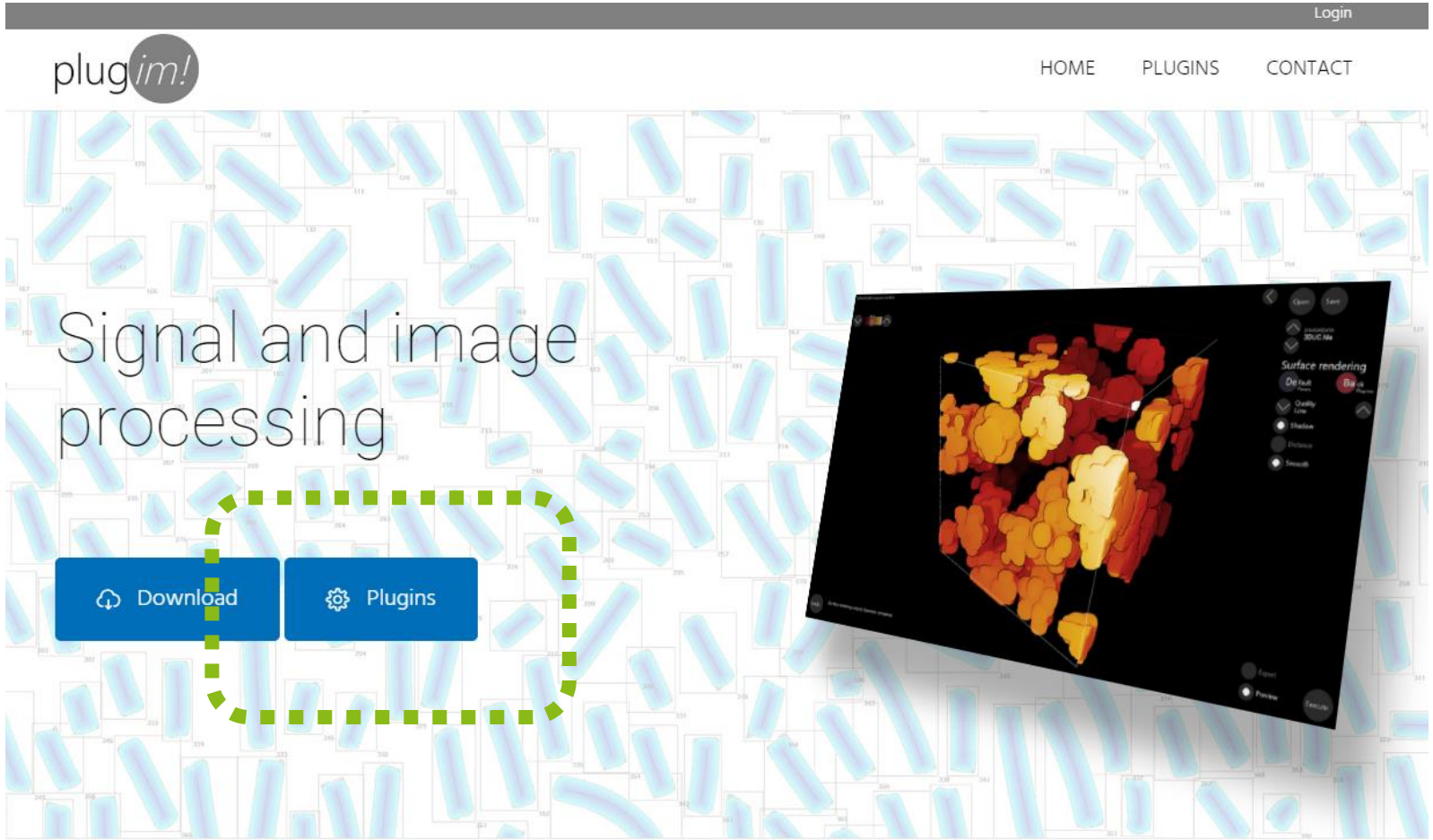
You must be logged in to post a comment.
Developers, create your own plugin for plug im !
Developer corner

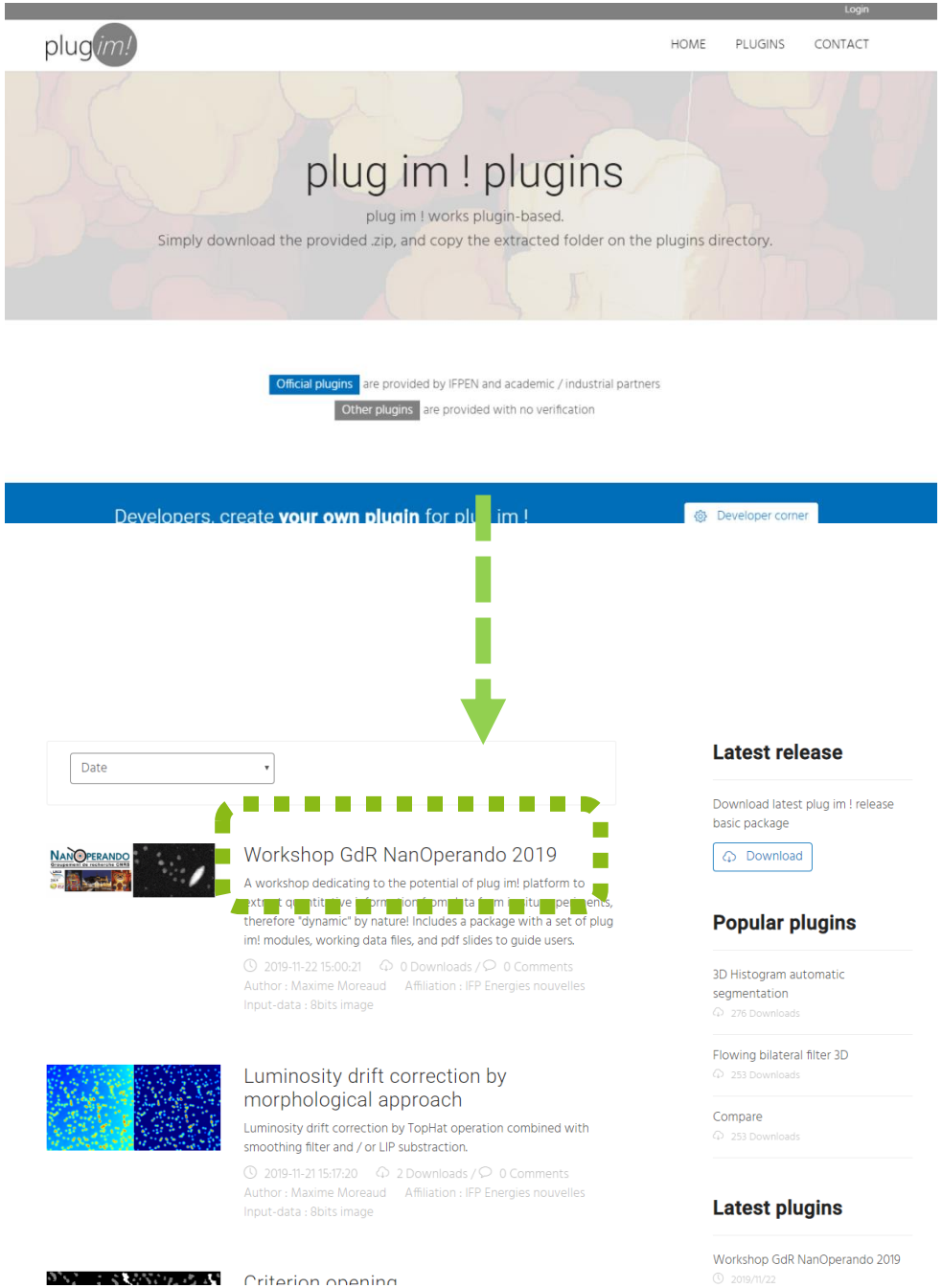

plug im! .exe


Setup - plug im!
Welcome to the plug im! Setup Wizard
This will install plug im! version pre release 20191119 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

plug*im!*



IFPEN provides its internal signal and image processing platform for those who want the most advanced features combined with a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plug im ! works plugin-based.
Simply download the provided .zip, and copy the extracted folder on the plugins directory.
Official plugins are provided by IFPEN and academic / industrial partners
Other plugins are provided with no verification
Developers, create your own plugin for plug im !
Developer corner
Date
Workshop GdR NanOperando 2019
A workshop dedicating to the potential of plug im! platform to
therefore "dynamic" by nature! Includes a package with a set of plug
im! modules, working data files, and pdf slides to guide users.
2019-11-22 15:00:21
0 Downloads / 0 Comments
Author : Maxime Moreaud
Affiliation : IFP Energies nouvelles
Input-data : 8bits image
Luminosity drift correction by morphological approach
Luminosity drift correction by TopHat operation combined with smoothing filter and / or LIP substraction.
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2 Downloads / 0 Comments
Author : Maxime Moreaud
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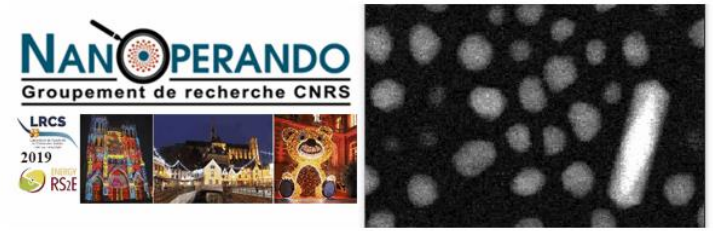
Workshop GdR NanOperando 2019

Author: **Maxime Moreaud** - Affiliation : **IFP Energies nouvelles**

Other plugins



A workshop dedicating to the potential of plug im! platform to extract quantitative information from data from in situ experiments, therefore "dynamic" by nature!
Includes a package with a set of plug im! modules, working data files, and pdf slides to guide users.

Sample data

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Flowing bilateral filter 3D
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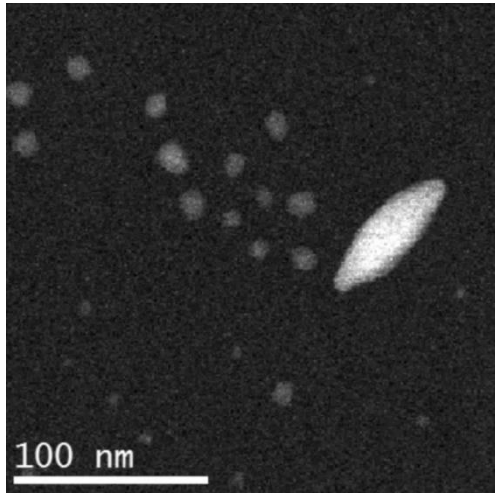
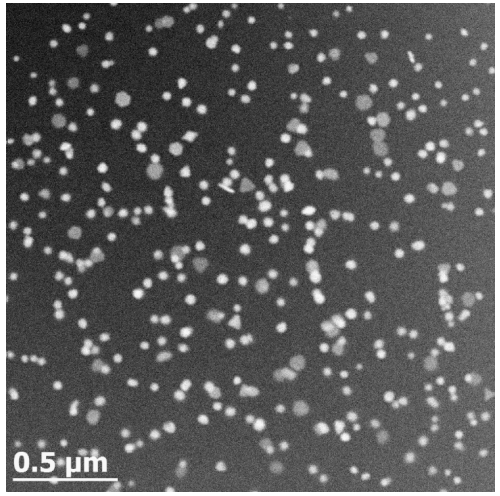
Latest plugins

Data : image sequence from video



Au serie[1], 952x954, 63 images



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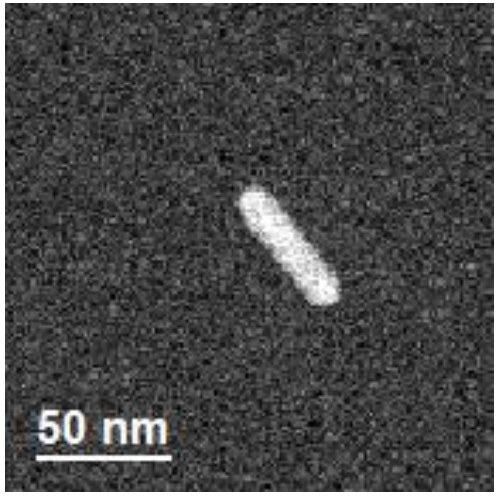

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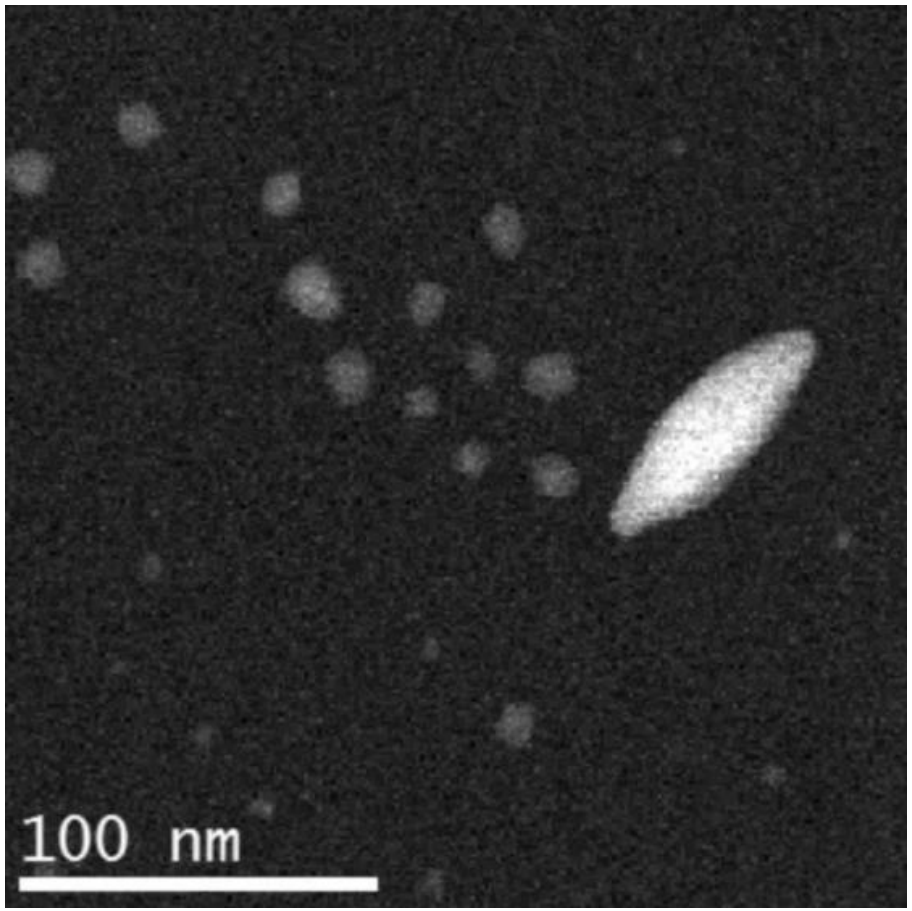
Au serie



K. Aliyah et al., sumitted in revision Nature Chemistry

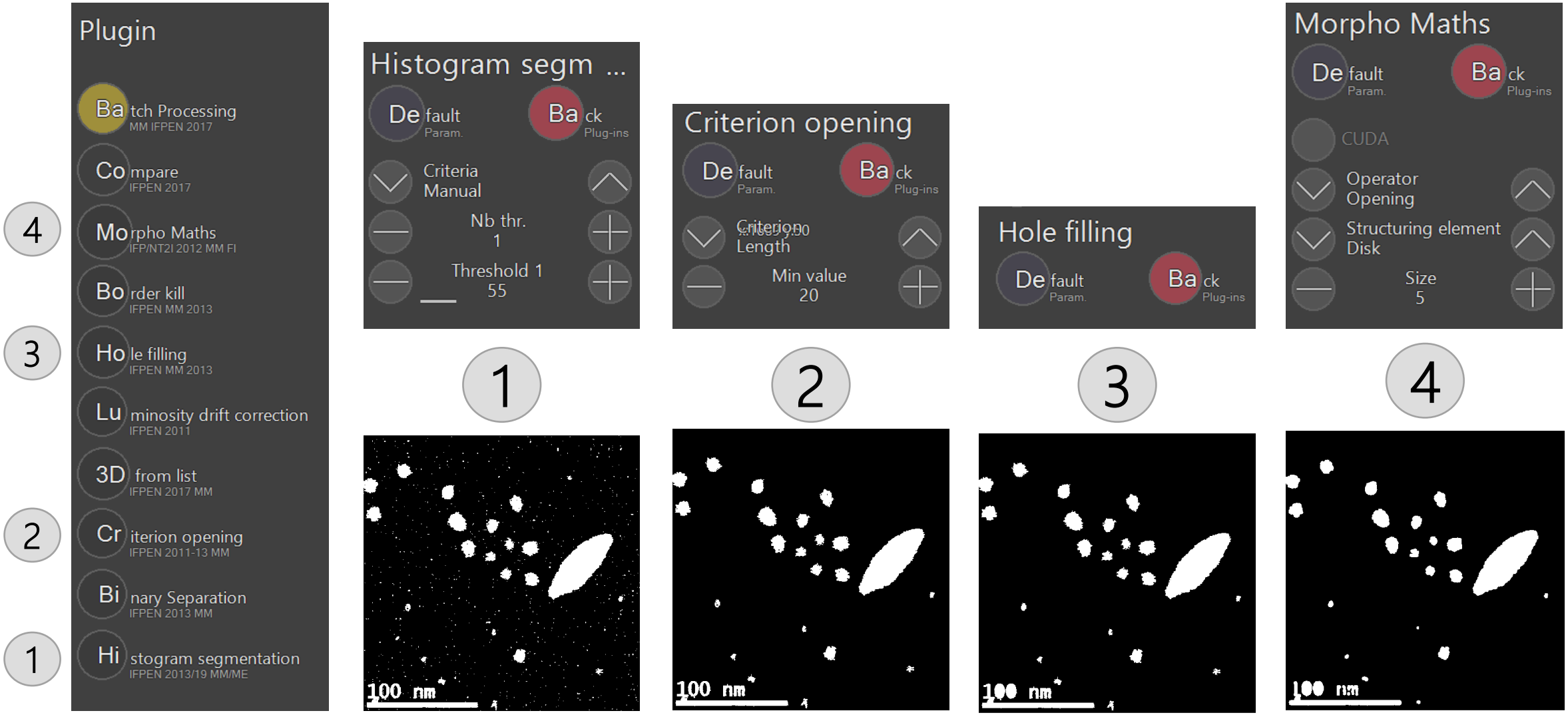
Methodology :

Segmentation in two classes (case specific)

Volume creation

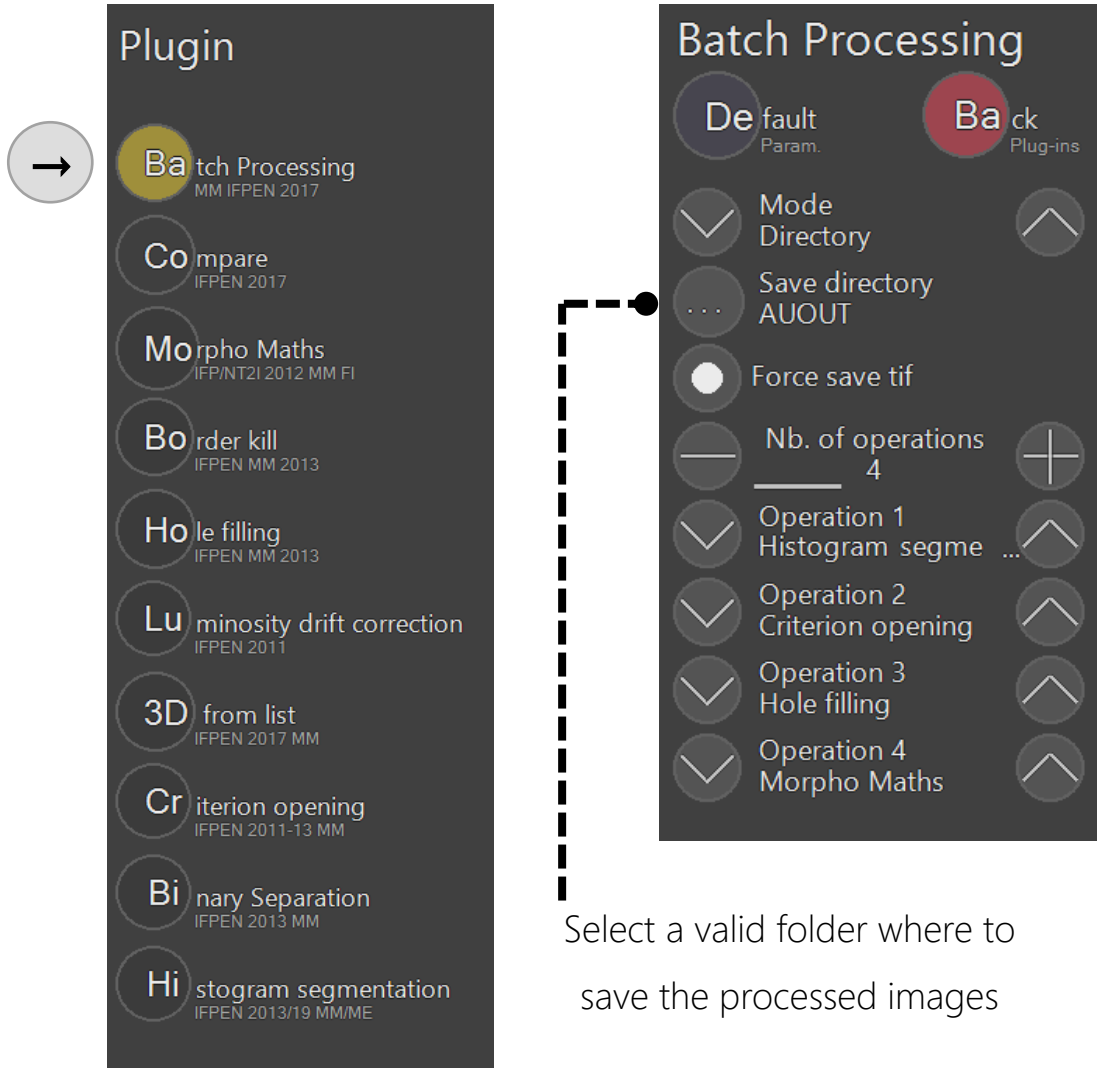
Tracking and morphological measurements

Au serie, **segmentation in 4 steps**



Au serie, segmentation **automation**

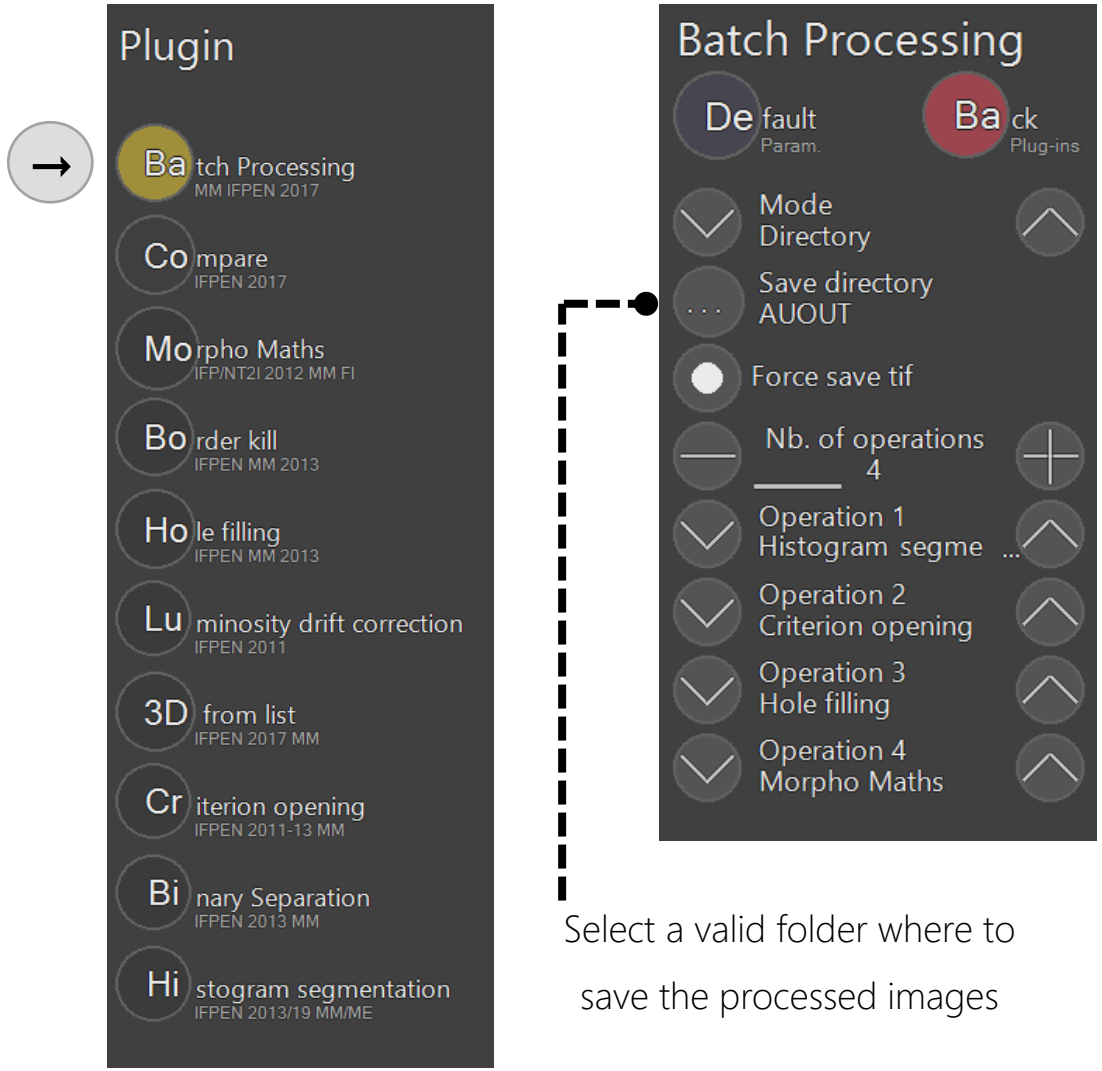
Load one image of the directory to process (any image whatsoever)



Select a valid folder where to save the processed images

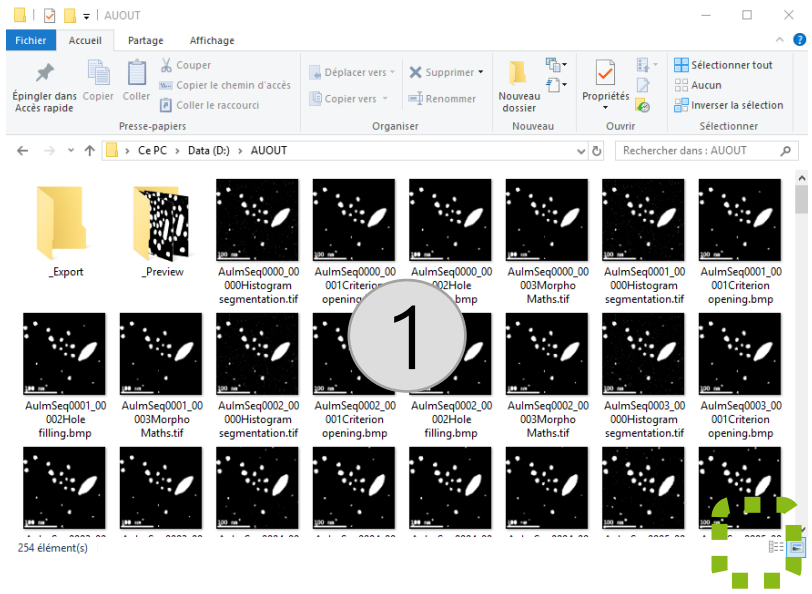
Au serie, segmentation **automation**

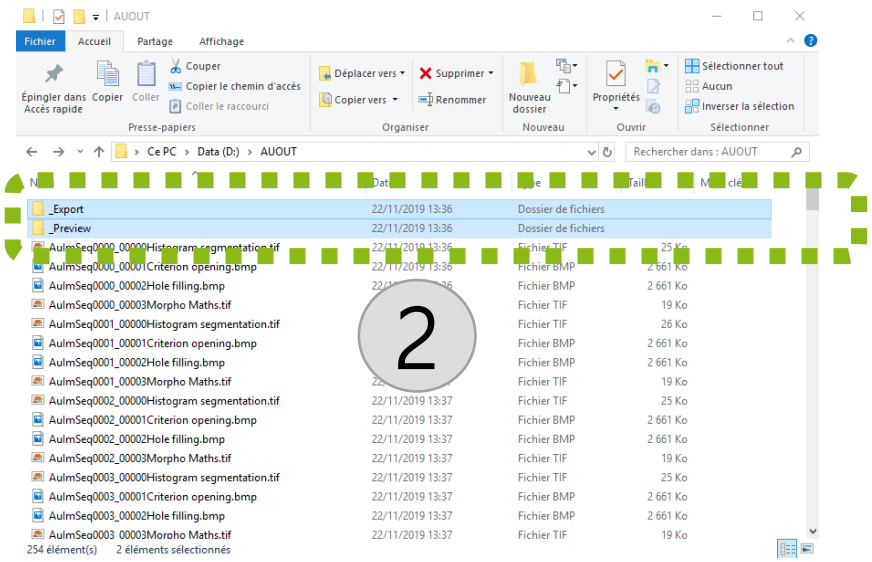
Load one image of the directory to process (any image whatsoever)

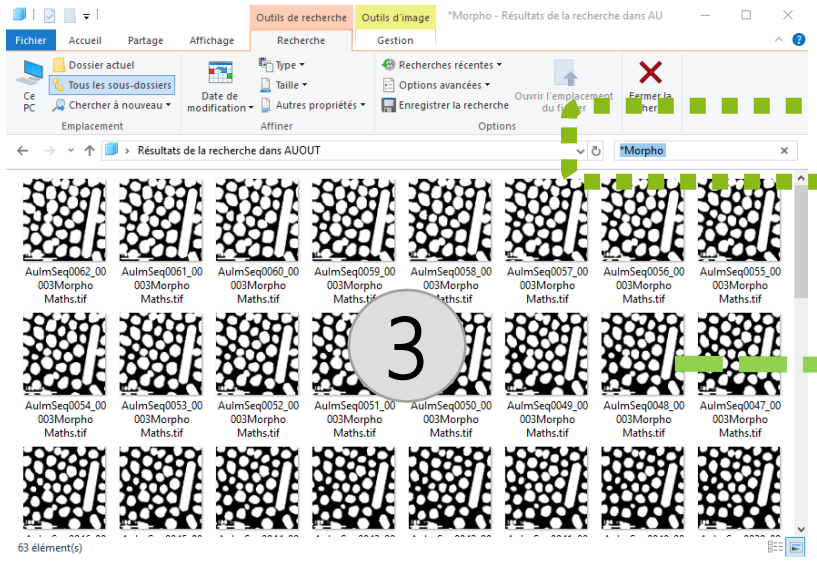


Select a valid folder where to save the processed images

Au serie, segmentation **automation**



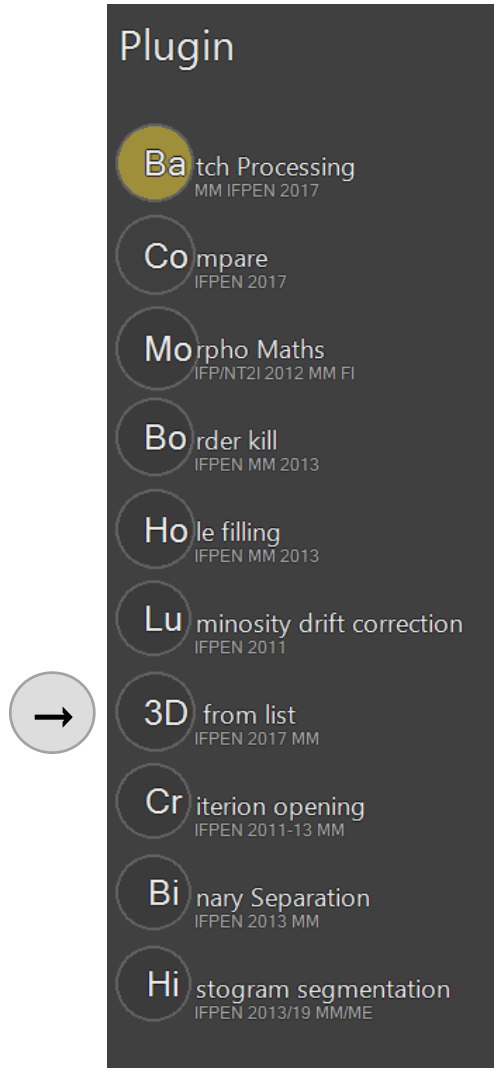


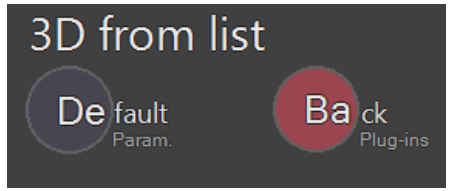


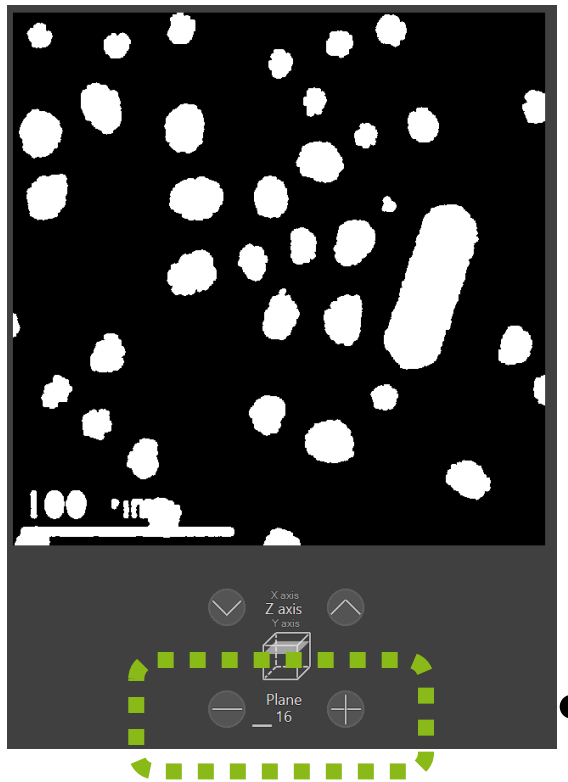
Select all (63 files) and copy to a new folder

Au serie, **volume creation**

Load one segmented image of the new folder (any image whatsoever)

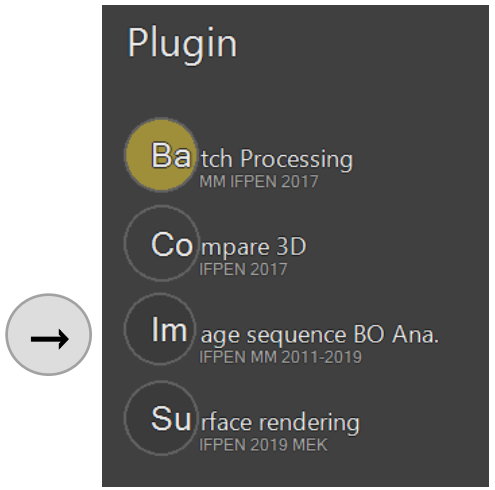


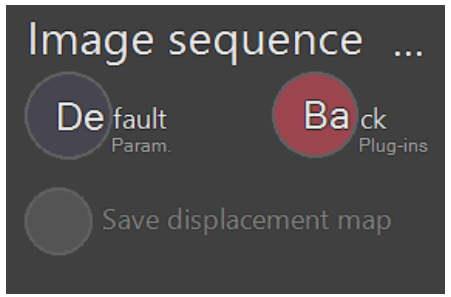


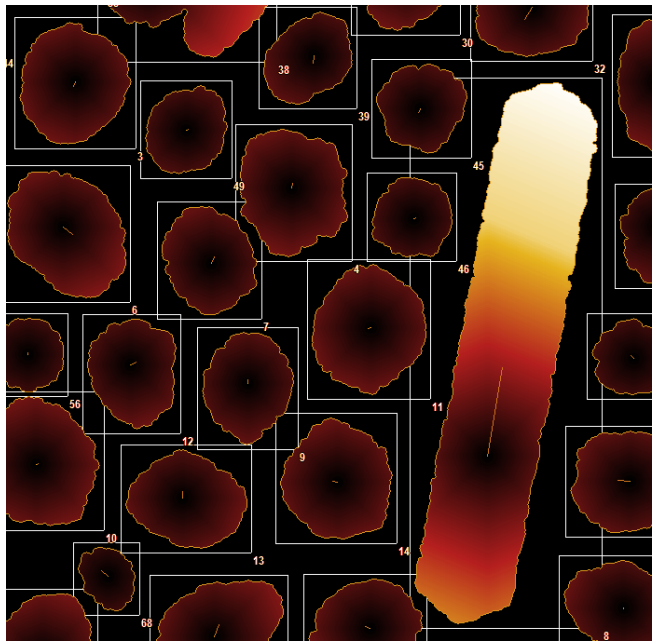


You can navigate throught the image sequence

Au serie, **tracking and morphological measurements**



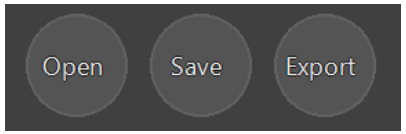




Validate

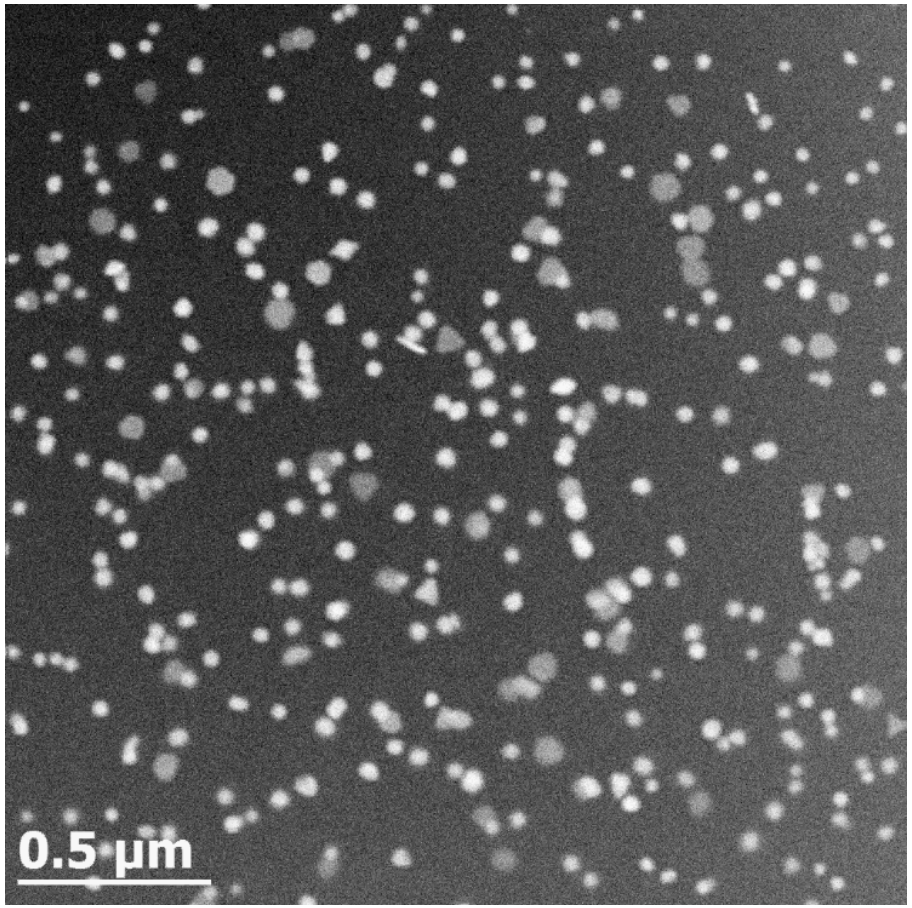
Save in fda

or tiff format



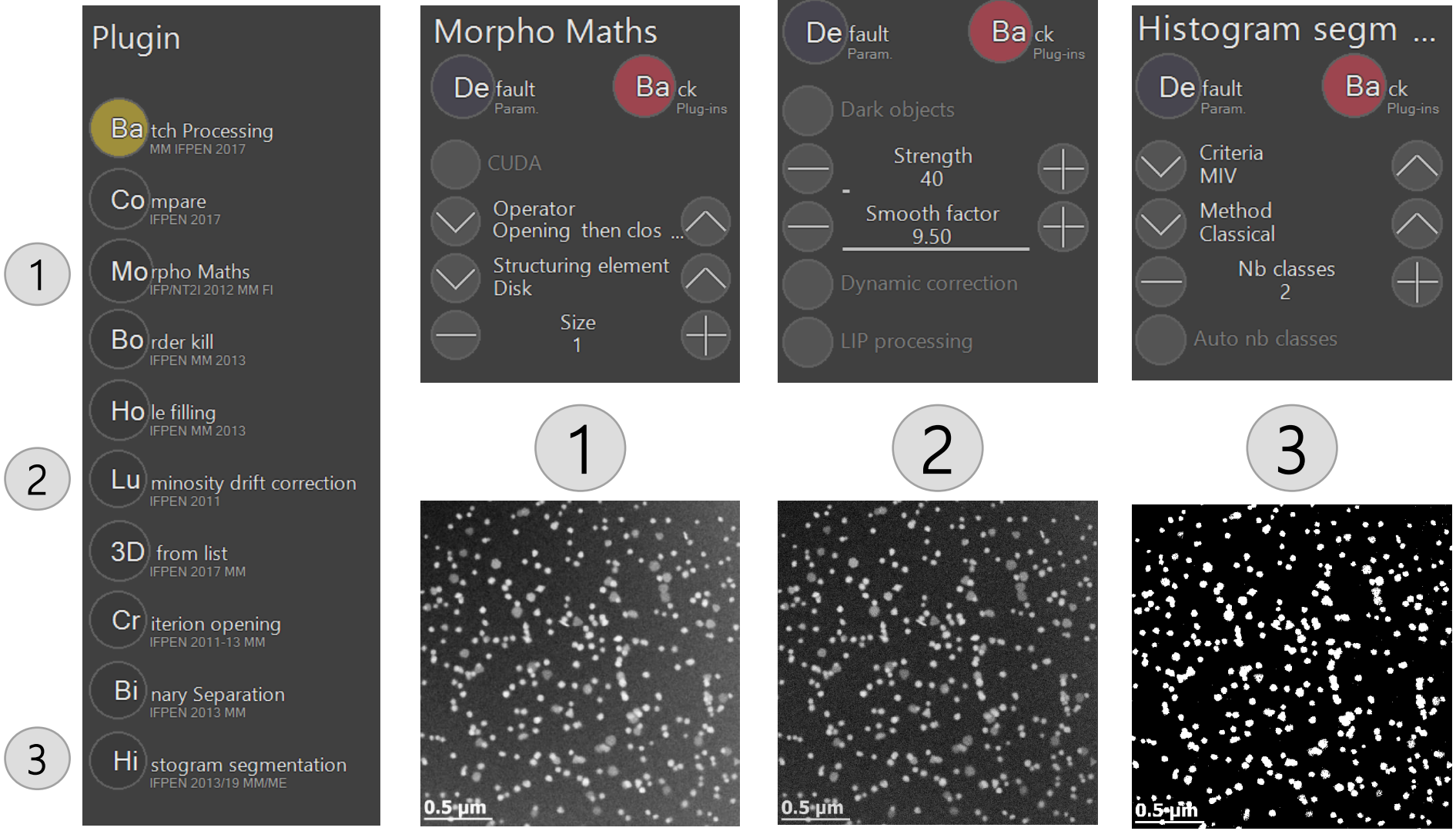
Export the result

Np serie

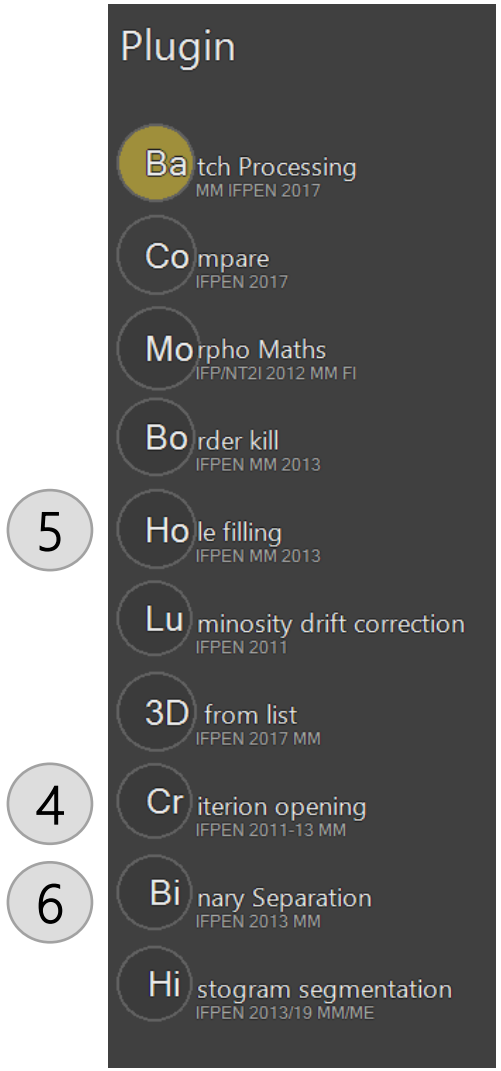


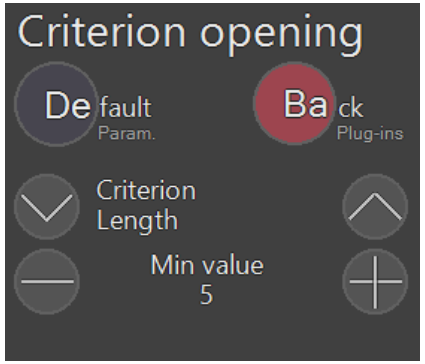
D. Alloyeau et al. Nano Letters 15 2574-2581

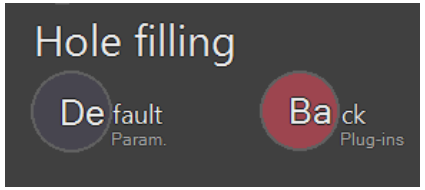
Np serie, **segmentation in 6 steps (1/2)**

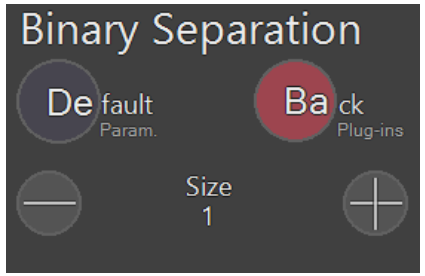


Np serie, **segmentation in 6 steps (2/2)**









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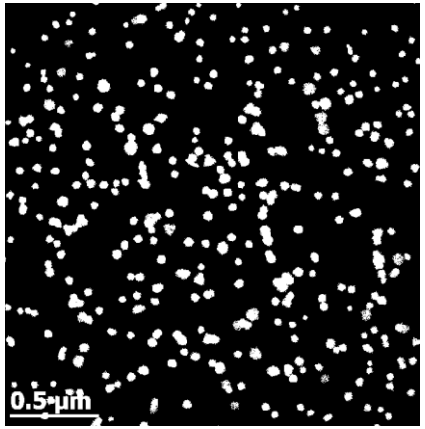

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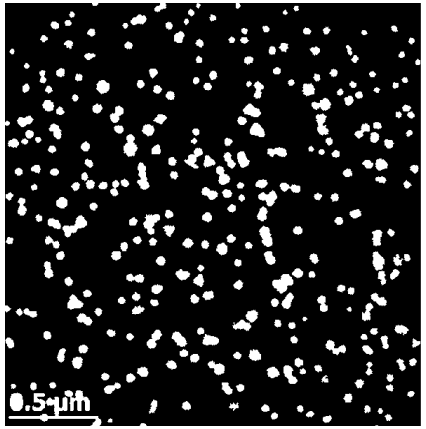

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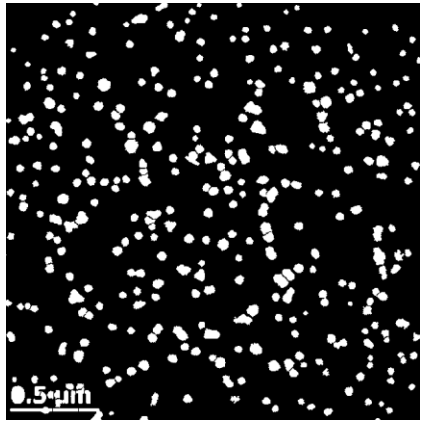
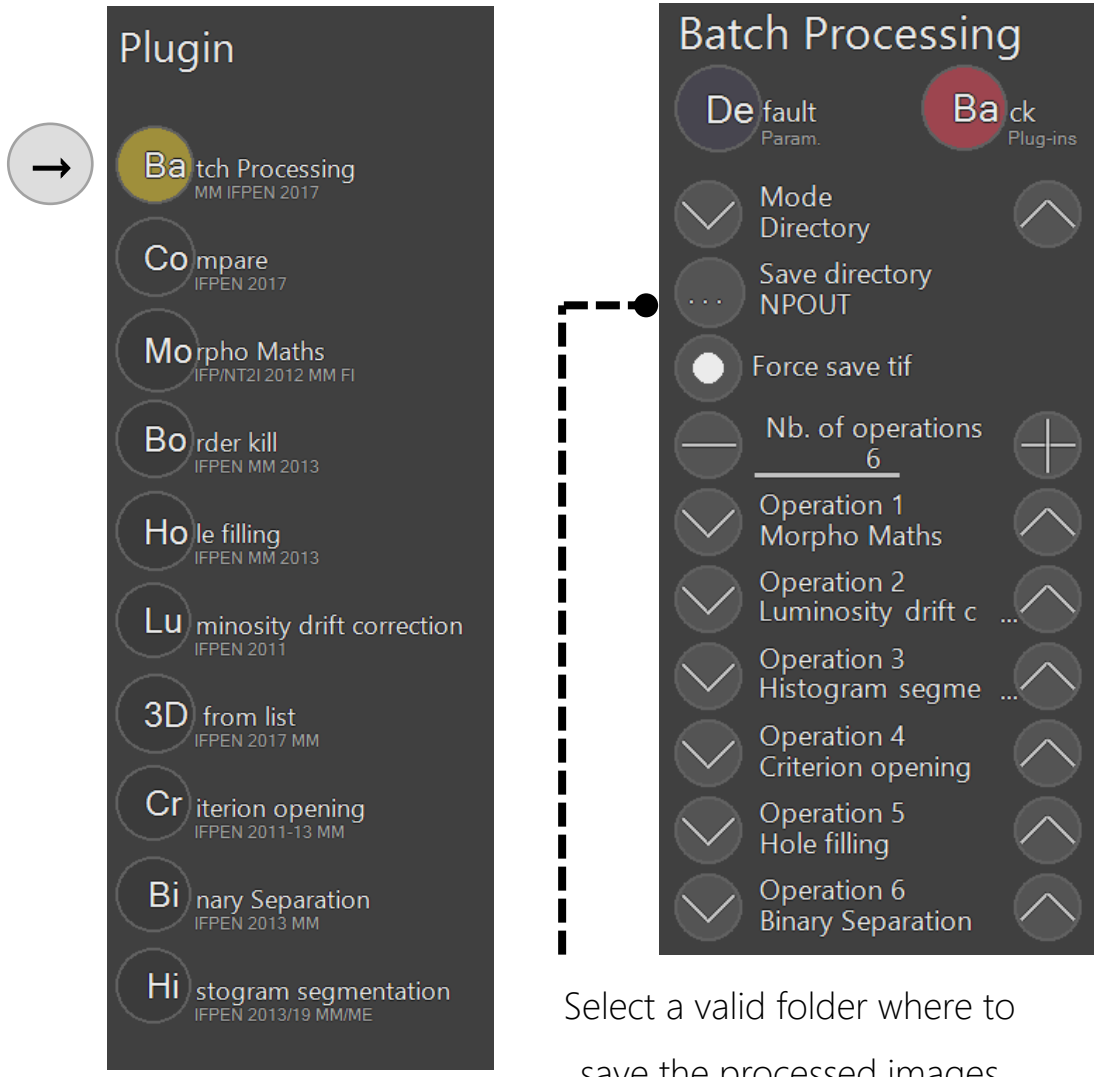


Np serie, segmentation **automation**

Load one image of the directory to process (any image whatsoever)



Select a valid folder where to save the processed images

then, same procedure as for Au serie

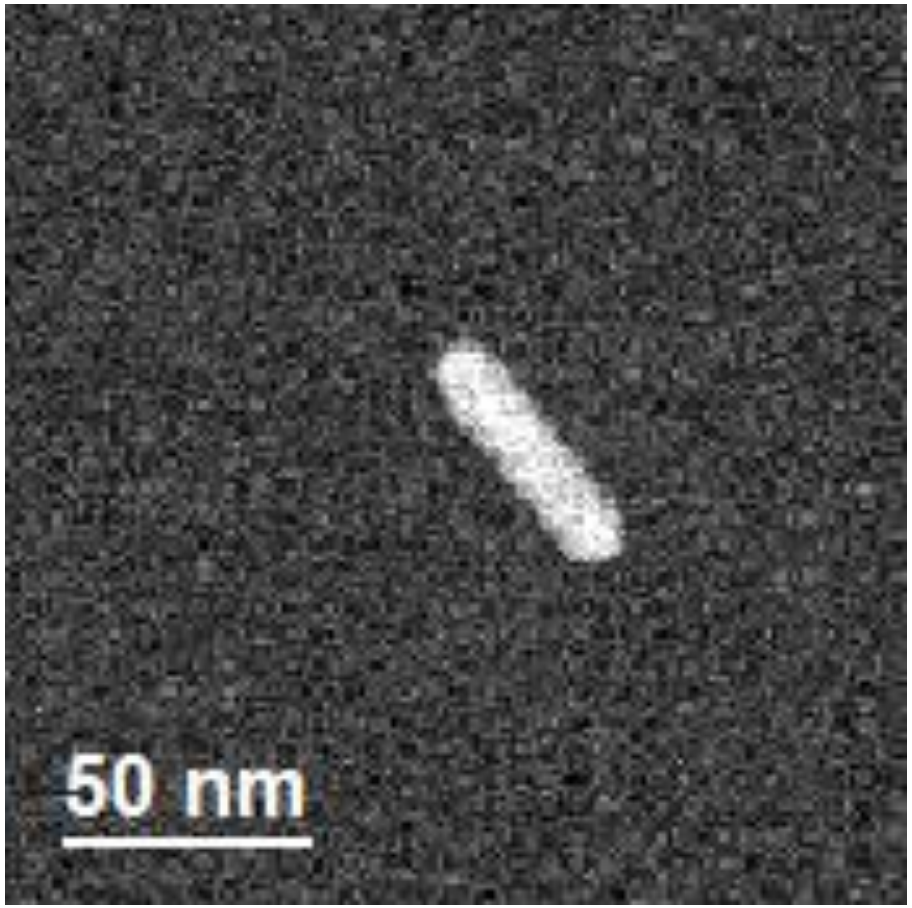
Np serie

Volume creation and

tracking and morphological measurements :

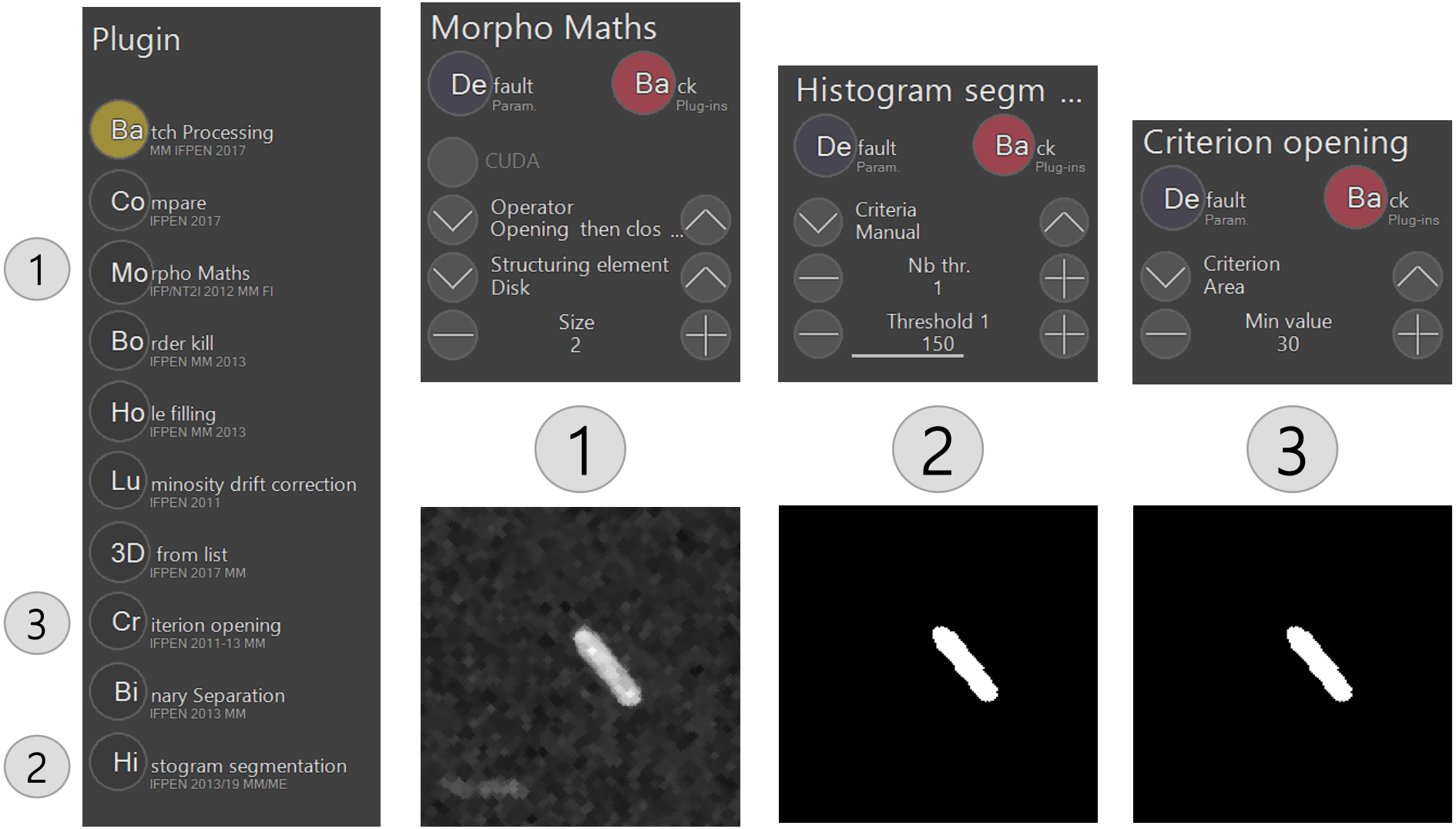
same procedure as Au serie

vid serie



D. Alloyau et al., in preparation

plug*im!* vid serie, **segmentation in 3 steps**



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plug*im!* vid serie, segmentation **automation**

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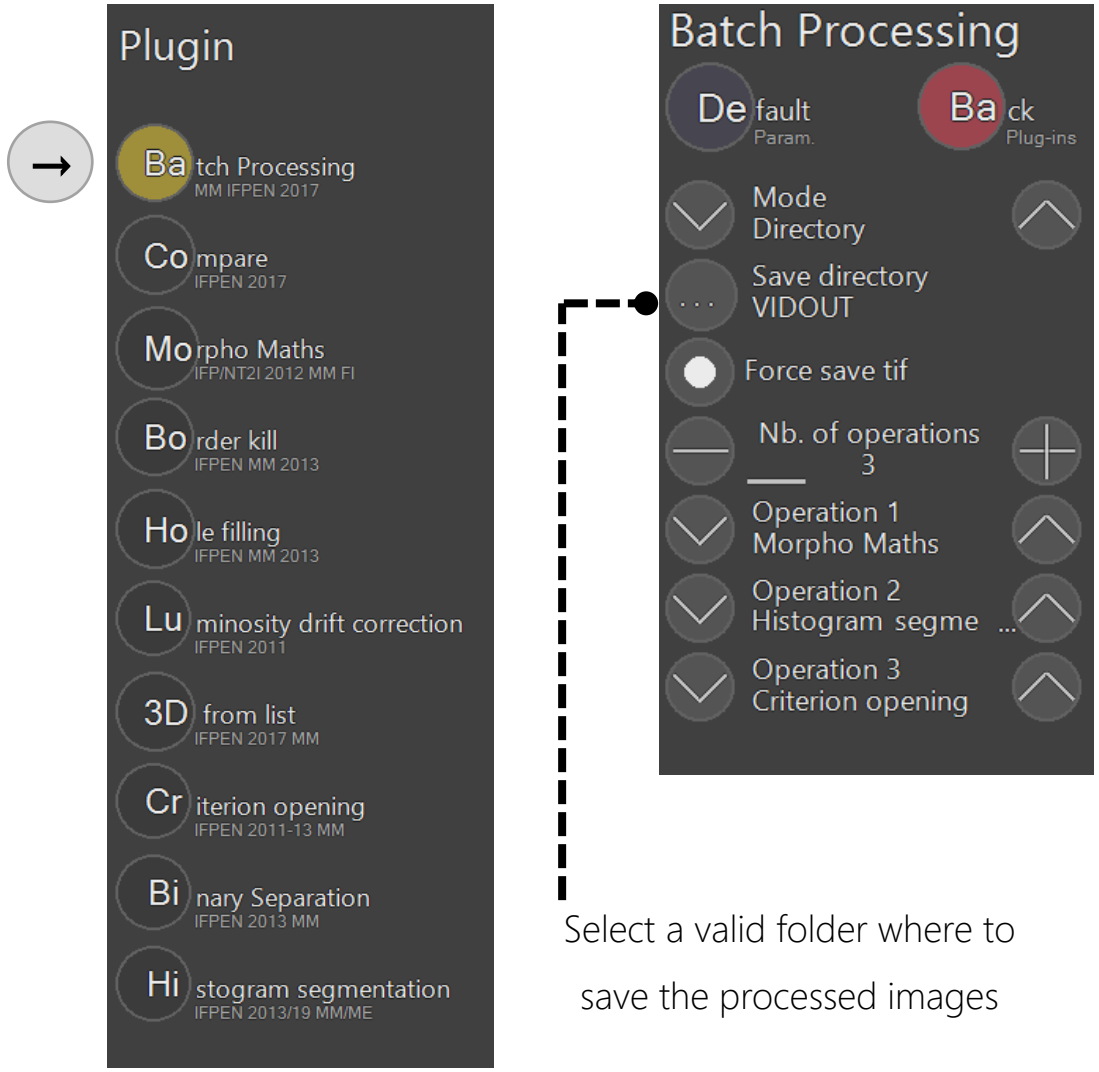


Select a valid folder where to save the processed images

then, same procedure as for Au serie

Discussion

Connected components labelling

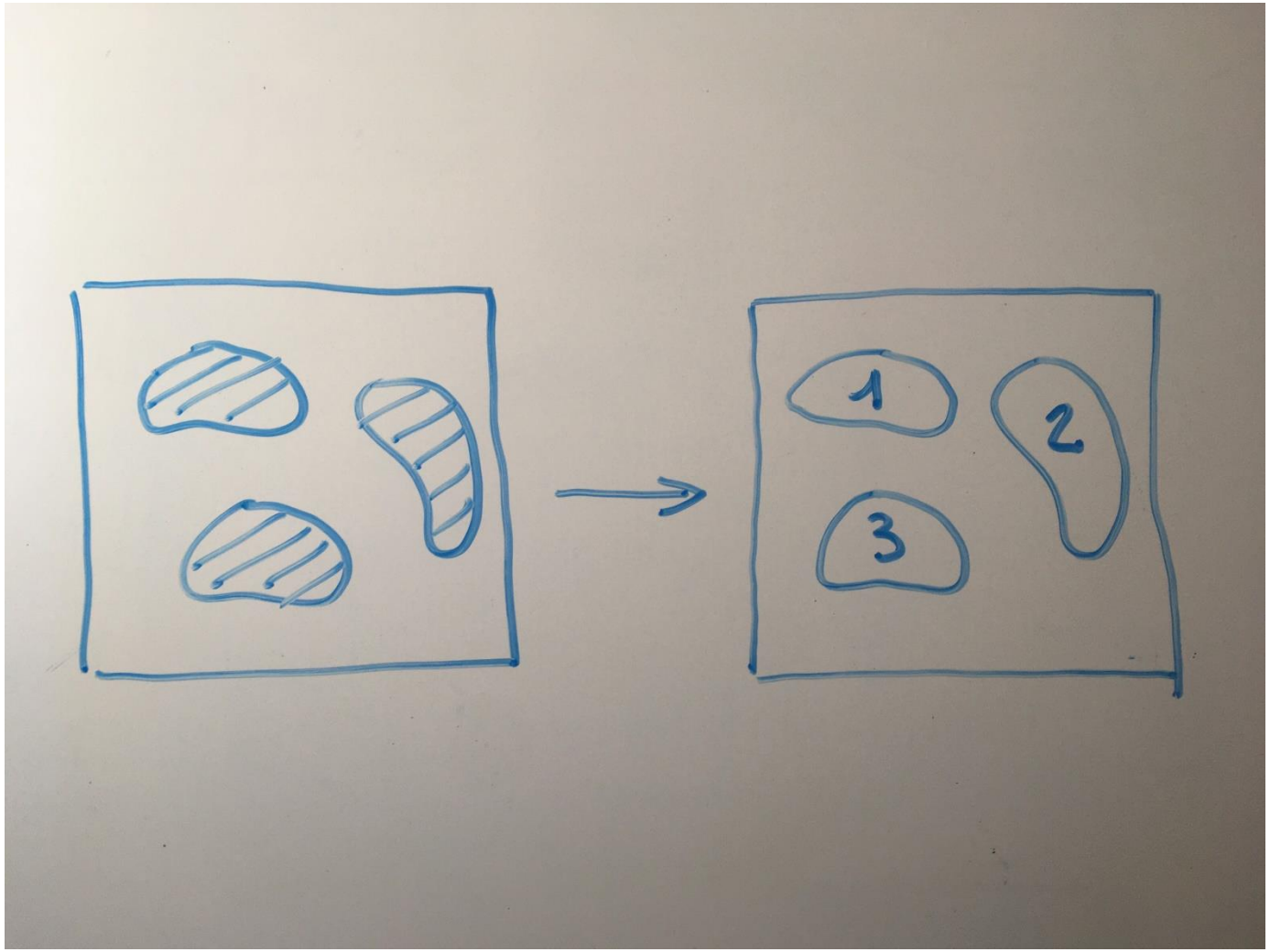
Distance map calculation

Morphological measurements

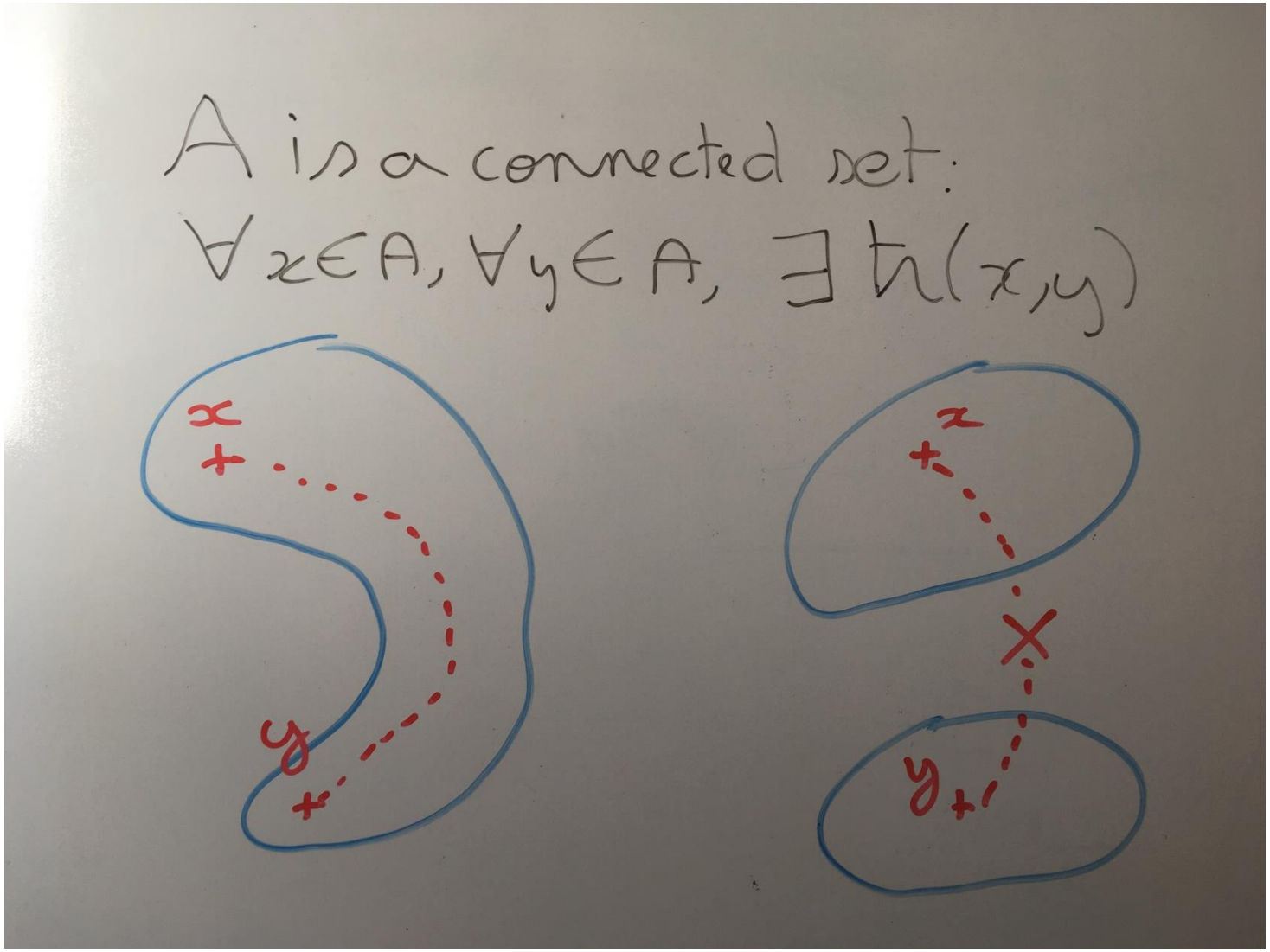
Discussion

Connected components labelling

Connected component labelling



Connected component labelling



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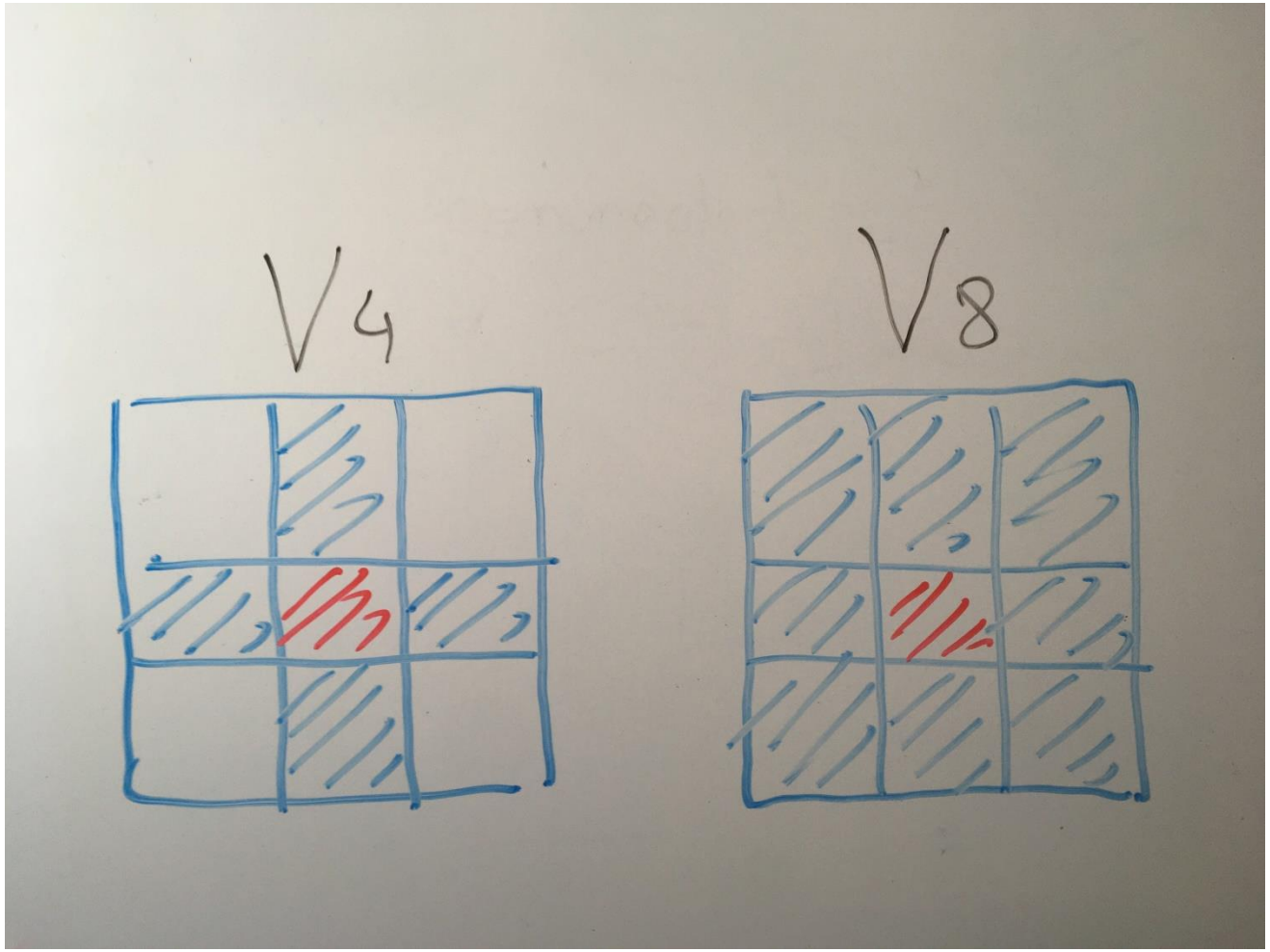

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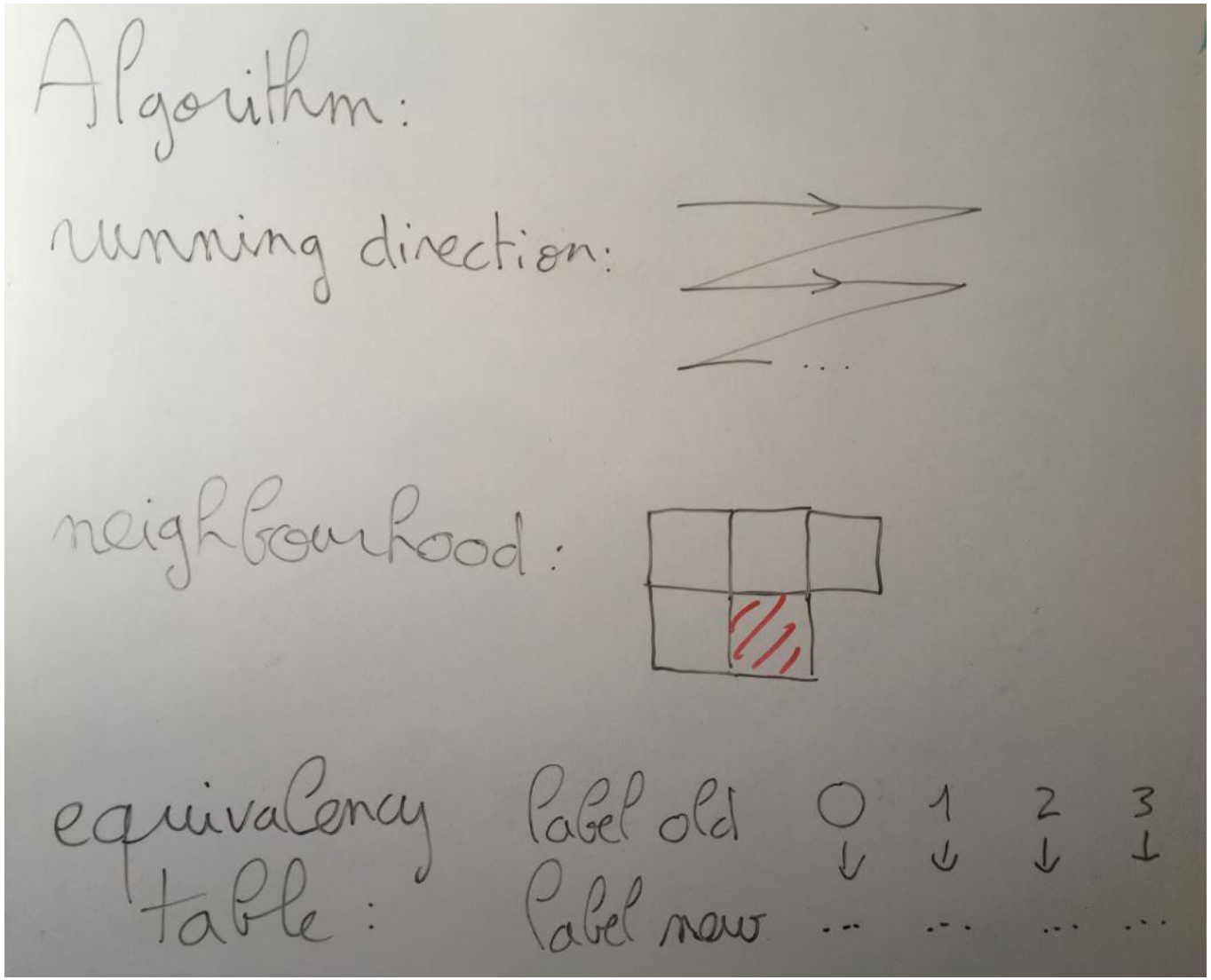

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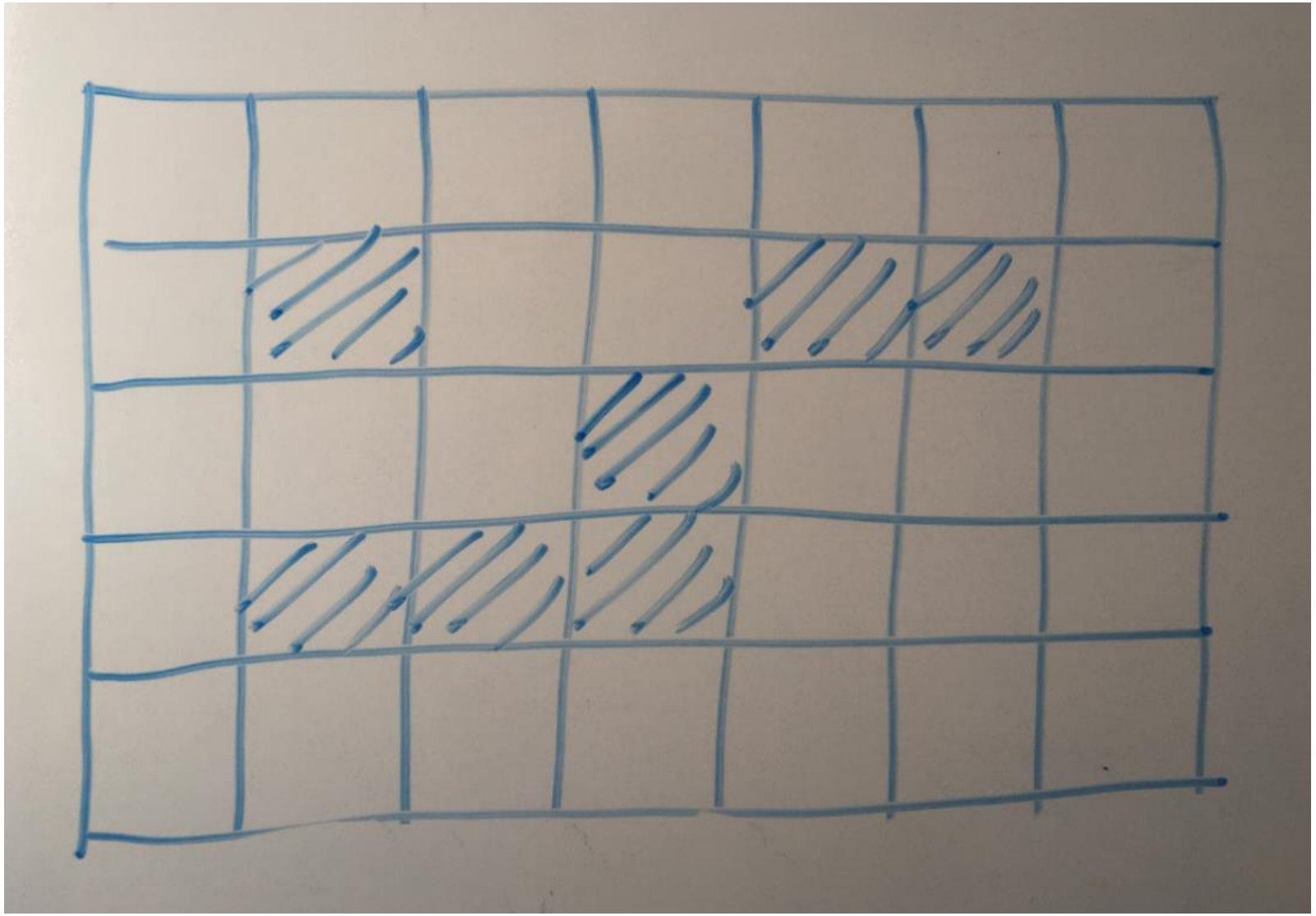

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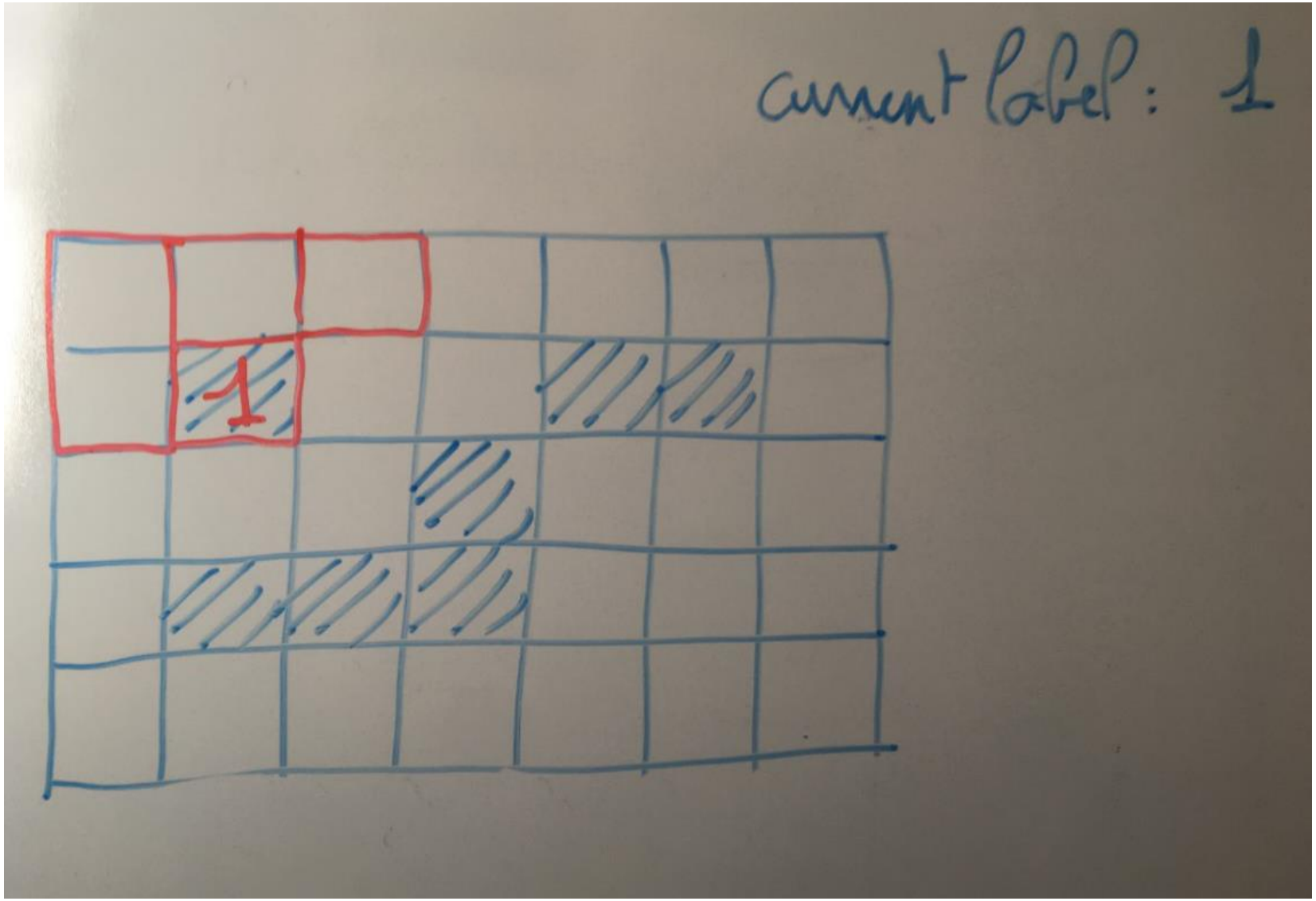

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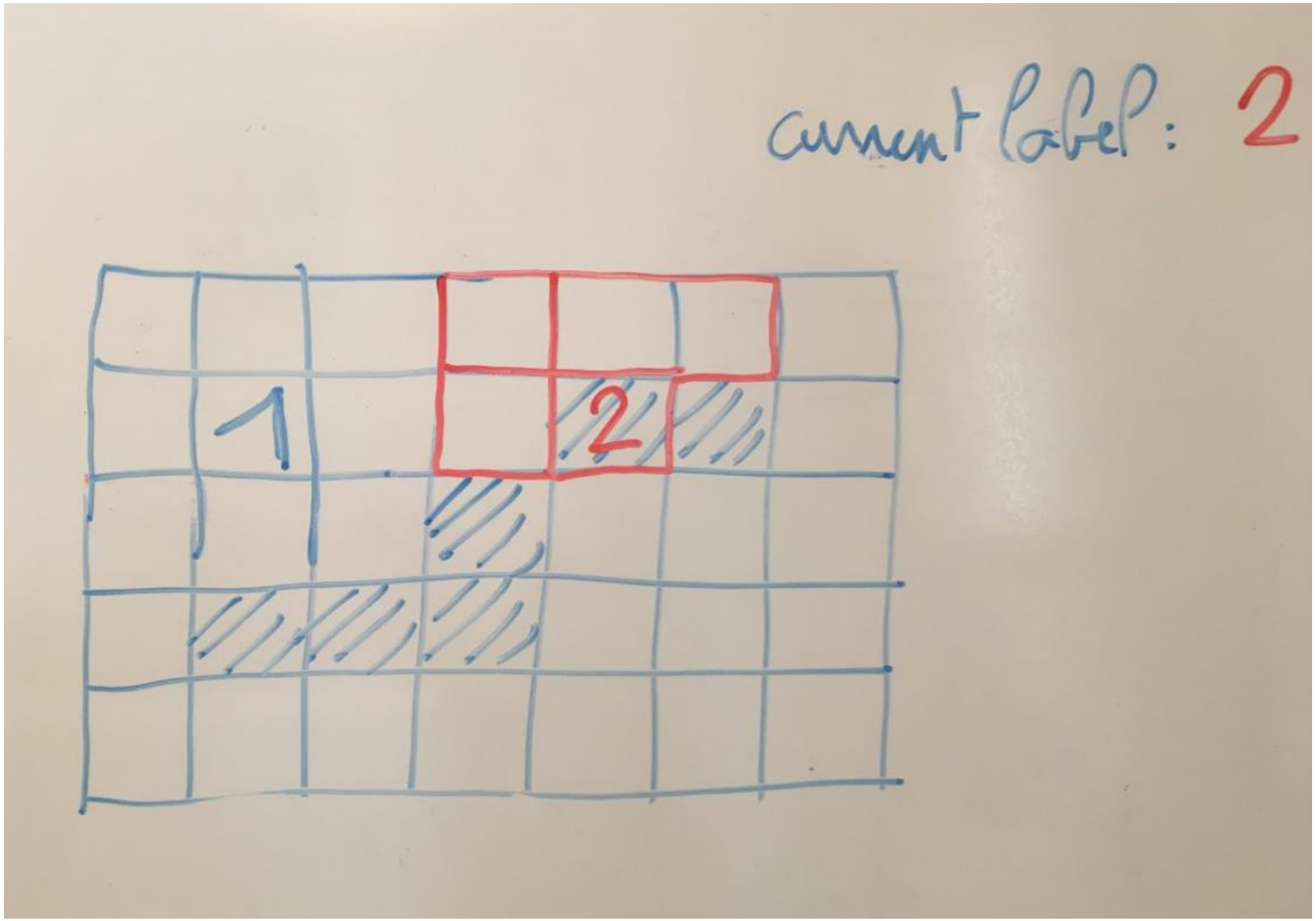

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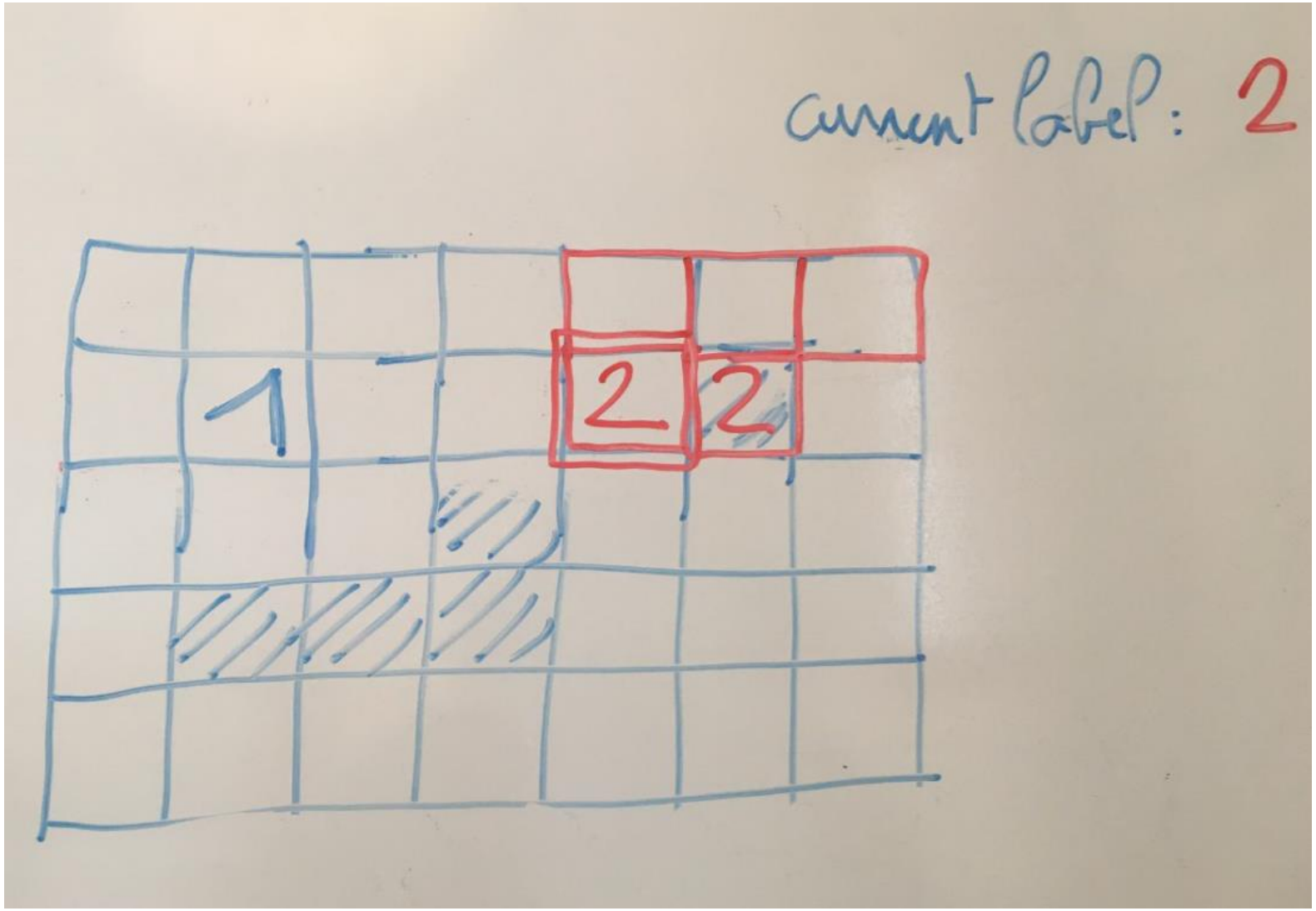

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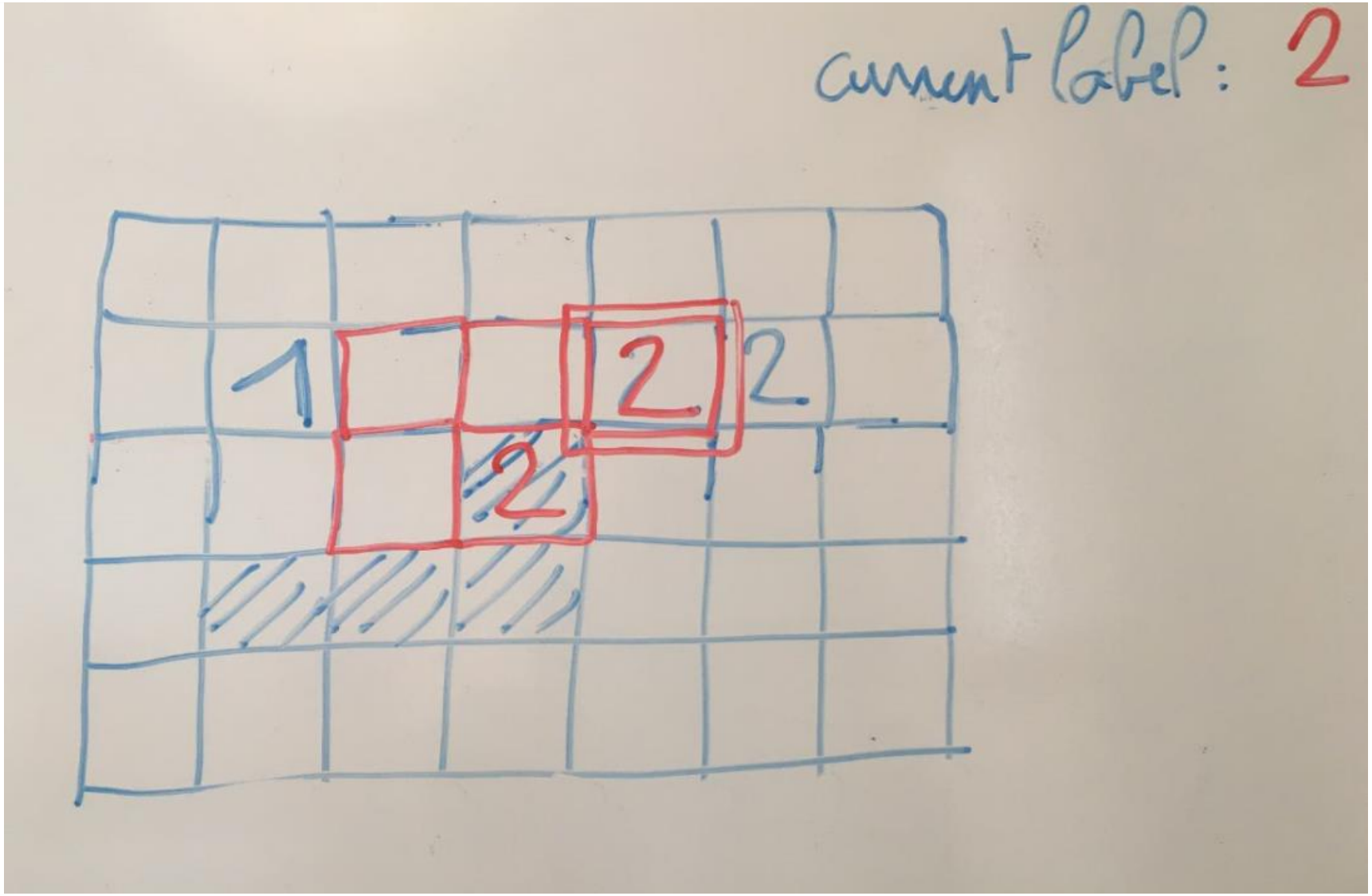

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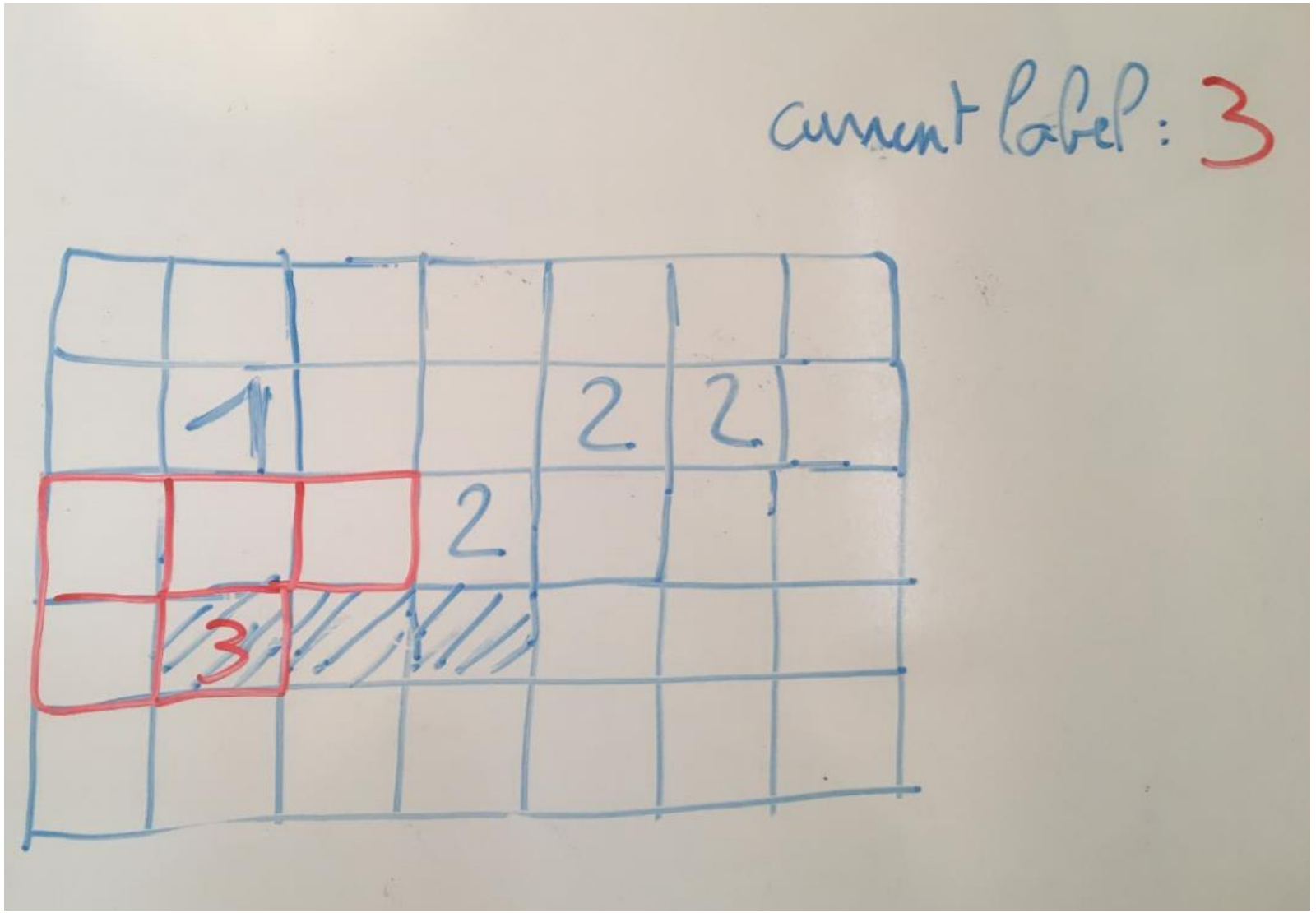
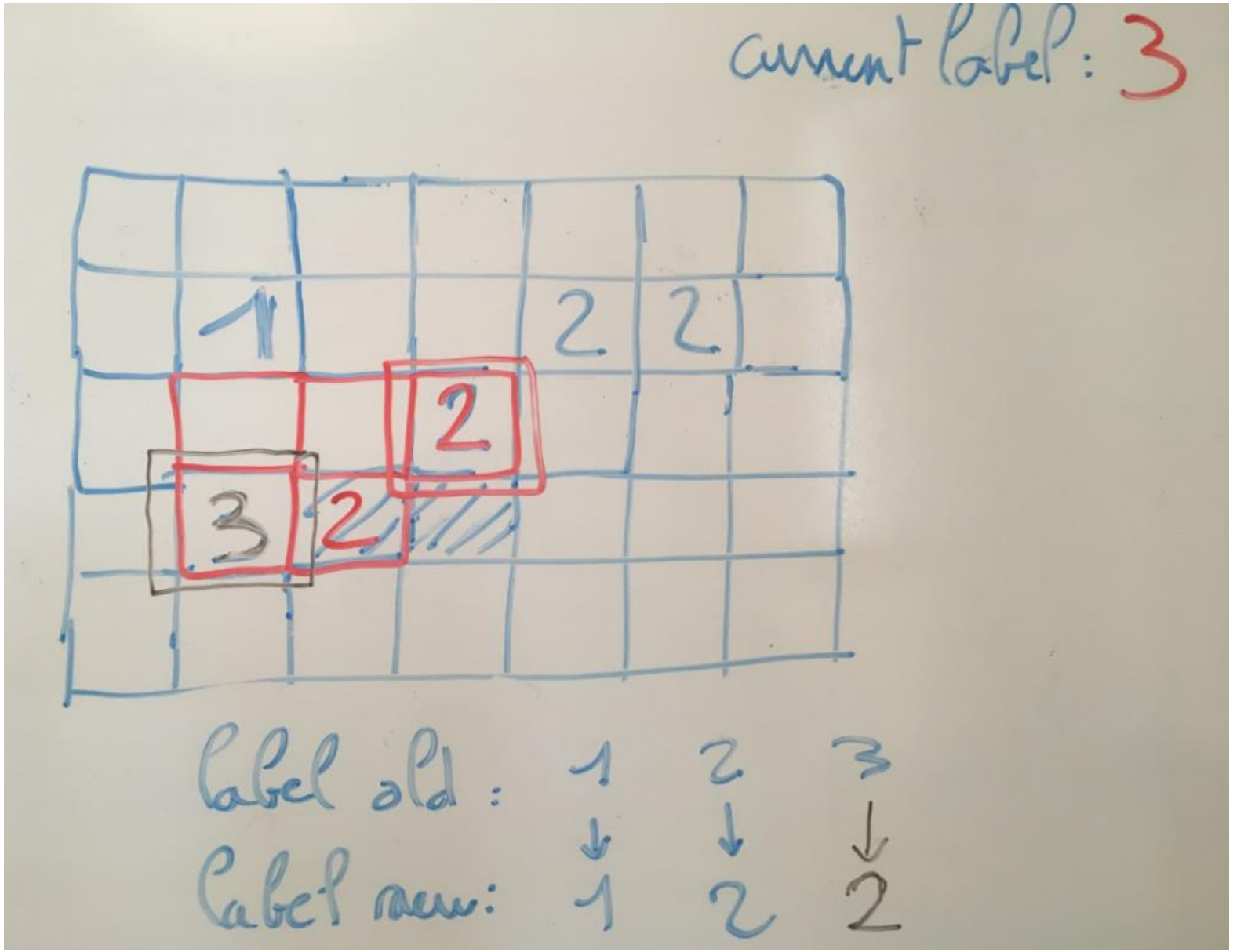


Connected component labelling



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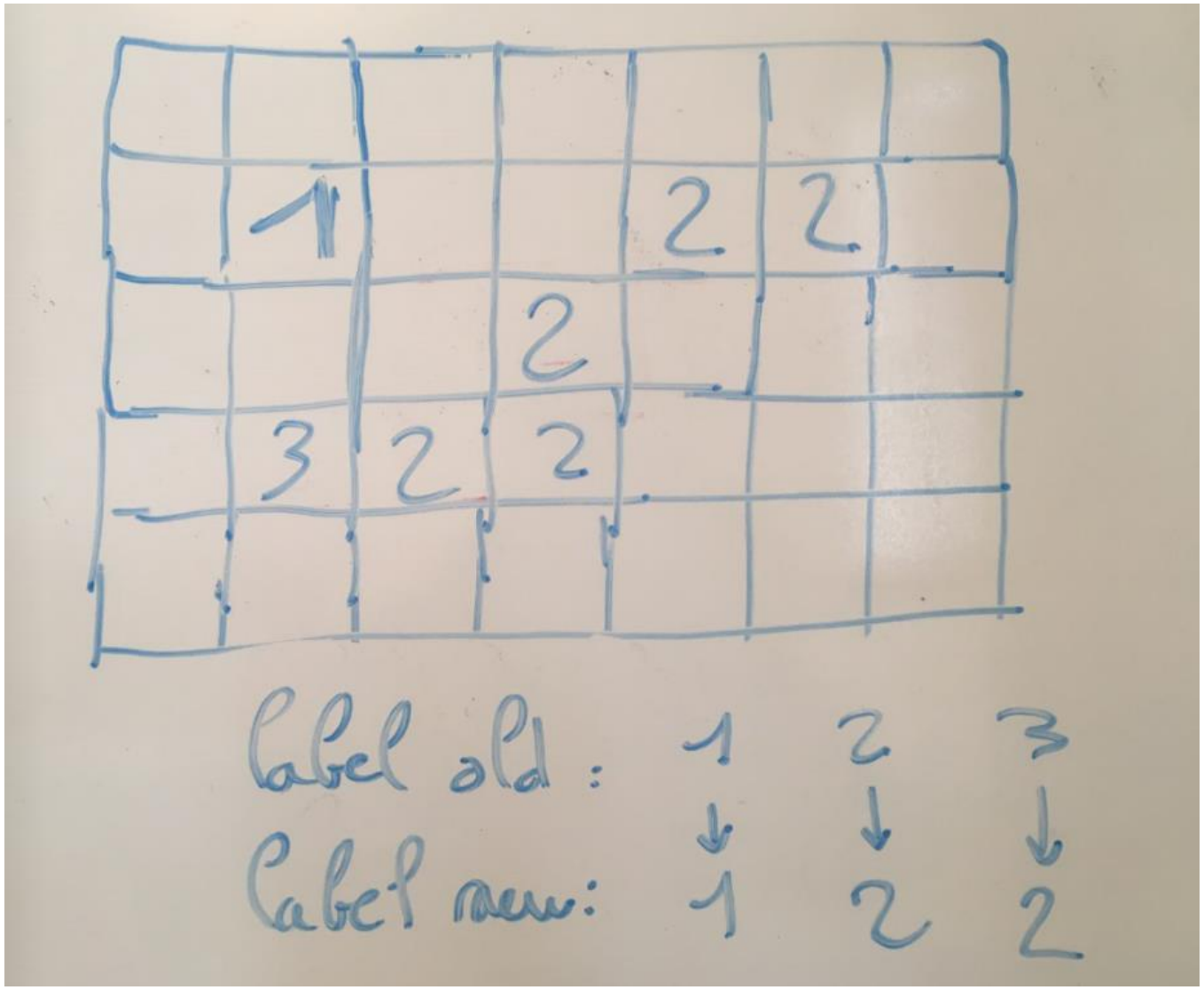

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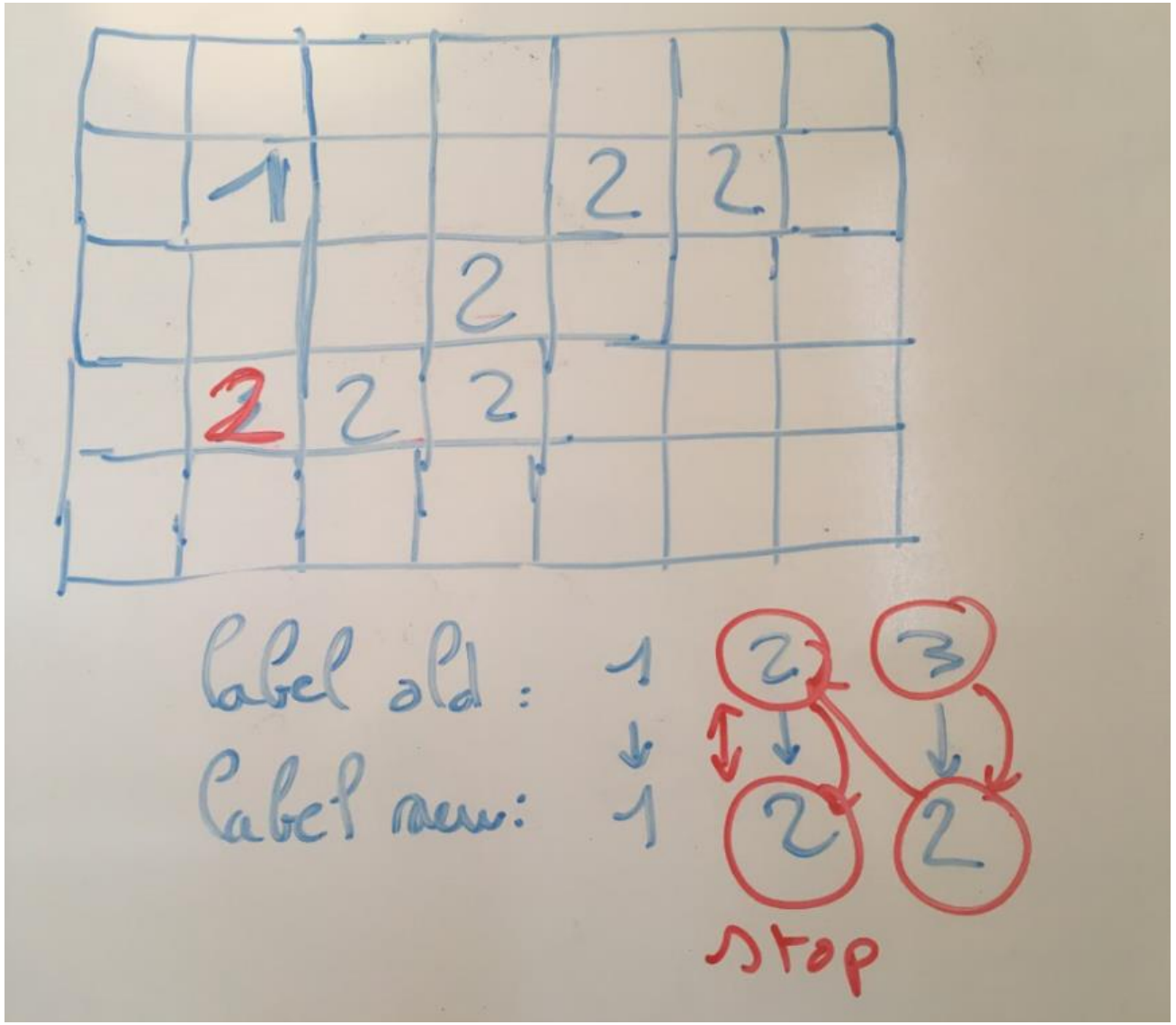
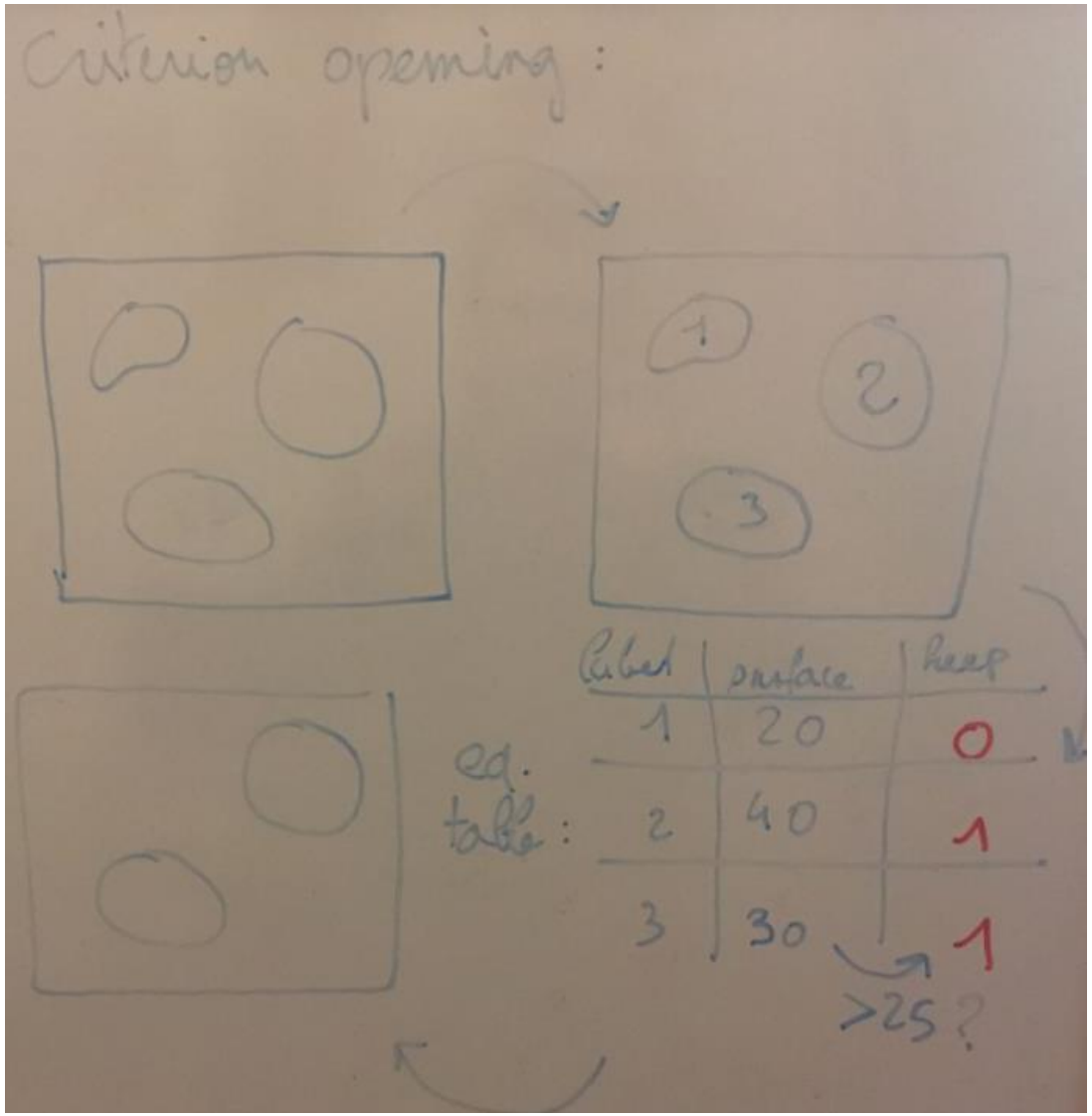
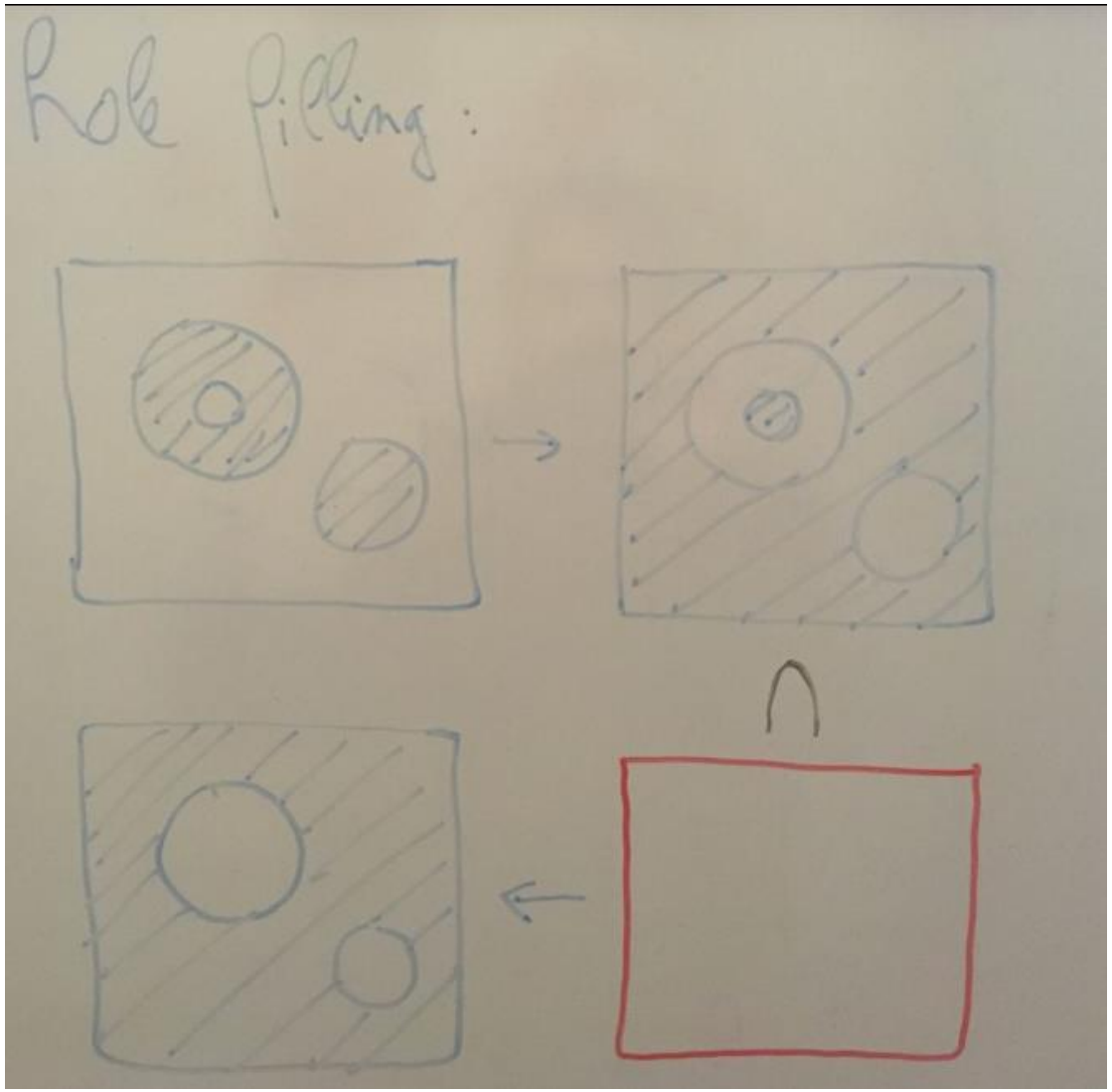


Connected component labelling, usage



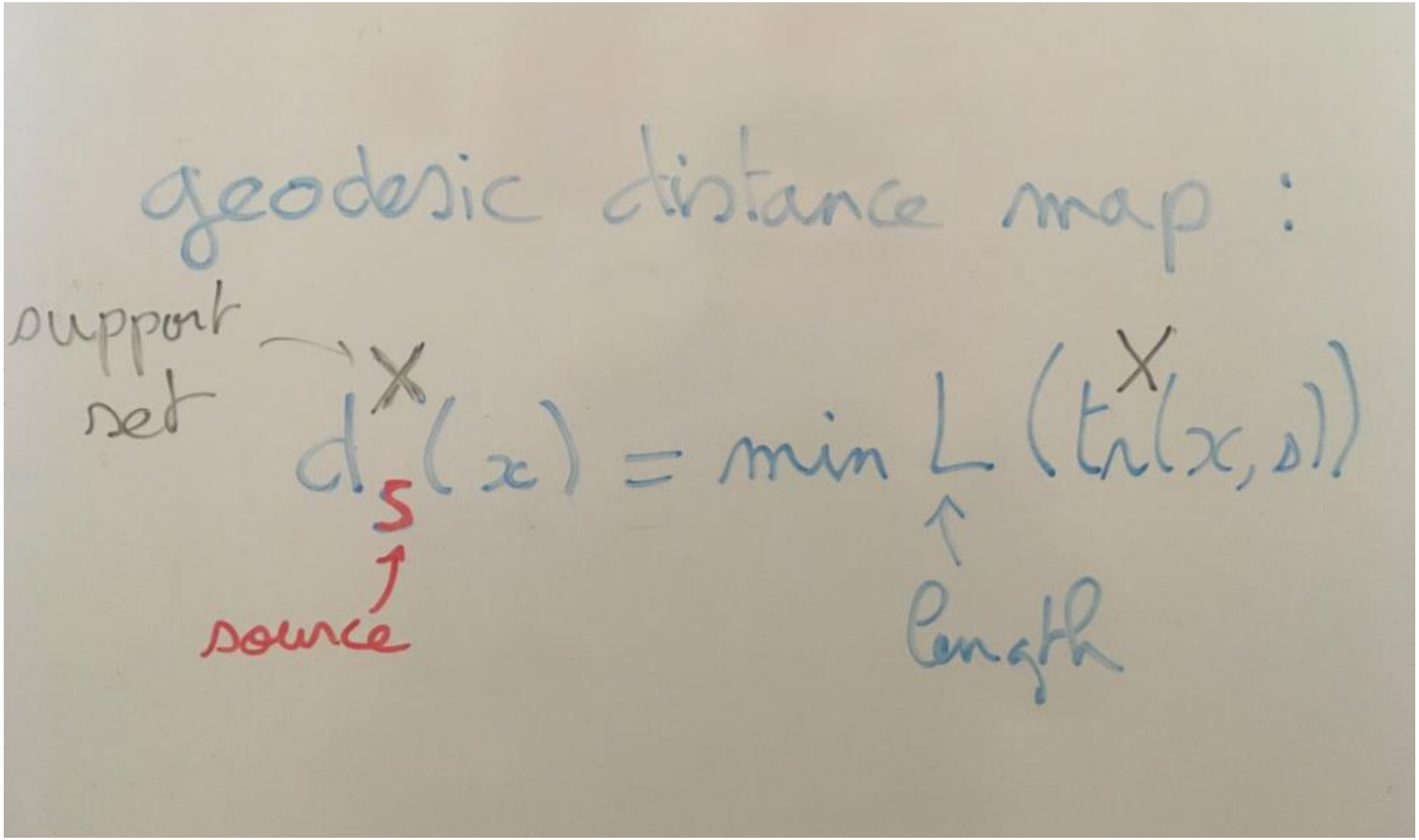
Connected component labelling, usage



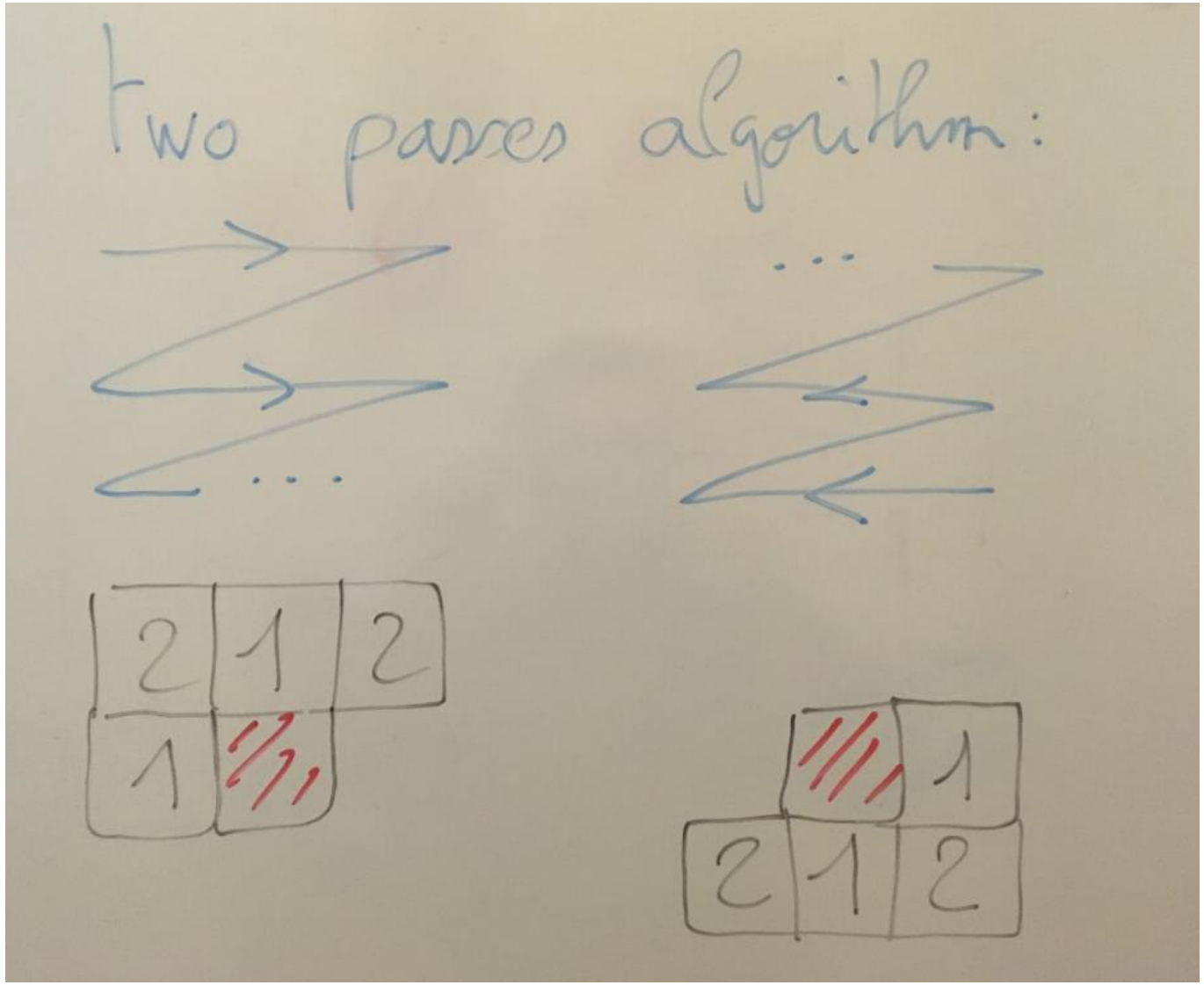
Discussion

Distance map calculation

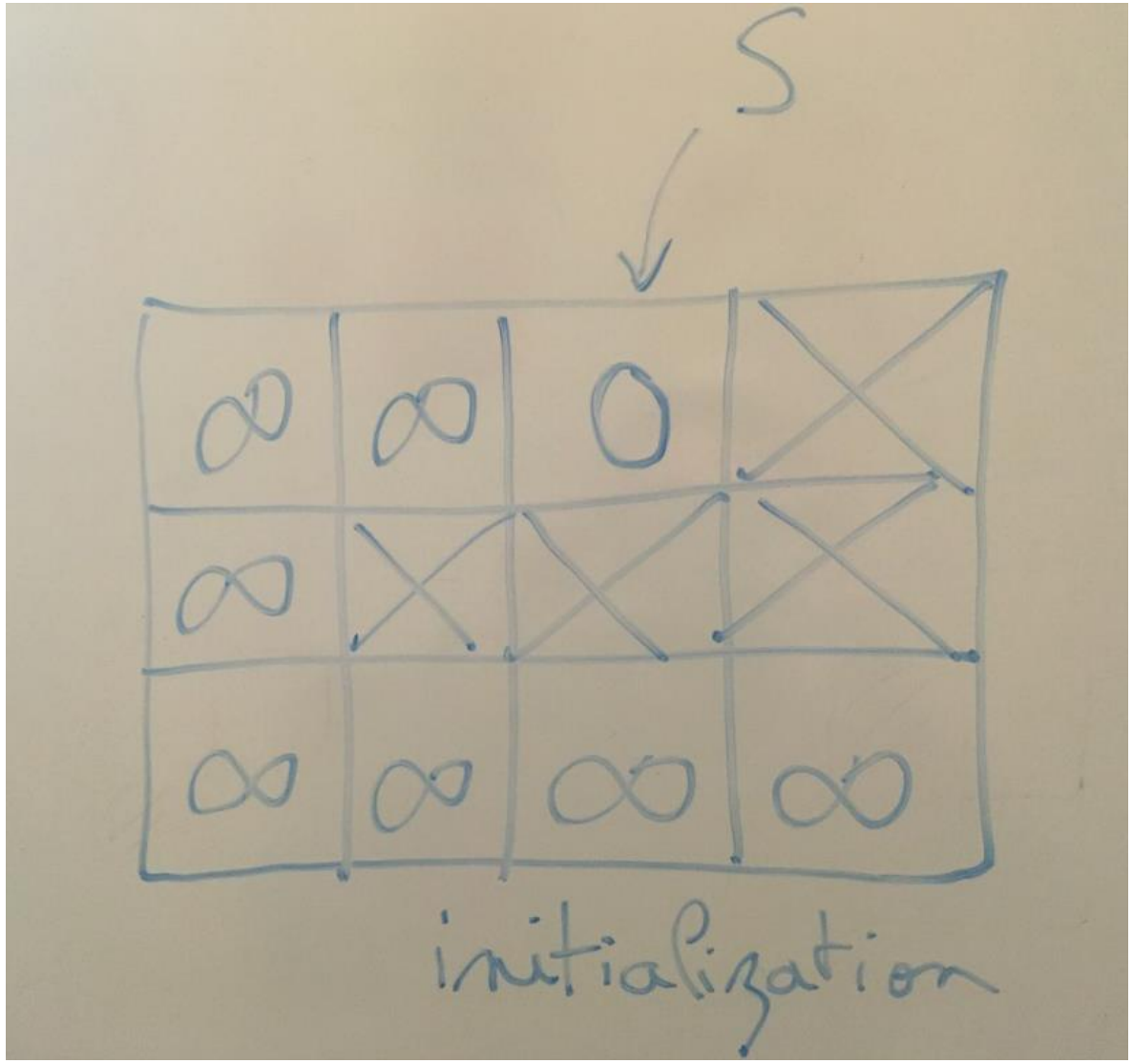
Geodesic distance map



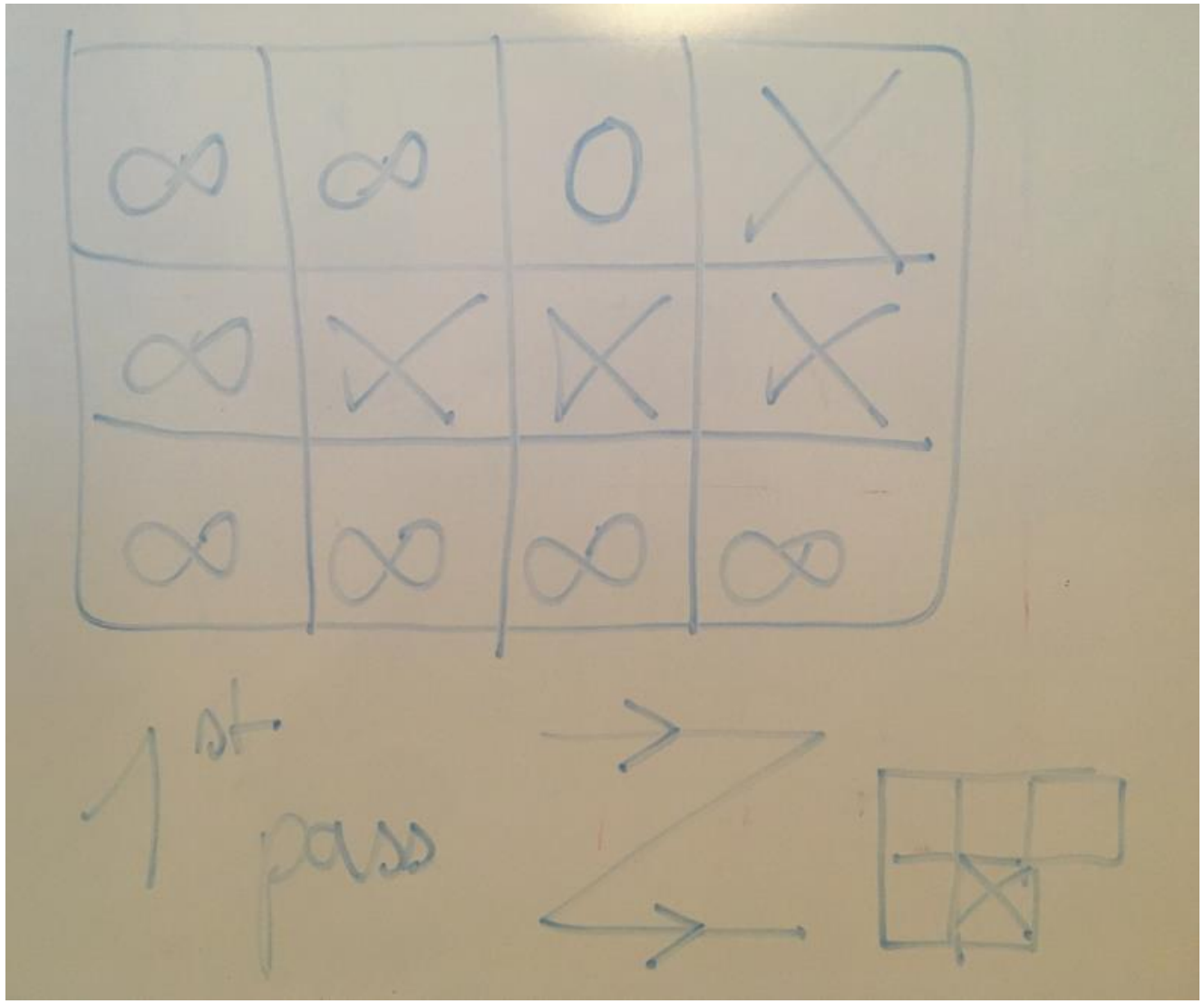
Geodesic distance map



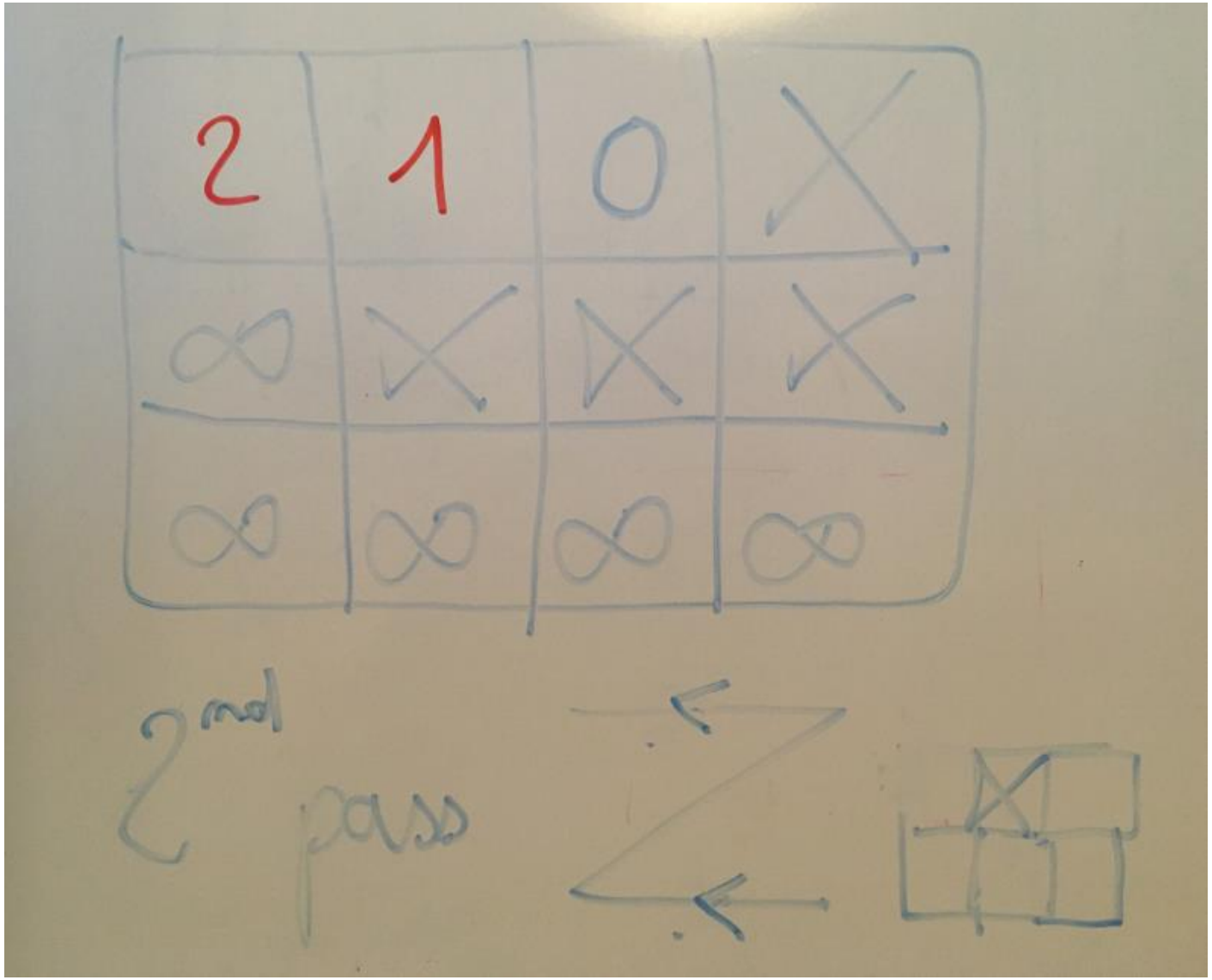
Geodesic distance map



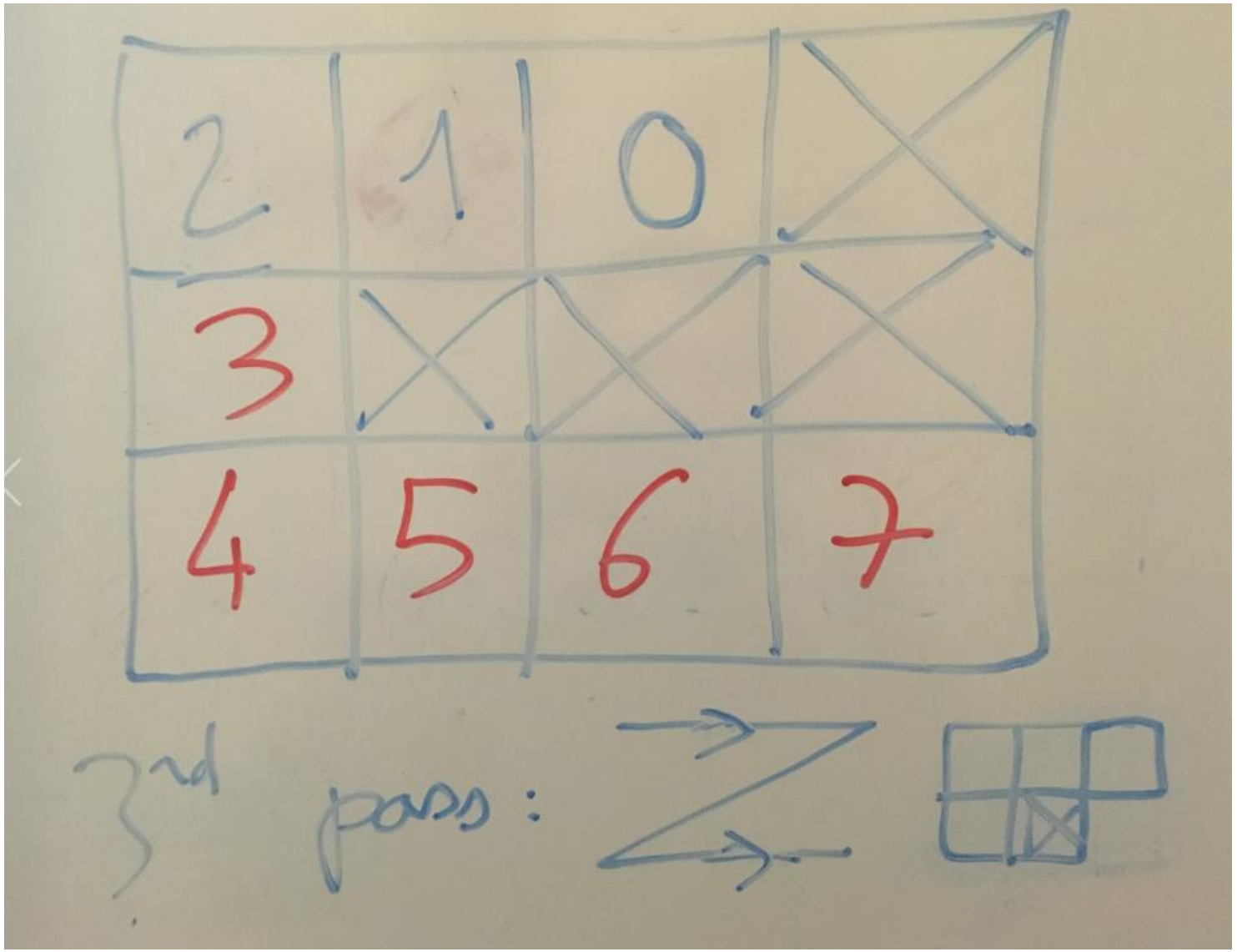
Geodesic distance map



Geodesic distance map



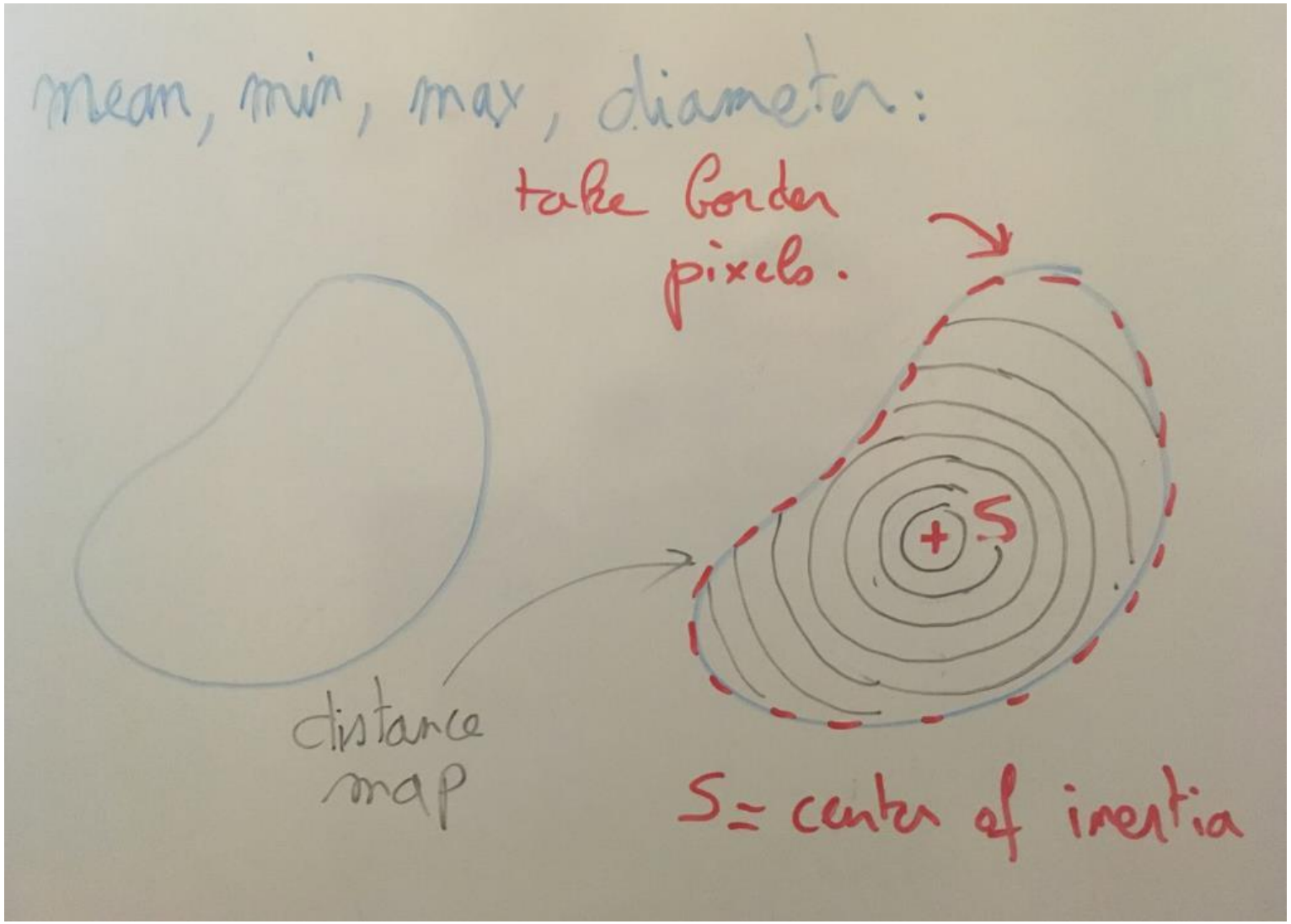
Geodesic distance map



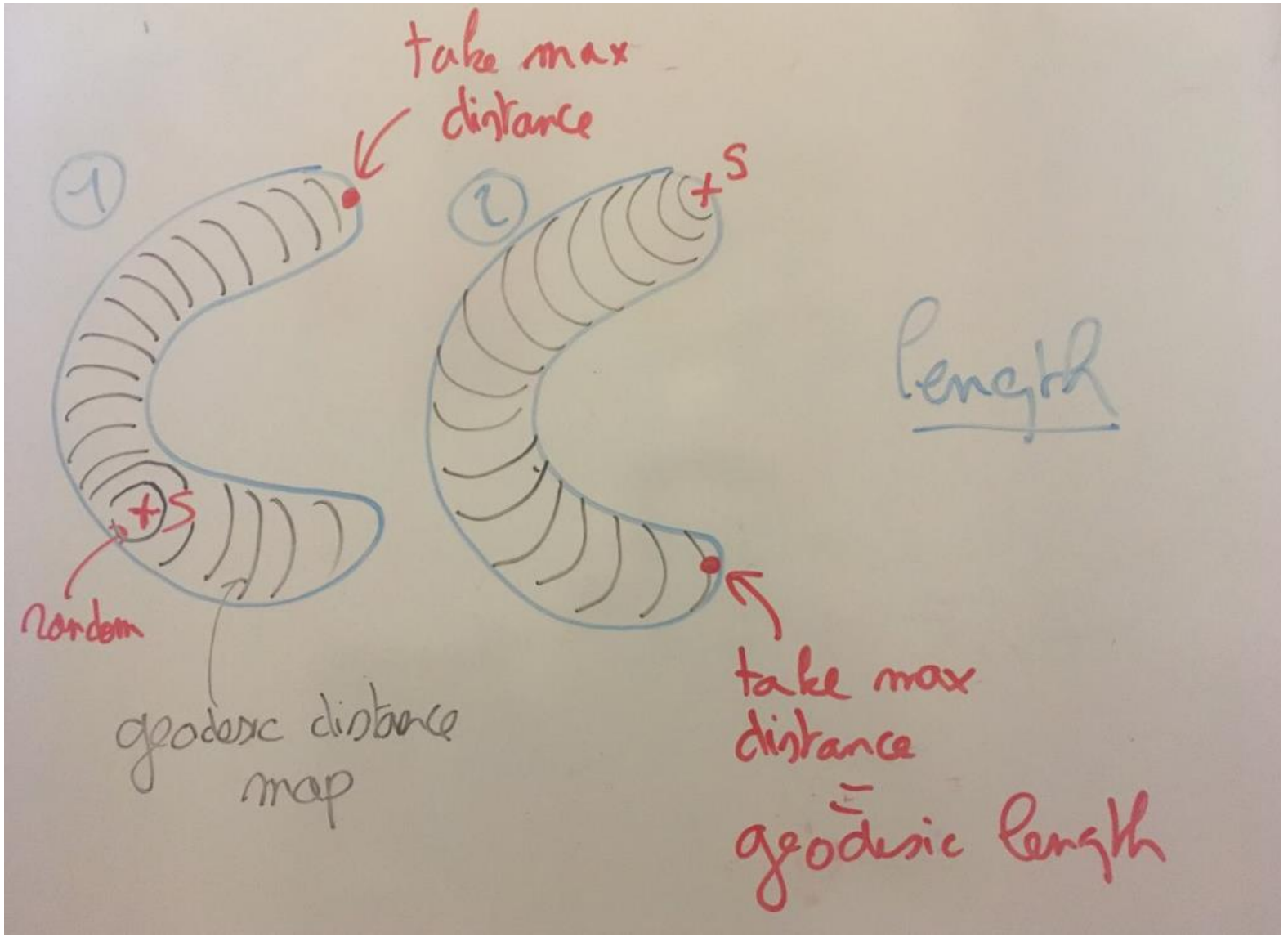
Discussion

Morphological measurements

Morphological measurements

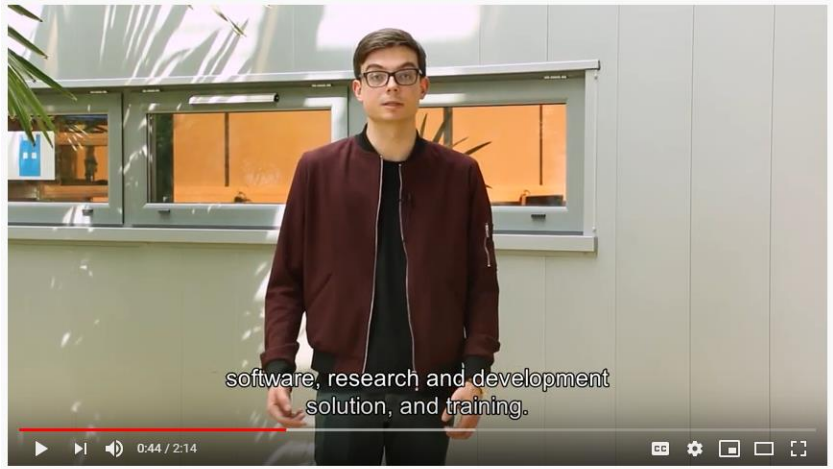


Morphological measurements



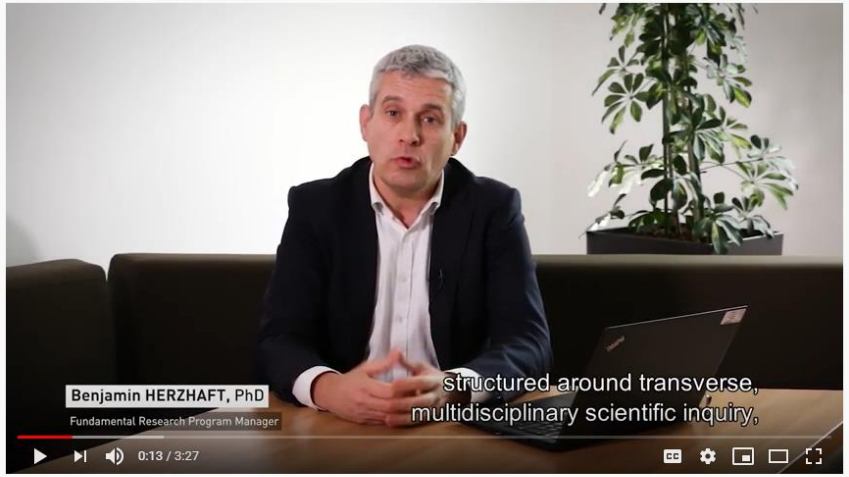
User testimonials to be viewed under IFPEN Youtube channel

Témoignage: répondre aux problématiques du laboratoire Hubert Curien grâce à plug im!



Témoignage : mettre en valeur l'expertise de NT2I via la plateforme plug im!

www.plugim.fr



La plateforme plug im!

plug im! : pour un traitement des signaux et des images à la portée de tous

Thank you for your attention