Icopt-cv Documentation

Release 0.1.0

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Contents:

CHAPTER 1

lcopt-cv: Create fully functional LCA models from hand drawn pictures of process diagrams

Lcopt-cv is a python module for creating LCA foreground models from hand drawn pictures of process flow diagrams developed by James Joyce.

Pretty much every LCA starts with drawing a process flow diagram. The difficult bit is turning that diagram into an LCA model which can be analysed.

What if you could just take a picture of the diagram you've just drawn and have it instantly turned into an LCA model?

Well now you can - introducing lcopt-cv, computer vision for LCA.

CHAPTER 2

Features

- Uses computer vision to generate an LCA model from a photograph of a process flow diagram
- Exports model directly to lcopt, allowing models to be analysed using Brightway
- Links directly to the ecoinvent or FORWAST databases

2.1 Installation

Note: Note - *lcopt-cv* requires the *lcopt* and *brightway2* packages to be installed, and for *lcopt* to be set up with ecoinvent 3.3 cutoff

The best way to install lcopt-cv is to use the conda package. The command is:

```
conda install -y -q -c conda-forge -c cmutel -c haasad -c pjamesjoyce lcopt-cv
```

One additional dependency isn't available as a conda package and needs to be installed separately using pip. Here is the command:

```
pip install opencv-python
```

If you already had lcopt installed and set up - that's it. If not you need to set up lcopt to talk to brightway.

Full instructions on how to do this are in the lcopt documentation

The short version is

- Download the file called *ecoinvent 3.3_cutoff_ecoSpold02.7z* from the ecoinvent website
- Unzip the file using 7zip and make a note of the path of the datasets folder
- Run the following command:

```
lcopt-bw2-setup path/to/ecospold/files # use "" if there are spaces in your path
```

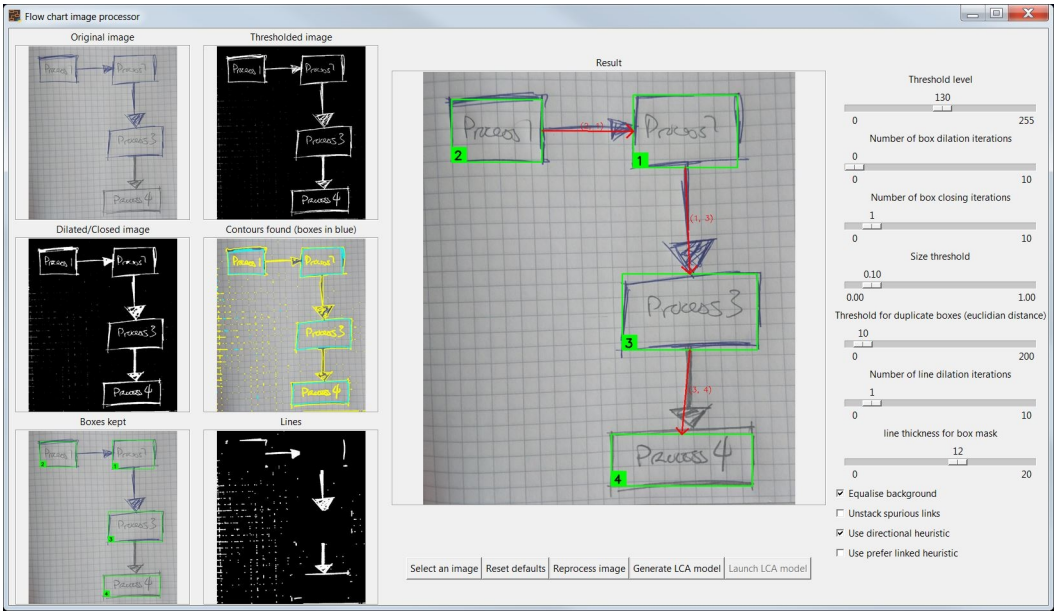
This will generate the lcopt template databases in brightway2 so that you can analyse your LCA models.

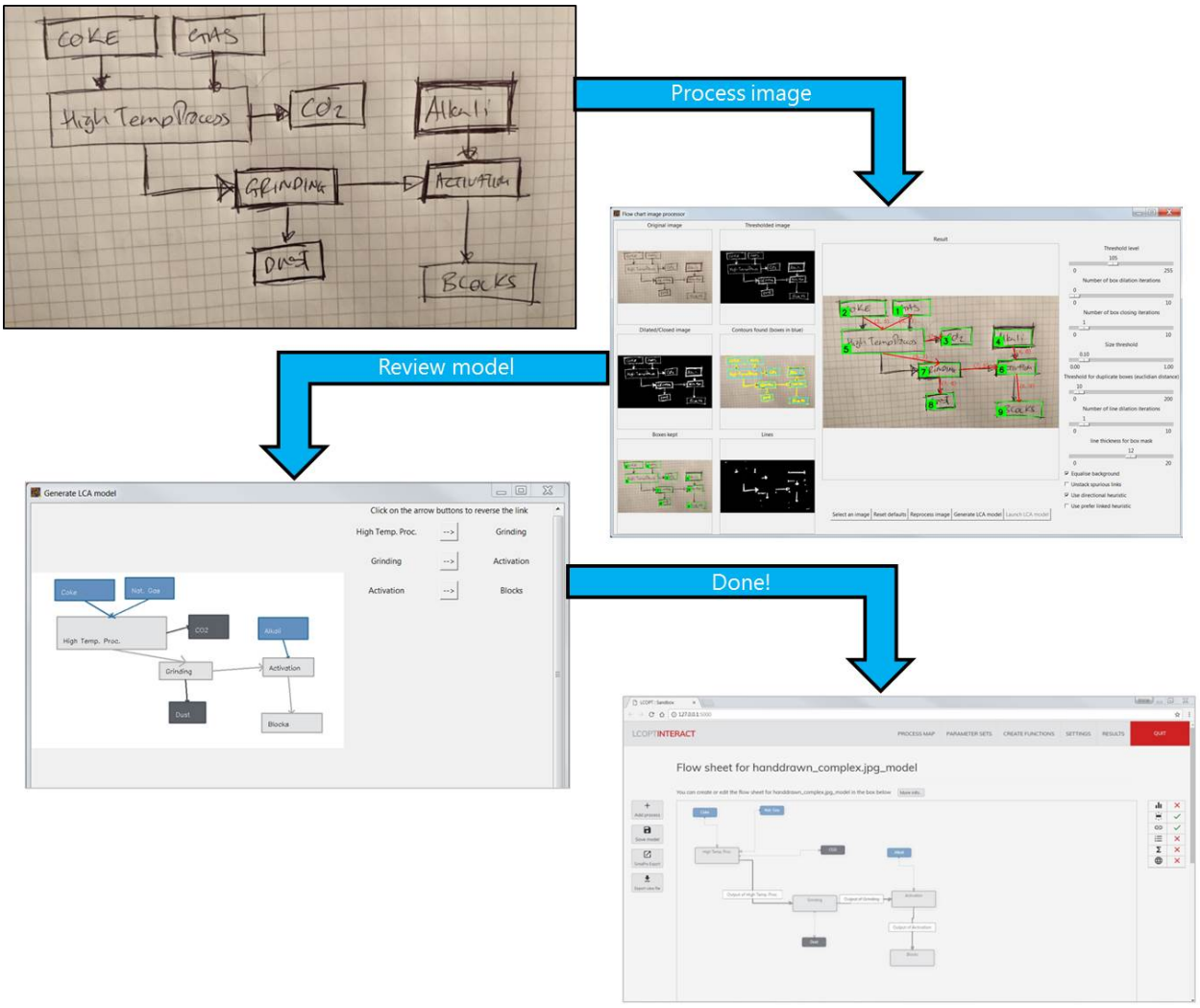
2.2 Use

To launch lcopt-cv at the command line type:

```
lcopt-cv
```

This will launch the lcopt-cv GUI.





More detailed documentation is on its way… watch this space!