Download and Installation Procedure of the CNN Simulator “CANDY”

< Download >

1. Visit the home page:
   http://lab.analogic.sztaki.hu
2. Select the link “SW Download” on the left side.
3. Under the item of “Analogic algorithm design (CNN Simulators)”,
   Click “CANDY”
4. On the page with the title “CANDY - Multilayer CNN Simulator”, Click “Download”
5. On the “Download Page”, click “Download setup”

< Installation >

After you have “Download” CANDY, click “Candy_Setup.exe” to begin the installation.

Note: While you setup the CANDY s/w,
   if it asks CANDY or CANDY with TEMPO, it would be better to choose CANDY with TEMPO.
Examples of CNN Template Simulations

< Edge detection with the CNN Simulator>

1. Click the Vismouse icon, then the screen will show

![Vismouse interface](image)

2. The image to be processed should be loaded on the screen at the beginning. To do this, click the "File/open image" menu, then the following screen will appear. (Refer to Help/Menu Interface/File/Image Open,Close command)

![File open interface](image)
3. If you choose the file “A_letter.bmp” on the File Name list, following image will appear:

4. To process the image displayed on the screen, the “Template Runner” (Refer to Help/Menu Interface/Template) under the “Template” menu can be used. Following screen is the pop-up screen, where “Template” at the top is the kind of template you can run. Clicking the folder symbol at the right side of the “Template” box, the template list you can choose will show up. Under the “Template” box, the specifications of the selected template which are described at the head of each template file are shown. Please refer to Help/Contents/Dialog Boxes/CNN Specific Settings for the images and parameter assignment.

To run the simulator, click the runner’s symbol in the “script” box.
5. After running the “edge detection” template during the 2 tau period (time step=0.01), the output of the simulator appears as shown on the right side of the screen:
<Image Editing / Creation (Refer to Help/Menu Interface/Image)>

Image creation and editing can be implemented by choosing the "image" menu on the main screen. Clicking "ok" without giving any file name, you are allowed to create a new image. You can also edit the existing image by choosing the image name.
<Template Editing / Creation (Refer to Help/Menu Interface/Template)>

Template creation and editing are done by choosing "Template Edit" menu under the "Template" menu. Clicking "ok" without giving any template file name, a new template file can be created. You can also edit the existing template by choosing the template name.
TEXT BOOK: Leon O. Chua and Tamas Roska:
Cellular Neural Networks and Visual Computing,
Cambridge University Press, 2002

Course Home Page:

http://inst.eecs.berkeley.edu/~ee129/

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Those who do not have access to a CNN universal chip can simulate it on a digital computer by integrating the associated system of ordinary differential equations. Several free and user-friendly software packages are available from the following homepages:

http://www.isi.ee.ethz.ch/~haenggi/CNNsim.html
http://lab.analogic.sztaki.hu/Candy/matcnn.html
http://www.uni-frankfurt.de/fb13/iap/e_ag_rt/SCNN/
http://www.analogic-computers.com/cgi-bin/sub_pages/products/a_demo.php