Reviews and Updated Informal Specification for Conv2D

Updated Informal Specification for Conv2D

Review of Jean-Loup

- Convention section: I think that "i.e. the number of lines (resp. columns)" should be added to the notation "X.H" ✓

- Informal specification subsubsection: I think that the use of "." for multiplication in the formula should be avoided because "." is also used for tensor characteristic in the same formula, cf. "W.H". \times, i.e., "x" should be used instead. For instance "m . strides[0]" should be "m x strides[0]". ✓

→ - Notations $nl(X)$ and $nc(X)$ respectively denote the *number of lines* and the *number of columns* of tensor X. If the tensor represents an image, $nl(X)$ and $nc(X)$ are also called the *height* and the *width* of the image.

- Restrictions subsection: I do not understand "with the tag". To which tag it refers? ✓

→ - Restrictions of the SONNX profile with with respect to ONNX standard are indicated in the text with the tag `[restrict]`. A synthesis of all restrictions is given in section "Restrictions".

- Inputs and outputs subsubsection: I think the the constraint X.C = Y.C is questionable. Indeed, to my understanding convolution is often used to transform a large image with 3 channels (R,G,B) to smaller image with a large number of channels, cf. image below

➡ The constraint was removed

- Attributes subsubsection: strides is not an integer, but an integer[2] or a list of integers.

➡ Strides: list of int

- Attributes subsubsection: I am surprised by the inconsistency between the exemple "stride[0]=1, stride[1]=2" and the figure.

➡ The values of strides[0] and strides[1] are now consistent with the figure (strides[0]=2 and strides[1]=3)

- Attributes subsubsection: I think that "is moved" is not appropriate. I suggest "Stride attribute determines the horizontal and vertical distance between kernel applying. For instance stride[0] = 2 and stride[1] = 3 indicates that closest kernel applying are separated by 2 columns for the horizontal dimension or by 3 lines for the vertical dimension."

➡ The expression « is moved » is replaced by « is shifted »

- Attributes subsubsection: I think there are formatting issues in the auto_pad paragraph.

➡ Formatting issues related to auto_pad are corrected

Review of Sebastian

According to Sebastian's review three main changes were made:

- The value of **auto_pad** is set to **NOTSET**
- The case where the parameter **group > 1** was specified
- **Kernel_shape** was derived from **W**