ONNX Pre-processing WG

Monthly meeting - April 19, 2023

Agenda

- Status
- Image decoding operator
- Porting (more) preprocessing models

Status

PRs:

[MERGED] Add a way to load a composite model (preprocessing + network) via onnx.hub
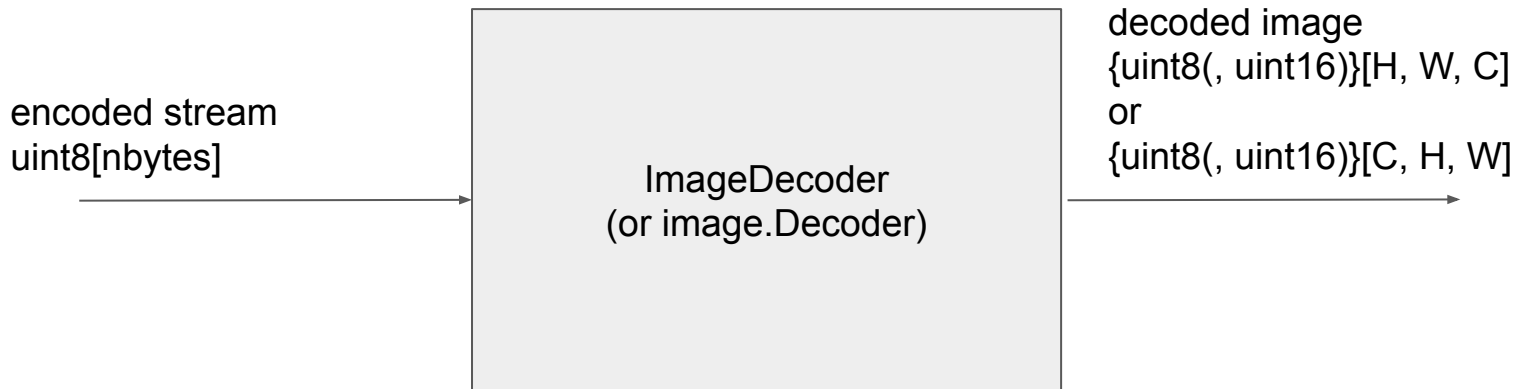https://github.com/onnx/onnx/pull/4976

[MERGED] Add ResNet preprocessing model
https://github.com/onnx/models/pull/594

[MERGED] Fix support for negative axes in Pad and CenterCropPad
https://github.com/onnx/onnx/pull/5007

[Pending] Using ONNX parser in SequenceMap tutorial
https://github.com/onnx/tutorials/pull/277

Image decoder operator

supported formats (?): jpeg, jpeg2000, png, bmp, tiff, webp, pnm, pbm

encoded stream
uint8[nbytes]

ImageDecoder
(or image.Decoder)

decoded image
{uint8(, uint16)}[H, W, C]
or
{uint8(, uint16)}[C, H, W]

jpeg_chroma_upsampling (str) = {"smooth", "fancy"}
jpeg_idct_method (str) = {"fast", "slow"}
planar (bool) = false
ignore_exif_orientation(bool) = false
dtype(enum) = uint8
colorspec(enum) = RGB, BGR, Gray

libjpeg options

Porting (more) preprocessing models

Port preprocessing models from
https://github.com/microsoft/onnxruntime-extensions/blob/main/onnxruntime_extensions/tools/add_pre_post_processing_to_model.py

- imagenet_preprocessing (same as published ResNet?)
- mobilenet
- superresolution

Other:
- NLP
- Audio
- SSD
- Mask R-CNN

Open floor