Resnet34.a1_in1k Model Card

Model Card

Model Details

- It is a deep convolutional neural network with 34 layers, pretrained on the ImageNet dataset, designed for image classification tasks. It takes a 3-channel RGB image of shape (3, 224, 224) as input, which should be normalized using the mean [0.485, 0.456, 0.406] and standard deviation [0.229, 0.224, 0.225] of the ImageNet dataset. The model outputs a 1,000-dimensional vector, where each element represents the probability of the input image belonging to one of the 1,000 classes in the ImageNet dataset, with the class having the highest probability being the predicted class.

Intended Use

- Our application uses this model for AI inferencing on input video and we collect metrics while the pipeline is running
- This model is specifically designed to extract features for general image classification and may not perform well on specialized detection tasks without fine-tuning. It focuses on feature extraction and does not provide contextual understanding or scene analysis.

Training and validation data

- We are not training or validating this model in our reference implementation

Ethical Considerations

- We are using person-bicycle-car-detection.mp4 from https://github.com/intel-iot-devkit/sample-videos as input video to test this application tool.
- We are not storing any person or user related personal information.

Caveats and Considerations

- The model's accuracy may vary depending on the quality and resolution of the input images. Ensure that the images used are of sufficient quality for reliable detection.
- Preprocess images to normalize lighting conditions and remove noise.

Quantitative Analysis

- We are not doing quantitative analysis in this application tool but we do display metrics mentioned below to the user.

Factors

- We are also not evaluating this model in this reference implementation

Metrics

- We are displaying metrics including throughout (FPS) and system level metrics: CPU/GPU utilization, memory utilization, CPU/GPU frequency, CPU/system temp, GPU power, GPU engine, and package power. In this application these metrics are collected and displayed to the user via gauges.