Deploy ONNX model seamlessly across all scenarios using MindSpore

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What is MindSpore?
MindSpore Overview

MindSpore
A new open source deep learning training/inference framework that could be used for mobile, edge and cloud scenarios.

Key Features
• Friendly development experience
• Flexible debugging
• Fully unleashing hardware performance
• Quick deployment in all scenarios

1. Flexible debugging:
   # Switch to dynamic graph mode
   context.set_context(mode=context.PYNATIVE_MODE)

   # Switch to static graph mode
   context.set_context(mode=context.GRAPH_MODE)

2. Deploy across all scenarios:
   Mobile  Edge  Cloud
MindSpore with ONNX
How MindSpore works with ONNX?

3rd-party Frameworks

MindSpore Lite

FrontEnd Expression (train.export()) \(\rightarrow\) ONNX Exporter \(\rightarrow\) model.onnx \(\rightarrow\) ONNX Runtime

Graph Engine (Ascend/GPU/CPU)

model.onnx

ONNX Converter

Compiler (MindIR)

Lite RT / Micro
MindSpore ONNX Support

V0.1.0
- Operator support: 18
- Network support: 3

V1.1.0 Network support:
- Fp32: 58
- Fp16: 43

models_onnx.cfg
```
mtk_detect_mbv2_shortcut-400-400-simplified.onnx
mtk_emotions_d2012-75-e4.onnx
mtk_face_features_v3.onnx
emotion-ferplusplus-s.onnx
rcnn-ilsvrc13.9.onnx
efficientnet-lite4-11.onnx
mobilenetv2-7.onnx
shufflenet-v2-10.onnx
squeezeenet1.1-7.onnx
densenet-9.onnx
ml_table_detection_fp32.onnx
ml_table_segment.onnx
googlenet-9.onnx
inception-v1-9.onnx
inception-v2-9.onnx
shufflenet-9.onnx
squeezeenet1.0-9.onnx
residual_distill_cifar10_bs_1.onnx
residual_distill_cifar10_bs_32.onnx
residual_distill_bs_1.onnx
residual_distill_bs_32.onnx
ml_face_3d.onnx
gts_version-RFB-320_simplified.onnx
mlist-8.onnx
crnn_lite_lstm_v2.onnx;32,32,32,1
```

models_onnx_fp16.cfg
```
mtk_detect_mbv2_shortcut-400-400-simplified.onnx
mtk_emotions_d2012-75-e4.onnx
mtk_face_features_v3.onnx
emotion-ferplusplus-s.onnx
rcnn-ilsvrc13.9.onnx
efficientnet-lite4-11.onnx
mobilenetv2-7.onnx
shufflenet-v2-10.onnx
squeezeenet1.1-7.onnx
ml_table_detection_fp32.onnx
ml_table_segment.onnx
googlenet-9.onnx
inception-v1-9.onnx
inception-v2-9.onnx
shufflenet-9.onnx
squeezeenet1.0-9.onnx
residual_distill_cifar10_bs_1.onnx
residual_distill_cifar10_bs_32.onnx
residual_distill_bs_1.onnx
residual_distill_bs_32.onnx
ml_face_3d.onnx
gts_version-RFB-320_simplified.onnx
mlist-8.onnx
```
Future plan
Exploring MindSpore with ONNX Training
Join us

- Website: www.mindspore.cn
- Gitee: gitee.com/mindspore
- GitHub: github.com/mindspore-ai
- iHub: https://code.ihub.org.cn/companies/4vioxkz2
- Mailing-list: https://mailweb.mindspore.cn/postorius/lists/
THANK YOU