
Figure 1: Logo

# TensorFlow Community Models

This repository provides a curated list of the GitHub repositories with machine learning models and implementations powered by TensorFlow 2.

**Note**: Contributing companies or individuals are responsible for maintaining their repositories.

## Computer Vision

### Image Recognition

| Model | Paper | Features | Maintainer |
|---|---|---|---|
| DenseNet 169 | Densely Connected Convolutional Networks | • FP32 Inference | Intel |
| Inception V3 | Rethinking the Inception Architecture-for Computer Vision | • Int8 Inference • FP32 Inference | Intel |
| Inception V4 | Inception-v4, Inception-ResNet and the Impactof Residual Connections on Learning | • Int8 Inference • FP32 Inference | Intel |
| MobileNet V1 | MobileNets: Efficient Convolutional Neural Networksfor Mobile Vision Applications | • Int8 Inference • FP32 Inference | Intel |

| Model | Paper | Features | Maintainer |
|---|---|---|---|
| ResNet 101 | Deep Residual Learning for Image Recognition | • Int8 Inference • FP32 Inference | Intel |
| ResNet 50 | Deep Residual Learning for Image Recognition | • Int8 Inference • FP32 Inference | Intel |
| ResNet 50v1.5 | Deep Residual Learning for Image Recognition | • Int8 Inference • FP32 Inference • FP32 Training | Intel |
| EfficientNet | EfficientNet: Rethinking Model Scaling for Convolutional Neural Networks | • Automatic mixed precision • Horovod Multi-GPU training (NCCL) • Multi-node training on a Pyxis/Enroot Slurm cluster • XLA | NVIDIA |

**Object Detection**

| Model | Paper | Features | Maintainer |
|---|---|---|---|
| R-FCN | R-FCN: Object Detectionvia Region-based Fully Convolutional Networks | • Int8 Inference • FP32 Inference | Intel |
| SSD-MobileNet | MobileNets: Efficient Convolutional Neural Networksfor Mobile Vision Applications | • Int8 Inference • FP32 Inference | Intel |

| Model | Paper | Features | Maintainer |
|---|---|---|---|
| SSD-ResNet34 | SSD: Single Shot MultiBox Detector | • Int8 Inference • FP32 Inference • FP32 Training | Intel |

**Segmentation**

| Model | Paper | Features | Maintainer |
|---|---|---|---|
| Mask R-CNN | Mask R-CNN | • Automatic Mixed Precision • Multi-GPU training support with Horovod • TensorRT | NVIDIA |
| U-Net Medical Image Segmentation | U-Net: Convolutional Networks for Biomedical Image Segmentation | • Automatic Mixed Precision • Multi-GPU training support with Horovod • TensorRT | NVIDIA |

## Natural Language Processing

| Model | Paper | Features | Maintainer |
|---|---|---|---|
| BERT | BERT: Pre-training of Deep Bidirectional Transformers-for Language Understanding | • FP32 Inference • FP32 Training | Intel |
| BERT | BERT: Pre-training of Deep Bidirectional Transformers for Language Understanding | • Horovod Multi-GPU • Multi-node with Horovod and Pyxis/Enroot Slurm cluster • XLA • Automatic mixed precision • LAMB | NVIDIA |

| Model | Paper | Features | Maintainer |
|---|---|---|---|
| ELECTRA | ELECTRA: Pre-training Text Encoders as Discriminators Rather Than Generators | • Automatic Mixed Precision • Multi-GPU training support with Horovod • Multi-node training on a Pyxis/Enroot Slurm cluster | NVIDIA |
| GNMT | Google's Neural Machine Translation System:Bridging the Gap between Human and Machine Translation | • FP32 Inference | Intel |
| Transformer-LT (Official) | Attention Is All You Need | • FP32 Inference | Intel |
| Transformer-LT (MLPerf) | Attention Is All You Need | • FP32 Training | Intel |

## Recommendation Systems

| Model | Paper | Features | Maintainer |
|---|---|---|---|
| Wide & Deep | Wide & Deep Learning for Recommender Systems | • FP32 Inference • FP32 Training | Intel |
| Wide & Deep | Wide & Deep Learning for Recommender Systems | • Automatic mixed precision • Multi-GPU training support with Horovod • XLA | NVIDIA |

| Model | Paper | Features | Maintainer |
|---|---|---|---|
| DLRM | Deep Learning Recommendation Model for Personalization and Recommendation Systems | • Automatic Mixed Precision • Hybrid-parallel multiGPU training using Horovod all2all • Multinode training for Pyxis/Enroot Slurm clusters • XLA • Criteo dataset preprocessing with Spark on GPU | NVIDIA |

## Contributions

If you want to contribute, please review the contribution guidelines.