Dataset Description

Data

The dataset includes a collection of textual descriptions of neural network model architectures trained on Cifar-10, i.e., inputs “X". The labels “Y” are the final training and testing performance scores of these models. Do not train your own models on cifar-10, you are provided with training and test examples. Your goal will be to build a performance predictor for this data set.

Provided Features

The performance of a neural network often depends on a few factors [4,5], some of which we have selected as features:

1.) Architecture description as a string and its hyperparameters

2.) The first X epochs of training and validation error history

3.) Initialization statistics. Specifically mean, std and L2 norm of the network for each layer before training starts

While your goal is to predict the final train error and final test error, we have interleaved (and identified) examples corresponding to training and testing error. You may consider training a separate performance prediction for the train and test error.

Provided files

- `train.csv`
- `test.csv`
- `sample_submission.csv`

Descriptions of files

`train.csv`

Below I have briefly described what each column represents.

- id - identification for data sample
- arch_and_hp - model architecture and hyperparameters used with that architecture.
- batch_size_test - number of samples that are evaluated at once for test data
- batch_size_val - number of samples that are evaluated at once for validation data
- criterion - loss function
- epochs - number of epochs the model was trained
- number_parameters - number of parameters in the model
- optimizer - optimizer used to update gradients
- val_error - final validation error (what you need to predict)
- val_loss - final validation loss
- train_error - final training error (what you need to predict)
- train_loss - final training loss
- batch_size_train - number of samples that are evaluated at once for training data
- init_params_mu - mean of initial parameters
- init_params_std - standard deviation of initial parameters
- init_params_l2 - L2 norm of initial parameters

Files
3 files

Size
12.11 MB

Type
csv

License
Subject to Competitic

- val_accs_{0,..,49} - validation accuracy for the first 50 epochs
- val_losses_{0,..,49} - validation losses for the first 50 epochs
- train_accs_{0,..,49} - training accuracy for the first 50 epochs
- train_losses_{0,..,49} - training losses for the first 50 epochs

`test.csv`

See description of `train.csv`. This is the same except final validation and training loss and error have been removed.

`sample_submission.csv`

This file gives the desired format for your results to submit.

expand_less **View less**

sample_submission.csv (22.64 kB) get_app fullscreen chevron_right

Detail Compact Column

2 of 2 columns keyboard_arrow_down

text_format id sort	grid_3x3 Predicted sort
952 unique values	 0 0
test_0_val_error	0.0
test_0_train_error	0.0
test_1_val_error	0.0
test_1_train_error	0.0
test_2_val_error	0.0
test_2_train_error	0.0
test_3_val_error	0.0
test_3_train_error	0.0
test_4_val_error	0.0
test_4_train_error	0.0
test_5_val_error	0.0
test_5_train_error	0.0
test_6_val_error	0.0
test_6_train_error	0.0
test_7_val_error	0.0
test_7_train_error	0.0
test_8_val_error	0.0
test_8_train_error	0.0
test_9_val_error	0.0
test_9_train_error	0.0
test_10_val_error	0.0
test_10_train_error	0.0
test_11_val_error	0.0
test_11_train_error	0.0
test_12_val_error	0.0
test_12_train_error	0.0

Data Explorer

12.11 MB

Summary

test_13_val_error	0.0
test_13_train_error	0.0
test_14_val_error	0.0
test_14_train_error	0.0

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text_snippet **Metadata**