

Project 3 Helpful Links

Project 3: Deep Learning Image Classification Completion Report

List Format:

- “Troubleshooting Topic”

“Description of helpful information”

“Helpful Link Pasted Here”

...

-
- Debugger configuration file

Understand big picture of how Sagemaker Debugger works:

<https://docs.aws.amazon.com/sagemaker/latest/dg/debugger-how-it-works.html>

<https://www.amazon.science/blog/the-science-behind-sagemakers-cost-saving-debugger>

Example Sagemaker notebook using Debugger for Pytorch training jobs with step descriptions:

https://github.com/aws/amazon-sagemaker-examples/blob/main/sagemaker-debugger/pytorch_model_debugging/pytorch_script_change_smdebug.ipynb

Understanding Hooks and create_from_json_file and debughookconfig.json assumptions:

<https://github.com/aws-labs/sagemaker-debugger/blob/master/docs/api.md>

Pytorch specific example for Debugger recording losses in training:

<https://github.com/aws-labs/sagemaker-debugger/blob/master/docs/pytorch.md>

Error: FileNotFoundError: [Errno 2] No such file or directory:
'/opt/ml/input/config/debughookconfig.json'

<https://github.com/aws-labs/sagemaker-debugger/issues/325>

<https://docs.aws.amazon.com/sagemaker/latest/dg/debugger-modify-script-pytorch.html>

(this doc indicates that json file is created from training job configurations)

Using debugger_hook_config in the estimator class:

https://sagemaker.readthedocs.io/en/stable/amazon_sagemaker_debugger.html#capture-real-time-debugging-data-during-model-training-in-amazon-sagemaker

Find Sagemaker parameters for debugger hook config here:

<https://sagemaker.readthedocs.io/en/stable/api/training/debugger.html#sagemaker.debugger.DebuggerHookConfig>

Official AWS Sagemaker Debugger Documentation:

<https://docs.aws.amazon.com/sagemaker/latest/dg/debugger-configure-hook.html>

Adapting Hook() for Pytorch training job in AWS Sagemaker:

<https://docs.aws.amazon.com/sagemaker/latest/dg/debugger-modify-script-pytorch.html>

Walk through and explanation of Hooks for PyTorch vs. Tensor

<https://blog.paperspace.com/pytorch-hooks-gradient-clipping-debugging/>

Creating a trial object for sagemaker debugger report

<https://www.thelastdev.com/how-sagemaker-debugger-works/>

<https://github.com/awslabs/sagemaker-debugger/blob/master/docs/analysis.md>

- Neural Network Training Loop

'Regex' is used to extract objective metrics from the logs

<https://sagemaker.readthedocs.io/en/stable/api/training/tuner.html>

- AWS Sagemaker environment directories

How model and output parameters work in sagemaker when setting up os.environment variables

<https://nono.ma/sagemaker-model-dir-output-dir-and-output-data-dir-parameters>

- AWS Sagemaker rules, how to interpret plotted parameters (loss, accuracy)

https://github.com/aws-samples/amazon-sagemaker-debug-ml-model-training/blob/main/debug_ml_model_training.ipynb