DLProf Plugin for TensorBoard

Release Notes

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Chapter 1. DLProf Plugin for TensorBoard 21.04 Release Notes

Description

DLProf Plugin for TensorBoard release for 21.04, available in the NVIDIA TensorFlow 1.x, TensorFlow 2.x, and PyTorch containers on NGC, and as a Python Wheel on the NVIDIA PY Index.

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Requirements

- Requires DLProf SQLite database files generated by DLProf v1.1.0 / r21.04.
- Ensure you have access and are logged into NGC. For step-by-step instructions, see the NGC Getting Started Guide.
- Install Docker and nvidia-docker. For DGX users, see Preparing to use NVIDIA Containers. For users other than DGX, see nvidia-docker installation documentation.

New Features

The key features of DLProf Plugin for TensorBoard v1.1.0 / r21.04 are:

- Ability to select and switch between previous aggregations.

Known Issues

- Networks profiled in previous releases are not compatible with this release.
- **Firefox Alert**: Google's TensorBoard v1.15 is not compatible with Firefox version 82.0.3 (64-bit) or greater. Consequently, the DLProf plugin shows a blank or empty screen.

  Corrective Action: Either downgrade to FireFox version 81.0.2 (64-bit) (and turn off the auto upgrade feature), or use the Chrome, Opera, or Chromium browser instead.

Resolved Issues

- None

Chapter 2. DLProf Plugin for TensorBoard 21.03 Release Notes

Description

DLProf Plugin for TensorBoard release for 21.03, available in the NVIDIA TensorFlow 1.x, TensorFlow 2.x, and PyTorch containers on NGC, and as a Python Wheel on the NVIDIA PY Index.

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Requirements

- Requires DLProf SQLite database files generated by DLProf v1.0.0 / r21.03.
- Ensure you have access and are logged into NGC. For step-by-step instructions, see the NGC Getting Started Guide.
- Install Docker and nvidia-docker. For DGX users, see Preparing to use NVIDIA Containers. For users other than DGX, see nvidia-docker installation documentation.

New Features

The key features of DLProf Plugin for TensorBoard v1.0.0 / r21.03 are:

- Users can select a new iteration key node and iteration boundaries directly in TensorBoard.
  - Data will automatically aggregate all profile data with the key node and iteration boundaries.
- All reports and views dynamically generate results base on last profile data aggregation.
- Support for Jupyter Lab.

Known Issues

- Networks profiled in previous releases are not compatible with this release.

- **Firefox Alert**: Google's TensorBoard v1.15 is not compatible with Firefox version 82.0.3 (64-bit) or greater. Consequently, the DLProf plugin shows a blank or empty screen.

  Corrective Action: Either downgrade to FireFox version 81.0.2 (64-bit) (and turn off the auto upgrade feature), or use the Chrome, Opera, or Chromium browser instead.

Resolved Issues

- None

Chapter 3. DLProf Plugin for TensorBoard 21.02 Release Notes

Description

DLProf Plugin for TensorBoard release for 21.02, available in the NVIDIA TensorFlow 1.x, TensorFlow 2.x, and PyTorch containers on NGC, and as a Python Wheel on the NVIDIA PY Index.

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Requirements

- Requires GPU Event files generated by DLProf v0.19.0 / r21.02.
- Ensure you have access and are logged into NGC. For step-by-step instructions, see the NGC Getting Started Guide.
- Install Docker and nvidia-docker. For DGX users, see Preparing to use NVIDIA Containers. For users other than DGX, see nvidia-docker installation documentation.

New Features

The key features of DLProf Plugin for TensorBoard v0.11.0 / r21.02 are:

- The DLPROF extensions of Google'sGRAPHS plugin in Tensorboard in a TensorFlow 2.x container have been removed.
- The DLProf extensions of Google's GRAPHS plugin in TensorBoard in a TensorFlow 1.x container are deprecated and will be removed in a future release.
- All panels and tables that contain ops now have a an 'Op ID' column.
- Columns can now be filtered on the Iteration Summary Panel.
- Tables are not automatically sorted when focus is placed inside any column header filter.

Known Issues

- Networks profiled in previous releases are not compatible with this release.

- **Firefox Alert**: Google's TensorBoard v1.15 is not compatible with Firefox version 82.0.3 (64-bit) or greater. Consequently, the DLProf plugin shows a blank or empty screen.

  Corrective Action: Either downgrade to FireFox version 81.0.2 (64-bit) (and turn off the auto upgrade feature), or use the Chrome, Opera, or Chromium browser instead.

Resolved Issues

- None

Chapter 4. DLProf Plugin for TensorBoard 20.12 Release Notes

Description

DLProf Plugin for TensorBoard release for 20.12, available in the NVIDIA TensorFlow 1.x, TensorFlow 2.x, and PyTorch containers on NGC, and as a Python Wheel on the NVIDIA PY Index.

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Requirements

- Requires GPU Event files generated by DLProf v0.18.0 / r20.12.
- Ensure you have access and are logged into NGC. For step-by-step instructions, see the NGC Getting Started Guide.
- Install Docker and nvidia-docker. For DGX users, see Preparing to use NVIDIA Containers. For users other than DGX, see nvidia-docker installation documentation.

New Features

The key features of DLProf Plugin for TensorBoard v0.10.0 / r20.12 are:

- Reports and summaries now support Multi-GPU profile data.

Known Issues

- Networks profiled in previous releases are not compatible with this release.
- **Firefox Alert**: Google's TensorBoard v1.15 is not compatible with Firefox version 82.0.3 (64-bit) or greater. Consequently, the DLProf plugin shows a blank or empty screen.

  Corrective Action: Either downgrade to FireFox version 81.0.2 (64-bit) (and turn off the auto upgrade feature), or use the Chrome, Opera, or Chromium browser instead.

Resolved Issues

- None

Chapter 5. DLProf Plugin for TensorBoard 20.11 Release Notes

Description

DLProf Plugin for TensorBoard release for 20.11, available in the NVIDIA TensorFlow 1.x, TensorFlow 2.x, and PyTorch containers on NGC, and as a Python Wheel on the NVIDIA PY Index.

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Requirements

- Requires GPU Event files generated by DLProf v0.17.0 / r20.11.
- Ensure you have access and are logged into NGC. For step-by-step instructions, see the NGC Getting Started Guide.
- Install Docker and nvidia-docker. For DGX users, see Preparing to use NVIDIA Containers. For users other than DGX, see nvidia-docker installation documentation.

New Features

The key features of DLProf Plugin for TensorBoard v0.9.0 / r20.11 are:

- DLProf plugin now supports client/server architecture.
  - All of the data is now in a relational database.
  - Load times have improved for all graphs and views.

Known Issues

- Networks profiled in previous releases are not compatible with this release.
- TensorBoard v1.15 is not compatible with Firefox version 82.0.3 (64-bit). Either downgrade to FireFox version 81.0.2 (64-bit), or use the Chrome or Chromium browser instead.

Resolved Issues

- None

Chapter 6. DLProf Plugin for TensorBoard 20.10 Release Notes

Description

DLProf Plugin for TensorBoard release for 20.10, available in the NVIDIA TensorFlow 1.x, TensorFlow 2.x, and PyTorch containers on NGC, and as a Python Wheel on the NVIDIA PY Index.

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Requirements

- Requires GPU Event files generated by DLProf v0.16.0 / r20.10.
- Ensure you have access and are logged into NGC. For step-by-step instructions, see the NGC Getting Started Guide.
- Install Docker and nvidia-docker. For DGX users, see Preparing to use NVIDIA Containers. For users other than DGX, see nvidia-docker installation documentation.

New Features

The key features of DLProf Plugin for TensorBoard v0.8.0 / r20.10 are:

- A horizontal scroll bar has been added to the dashboard in order to avoid compressing data elements.
- The y-axis on the Iteration Panel and Iteration View now have dynamic units, scaled to the largest time unit.

Known Issues

- This software is only accessible in the NGC TensorFlow and Pytorch containers, or as a separate PIP wheel.
- This software is only supported for TensorBoard 1.15.

Resolved Issues

- None

Chapter 7. DLProf Plugin for TensorBoard 20.09 Release Notes

Description

DLProf Plugin for TensorBoard release for 20.09, available in the NVIDIA TensorFlow 1.x, TensorFlow 2.x, and PyTorch containers on NGC.

Requirements

- Requires GPU Event files generated by DLProf v0.15.0 / r20.09.
- Ensure you have access and are logged into NGC. For step-by-step instructions, see the NGC Getting Started Guide.
- Install Docker and nvidia-docker. For DGX users, see Preparing to use NVIDIA Containers. For users other than DGX, see nvidia-docker installation documentation.

New Features

The key features of DLProf Plugin for TensorBoard v0.7.0 / r20.09 are:

- Compatibility with DLPROF v0.15.0 / r20.09

Known Issues

- This software is only accessible in the NGC TensorFlow container.
- This software is only supported for TensorBoard 1.15.

Resolved Issues

- None

Chapter 8. DLProf Plugin for TensorBoard 20.08 Release Notes

Description

DLProf Plugin for TensorBoard release for 20.08, available in the NVIDIA TensorFlow 1.x, TensorFlow 2.x, and PyTorch containers on NGC.

Requirements

- Requires GPU Event files generated by DLProf v0.14.0 / r20.08.
- Ensure you have access and are logged into NGC. For step-by-step instructions, see the NGC Getting Started Guide.
- Install Docker and nvidia-docker. For DGX users, see Preparing to use NVIDIA Containers. For users other than DGX, see nvidia-docker installation documentation.

New Features

The key features of DLProf Plugin for TensorBoard v0.6.0 / r20.08 are:

- Enabled column filtering in all data tables.
- Prevented all durations from wrapping in the data tables.
- Added new 'Direction' and 'Stack Trace' columns in Op Node and Top10 GPU Ops data tables for PyTorch networks.
- Added Iteration Summary panel to Dashboard for a quick visualization of profiled network.

Known Issues

- This software is only accessible in the NGC TensorFlow container.
- This software is only supported for TensorBoard 1.15.

Resolved Issues

- None

Chapter 9. DLProf Plugin for TensorBoard 20.07 Release Notes

Description

DLProf Plugin for TensorBoard release for 20.07, available in the NVIDIA TensorFlow 1.x, TensorFlow 2.x, and PyTorch containers on NGC.

Requirements

- Requires GPU Event files generated by DLProf v0.13.0 / r20.07.
- Ensure you have access and are logged into NGC. For step-by-step instructions, see the NGC Getting Started Guide.
- Install Docker and nvidia-docker. For DGX users, see Preparing to use NVIDIA Containers. For users other than DGX, see nvidia-docker installation documentation.

New Features

The key features of DLProf Plugin for TensorBoard v0.5.0 / r20.07 are:

- A CPU model, cuDNN Version, Framework, and NSys Version to the system config panel.
- System config panel showing versions of software and GPUs.
- Iteration Chart showing iteration durations for ease of analysis.
- Ability to export a table data into a variety of formats: Excel, PDF, CSV, JSON, or Clipboard.
- Ability to display the profile name specified in DLProf on the TensorBoard Dashboard and exported reports

Known Issues

- This software is only accessible in the NGC TensorFlow container.
- This software is only supported for TensorBoard 1.15.

Resolved Issues

- None

Chapter 10. DLProf Plugin for TensorBoard 20.06 Release Notes

Description

DLProf Plugin for TensorBoard release for 20.06, available in the NVIDIA TensorFlow 1.x, TensorFlow 2.x, and PyTorch NGC containers.

Requirements

- Requires GPU Event files generated by DLProf v0.12.0 / r20.06.
- Ensure you have access and are logged into NGC. For step-by-step instructions, see the NGC Getting Started Guide.
- Install Docker and nvidia-docker. For DGX users, see Preparing to use NVIDIA Containers. For users other than DGX, see nvidia-docker installation documentation.

New Features

The key features of DLProf Plugin for TensorBoard v0.4.0 / r20.06 are:

- Improved UI/UX experience:
  - Navigate to reports directly from relevant summary page widgets.
  - Improved navigation.
  - Improved Expert Systems feedback.
    - A link is provided to the appropriate report and highlights issues that triggered the warning.
  - Added more detailed iteration information to summary table.

Known Issues

- This software is only accessible in the NGC TensorFlow container.
- This software is only supported for TensorBoard 1.15.

Resolved Issues

- None

Chapter 11. DLProf Plugin for TensorBoard 20.03 Release Notes

Description

The NVIDIA DLProf Plugin for TensorBoard makes it easy to visualize the performance of your models by showing Top 10 operations that took the most time, eligibility of Tensor Core operations and Tensor Core usage as well as interactive iteration reports.

Requirements

- Requires GPU Event files generated by DLProf v0.10.0 / r20.03
- Ensure you have access and are logged into NGC. For step-by-step instructions, see the NGC Getting Started Guide.
- Install Docker and nvidia-docker. For DGX users, see Preparing to use NVIDIA Containers. For users other than DGX, see nvidia-docker installation documentation.

New Features

The key features of DLProf Plugin for TensorBoard r20.03 are:

- Added progress meter on the *Please Wait* loading screen
- Added GPU Idle percentage to Model Summary
- System information is now displayed on the Model Summary view
- Added ability to select alternative domains specified through custom NVTX markers

Known Issues

- This software is only accessible in the NGC TensorFlow container.
- This software is only supported for TensorFlow 1.15 and TensorBoard 1.15.

Resolved Issues

- None

Chapter 12. DLProf Plugin for TensorBoard 20.02 Release Notes

Description

The NVIDIA DLProf Plugin for TensorBoard makes it easy to visualize the performance of your models by showing Top 10 operations that took the most time, eligibility of Tensor Core operations and Tensor Core usage as well as interactive iteration reports.

Requirements

- Requires GPU Event files generated by DLProf v0.9.0 / r20.02
- Ensure you have access and are logged into NGC. For step-by-step instructions, see the NGC Getting Started Guide.
- Install Docker and nvidia-docker. For DGX users, see Preparing to use NVIDIA Containers. For users other than DGX, see nvidia-docker installation documentation.

New Features

The key features of DLProf Plugin for TensorBoard v0.1 / r20.02 are:

- Enhanced plugin for visualizing GPU profile data on Tensorboard
  - New Summary page in a panelized dashboard arrangement
  - Introduction of two new key metrics in the first summary panel
    - TC Utilization % shows the percentage of GPU time spent executing Tensor Core kernels over the total GPU time spent by Tensor Core eligible operations.
    - GPU Idle % shows the amount of time the GPU spent not executing any kernel over the entire aggregated time range for the GPU.
    - Pie charts showing Node and Kernel summaries for quick visual evaluation.
  - Interactive Tables in all reports that allow a user to sort, filter, and paginate the results.

- Remaining reports are equivalent to the previous GPU Summary plugin for TensorBoard.

Known Issues

- This software is only accessible in the NGC TensorFlow container.
- This software is only supported for TensorFlow 1.15 and TensorBoard 1.15.
- TensorBoard will only display the default "tensorflow-core" domain in this release.

Resolved Issues

- None

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