GRAPHCORE

Graphcore Documents

Release latest

Graphcore Ltd

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CONTENTS

The following Graphcore documents are available.

CHAPTER

ONE

GETTING STARTED

- Getting Started with an IPU-Server

  Information on how to install the drivers and other essential software for your IPU-Server, how to run your first IPU program and get started with TensorFlow and PopART.

- SDK Overview

  An overview of all the components of the Poplar SDK, and how you can download and install it.

- IPU Programmer's Guide

  An introduction to the IPU architecture, programming model and tools available.

- Using IPUs from Docker

  A set of pre-built Docker packages containing components of the Poplar SDK.

- End User License Agreement (EULA)

CHAPTER

TWO

TENSORFLOW FOR THE IPU

Running TensorFlow on the IPU.

- TensorFlow 1 User Guide
- TensorFlow 2 User Guide

  User guides and API reference for the IPU implementation of TensorFlow.

CHAPTER

THREE

PYTORCH

Support for PyTorch on the IPU (preview release).

- PyTorch for the IPU: User Guide

CHAPTER

FOUR

POPART

The Poplar Advanced Runtime (PopART) for importing and executing models from industry standard ML frameworks, using the ONNX format.

- PopART User Guide

  An introduction and user guide for the PopART library.

- PopART Python API Reference

  The Python API reference for PopART.

- PopART C++ API Reference

  The C++ API reference for PopART.

CHAPTER

FIVE

POPLAR GRAPH PROGRAMMING FRAMEWORK

The Poplar graph programming framework.

- Poplar and PopLibs User Guide

  Information on how to use the Poplar graph programming tools to write code for the IPU.

- Poplar and PopLibs API Reference

  Details of the functions in the Poplar and PopLibs libraries provided in the Poplar SDK.

- Poplar Assembly Programming Guide

  An introduction to programming in assembly language on the IPU. This also includes some useful detail about memory layout and usage by the Poplar tools.

- Poplar Profile Data

  A detailed description of the file formats used for Poplar profiling information.

CHAPTER

SIX

TECHNICAL NOTES

Technical notes provide more detailed information on some specific aspect of Graphcore technology.

- Porting TensorFlow models to the IPU

  A technical note that explains the process of porting your TensorFlow application to the IPU.

- Model parallelism with TensorFlow: sharding and pipelining

  A technical note describing ways of exploiting the parallelism of the IPUs for your TensorFlow application.

- Poplar Profiling File Formats

  Describes the contents of the files created by the Poplar tools with static and runtime profiling information. These files are mainly intended for use by the PopVision Graph Analyser but this may be useful to people wanting to use the data for their own purposes.

CHAPTER

SEVEN

COMMAND-LINE TOOLS

Low-level command line tools for managing IPU hardware.

- Command Line Tools

  Commands for controlling and monitoring the status of the IPUs in your systems.

CHAPTER

EIGHT

OPEN SOURCE SOFTWARE

The following software is available as open source:

- TensorFlow for the IPU
  - Source repository
- PopART
  - Source repository
  - Build instructions
- PopLibs libraries
  - Source repository
  - Build instructions
- Poprithms: a library of graph algorithms used by the ML frameworks.
  - Source repository
  - Build instructions

PopLibs, PopART and Poprithms are licensed under the terms of the MIT license.

TensorFlow for the IPU is licensed under the Apache License 2.0.

Contribution License Agreement (CLA)