

Setup

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Danish
Data Science
Academy



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Create a fork of [GraphNeT](#)

graphnet-team / graphnet Public

52 Fork 52 Starred 56

Fork your own copy of graphnet-team/graphnet

main 4 branches 7 tags

Go to file Add file Code

asogaard Merge pull request #485 from asogaard/labels 62eb86c last week 2,420 commits

.github	Only trigger on push to main	2 months ago
assets	First cut at update documentation webpage	2 months ago
configs	fix target label	2 months ago
data	added mock model	2 months ago
docker	simplify docker	2 months ago
docs	Include both class and constructor docstrings, and show parameters...	2 months ago

About

Graph neural networks for neutrino telescope event reconstruction

graphnet-team.github.io/graphnet/

python machine-learning deep-learning neural-network gpu pytorch physics-analysis astrophysics high-energy-physics particle-physics neutrino-oscillations neutrinos graph-neural-network neutrino-physics

Follow the installation instructions in the [README.md](#)

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Install

We recommend installing `graphnet` in a separate environment, e.g. using a Python virtual environment or Anaconda (see details on installation [here](#)). Below we provide installation instructions for different setups.

► Installing with IceTray

▼ Installing stand-alone

If you don't need to interface with [IceTray](#) (e.g., for reading data from I3 files or running inference on these), the following commands should provide a fast way to get up and running on most UNIX systems:

```
$ git clone git@github.com:<your-username>/graphnet.git
$ cd graphnet
$ conda create --name graphnet python=3.8 gcc_linux-64 gxx_linux-64 libgcc cudatoolkit=11.5 -c conda-forge -y # Optional
$ conda activate graphnet # Optional
(graphnet) $ pip install -r requirements/torch_cpu.txt -e .[develop,torch] # CPU-only torch
(graphnet) $ pip install -r requirements/torch_gpu.txt -e .[develop,torch] # GPU support
(graphnet) $ pip install -r requirements/torch_macos.txt -e .[develop,torch] # On macOS
```

This should allow you to e.g. run the scripts in [examples/](#) out of the box.

A stand-alone installation requires specifying a supported Python version (see above), ensuring that the C++ compilers (`gcc`) are up to date, and possibly installing the CUDA Toolkit. Here, we have installed recent C++ compilers using `conda` (`gcc_linux-64 gxx_linux-64 libgcc`), but if your system already has a recent version (`$gcc --version` should be `> 5`, at least) you should be able to omit these from the setup. If you install the CUDA Toolkit and/or newer compilers using the above command, you should add **one** of:

Access the provided material (45 GB total)

IceCube-members:

```
$ scp -r <username>@data.icecube.wisc.edu:/data/ana/graphnet/workshop-2023/ .
```

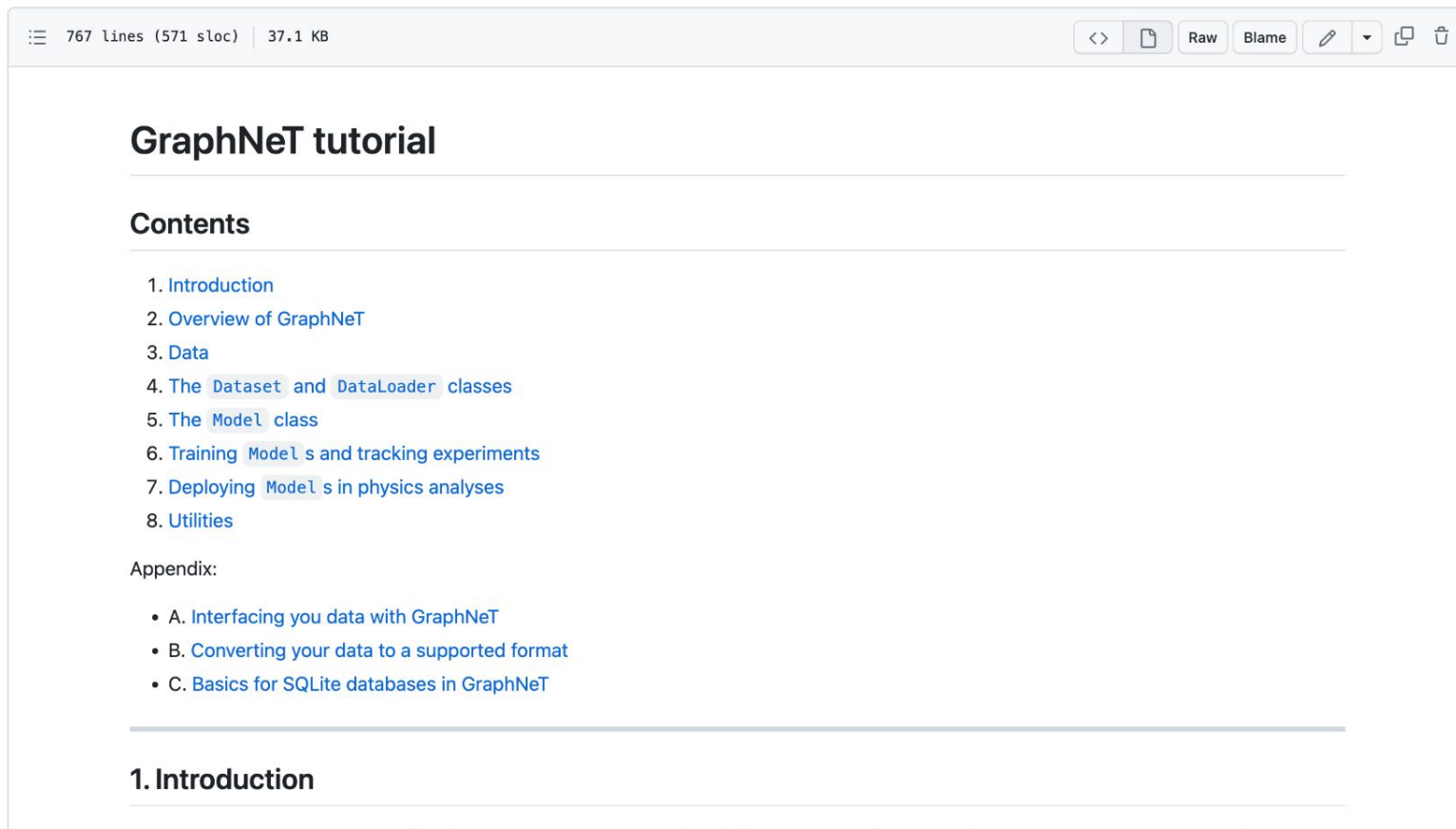
Anyone: This [Google Drive folder](#).

This should provide you with the following file tree:

NB: By the terms of the competition, data from Kaggle must not be shared publicly outside the Kaggle platform.

```
.
├── configs
│   ├── dataset.yml
│   └── model.yml
├── data
│   ├── generic
│   │   ├── kaggle.db
│   │   └── prometheus-orca.db
│   ├── icecube
│   │   ├── northern_tracks.db
│   │   ├── oscnext.db
│   │   └── upgrade.db
│   └── inspect_data.py
├── notebooks
│   ├── kaggle.ipynb
│   ├── northeren_tracks.ipynb
│   ├── oscnext_lvl7.ipynb
│   ├── prometheus_orca150.ipynb
│   └── upgrade.ipynb
```

Work/read through the [GETTING STARTED.md](#) tutorial



The screenshot shows a code editor interface with a header bar containing file statistics and navigation tools. The main content area displays the title 'GraphNeT tutorial' followed by a 'Contents' section with a list of numbered links. Below the list is an 'Appendix' section with three bulleted links. The bottom of the page shows the start of the '1. Introduction' section.

767 lines (571 sloc) | 37.1 KB

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GraphNeT tutorial

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- [1. Introduction](#)
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- [5. The `Model` class](#)
- [6. Training `Model`s and tracking experiments](#)
- [7. Deploying `Model`s in physics analyses](#)
- [8. Utilities](#)

Appendix:

- [A. Interfacing you data with GraphNeT](#)
- [B. Converting your data to a supported format](#)
- [C. Basics for SQLite databases in GraphNeT](#)

1. Introduction
