

# 2019 HeLP Challenge

2019년 12월 18일

# 대회 진행 순서



#### User

- Docker image build
- Docker image save (.tar.gz)
- Docker image upload

#### System

- run ./train.sh && ./inference.sh

train & validation set



#### System

- run ./inference.sh

test set

# Data path

Path	Description
/data/train	training data set (image & label) RO
/data/test	test data set (test용 image) RO
/data/output	task의 inference 결과 저장용 (score 산정시 사용) RW
/data/volume	개인별 작업 폴더 RW

# ./train.sh

- **/data/train** 의 training data로 학습
- 학습 모델등 파일을 **/data/volume** 에 저장
- training이 동작 중인 task id가 **ID** 환경변수로 전달

# ./inference.sh

- **/data/volume** 에서 저장된 **model load**
- **/data/test** data로 inference
- 결과 파일을 **/data/output** 에 저장

# 화면 설명

## ● Task

- Container 실행 단위
- Upload 및 Submit 마다 1개씩 실행

파일 목록 보기

- Train: training data (image & label)
- Test: test image data
- Output: inference 결과 파일명

Upload Docker image

Upload

Phase 1

Phase 1's Rank

Phase 2

Phase 2's Rank

2019-11-01 00:00 ~ 2020-11-01 00:00

ID	Progress	Status ▾	Score ▾	Metrics	Log/Error	CreatedAt ▾	FinishedAt ▾	Actions
44abdd39-94da-42a3-ac2a-642d93a521ab	<div><div></div></div> 100%	finished	1	☰	stdout stderr	2019-12-09 11:14	2019-12-09 11:22	Info Submit

output file별  
metric 정보  
보기

task의 stdout,  
stderr file  
download (last 1M)

task 실행  
정보

task를  
phase2로  
제출

# 화면 설명

- Task
  - Upload Docker image

Upload Docker image file  
(.tar.gz)

The screenshot shows a web interface for uploading Docker images. It includes a 'Select Flavor' dropdown menu, a 'Build Guide' section with terminal commands, and a large file upload area with a 'browse' link. Red callout boxes provide additional details: one for the flavor selection options and another for the file upload instructions.

**Upload**

Select Flavor

Select

- p1.large (CPU: 6, GPU: 1, MEM: 30G)
- p2.large (CPU: 12, GPU: 2, MEM: 61G)

Build Guide

```
docker build --tag your-image:0.0.1 .  
docker save your-image:0.0.1 | gzip > your-image.tar.gz
```

Drop files here, paste or [browse](#)

Docker image \*.tar.gz only, 1 file, up to 5 GB

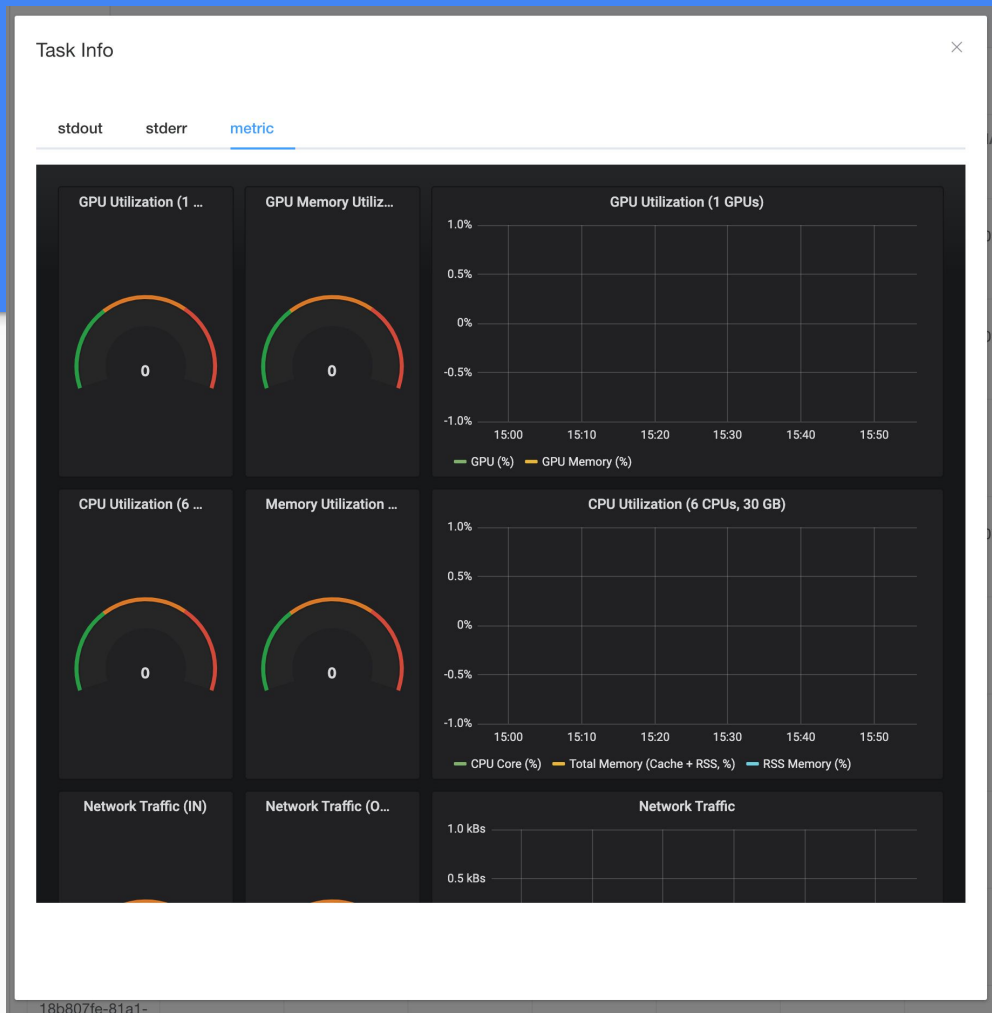
Powered by Uppy



# 화면 설명

## ● Task



- task 실행 정보
- stdout / stderr
  - 마지막 1K
  - 1분간 caching
- metric
  - GPU, CPU 실시간 사용 정보



# 화면 설명

- Volume
  - /data/volume
  - folder browsing 및 삭제 기능 제공
  - file download 기능은 제공하지 않음

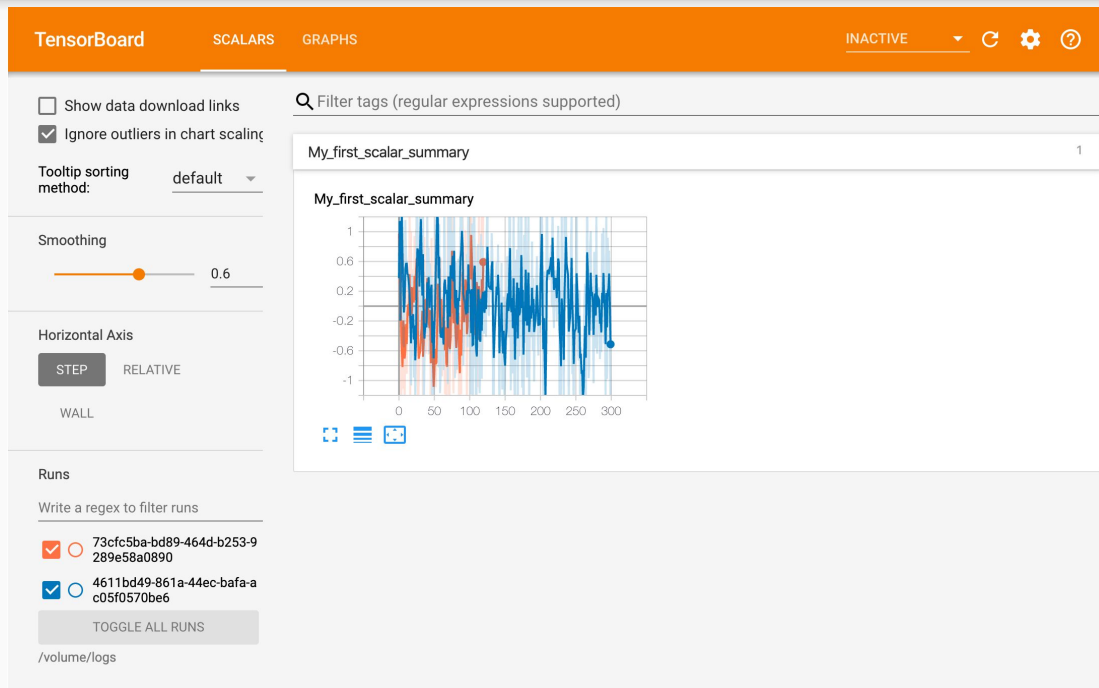
Volume / logs

name	size	mtime	operations
<a href="#">4611bd49-861a-44ec-bafa-ac05f0570be6</a>	-	2019-11-20T02:31:38.181+00:00	
<a href="#">73cfc5ba-bd89-464d-b253-9289e58a0890</a>	-	2019-11-20T02:01:46.415+00:00	

# 화면 설명

- Tensorboard

- logdir: /data/volume/logs
- 2시간 동안 request가 없으면 자동 stop



DEMO

# Docker

# 파일 구조

```
.
├── Dockerfile
├── inference.sh
├── src
│   ├── inference.py
│   └── train.py
└── train.sh
```

inference.py: 작성 해야 할 코드

train.py: 작성 해야 할 코드

# ./train.sh

```
1  #!/usr/bin/env bash
2  python src/train.py
3
```

# ./inference.sh

```
1  #!/usr/bin/env bash
2  python src/inference.py|
```



# Dockerfile

```
1  >> FROM tensorflow/tensorflow:latest-gpu
2
3  WORKDIR /
4
5  COPY . .
6
```

tensorflow/tensorflow:1.12.0-devel-gpu-py3  
pytorch/pytorch:0.4.1-cuda9-cudnn7-devel

# Docker 빌드 참조 링크

<https://github.com/help-khidi/docker-templates>

<https://docs.docker.com/engine/reference/builder>

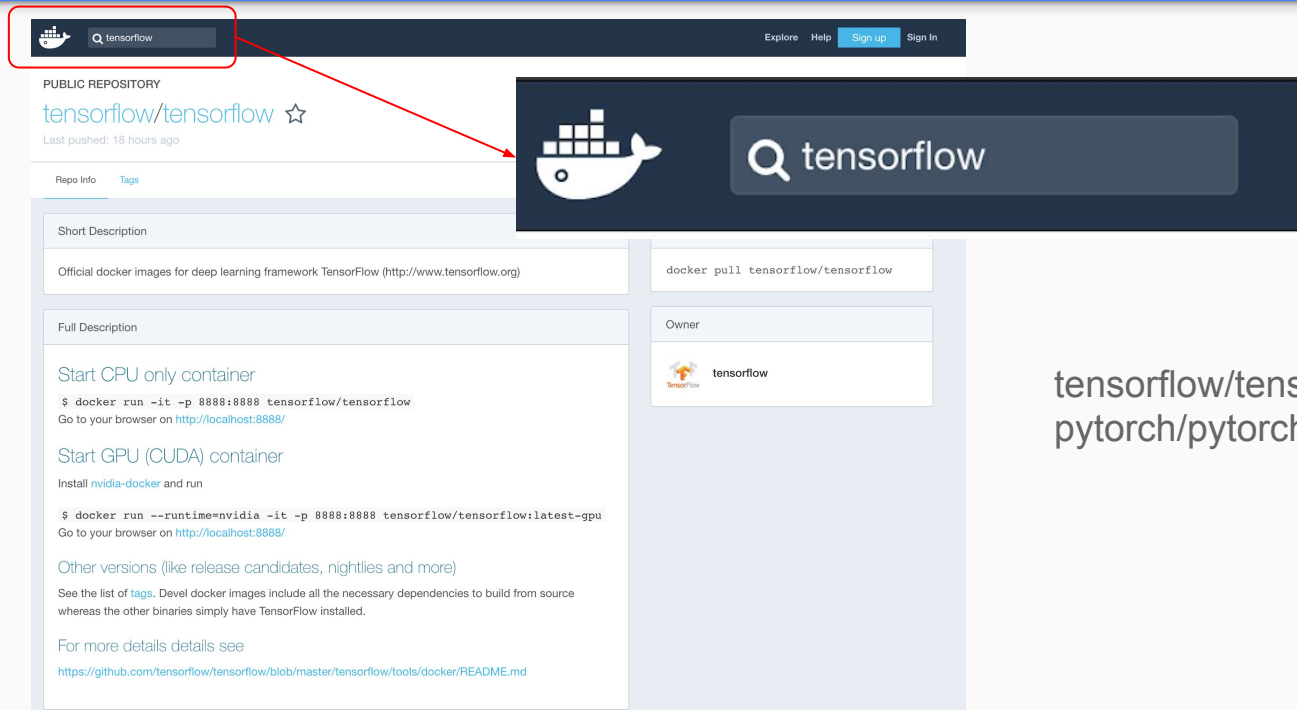
<http://pyrasis.com/book/DockerForTheReallyImpatient/Chapter04/02>

# NVIDIA Driver

CUDA 10.1

cuDNN 7.6

# hub.docker.com



The screenshot shows the Docker Hub interface for the `tensorflow/tensorflow` repository. The top navigation bar includes the Docker logo, a search bar, and links for Explore, Help, Sign up, and Sign in. The repository page displays the name `tensorflow/tensorflow` with a star icon and the text "Last pushed: 18 hours ago". Below this, there are tabs for Repo Info and Tags. The Short Description states: "Official docker images for deep learning framework TensorFlow (http://www.tensorflow.org)". The Full Description provides instructions for starting a CPU-only container and a GPU (CUDA) container, along with links to tags and a README file. On the right side, there is a terminal snippet showing the command `docker pull tensorflow/tensorflow` and the owner information, which is `tensorflow`.

PUBLIC REPOSITORY

tensorflow/tensorflow ☆

Last pushed: 18 hours ago

Repo Info Tags

Short Description

Official docker images for deep learning framework TensorFlow (<http://www.tensorflow.org>)

Full Description

Start CPU only container

```
$ docker run -it -p 8888:8888 tensorflow/tensorflow
```

Go to your browser on <http://localhost:8888/>

Start GPU (CUDA) container

Install `nvidia-docker` and run

```
$ docker run --runtime=nvidia -it -p 8888:8888 tensorflow/tensorflow:latest-gpu
```

Go to your browser on <http://localhost:8888/>

Other versions (like release candidates, nightlies and more)


See the list of [tags](#). Devel docker images include all the necessary dependencies to build from source whereas the other binaries simply have TensorFlow installed.

For more details details see

<https://github.com/tensorflow/tensorflow/blob/master/tensorflow/tools/docker/README.md>

docker pull tensorflow/tensorflow

Owner

 tensorflow

tensorflow/tensorflow:1.12.0-devel-gpu-py3  
pytorch/pytorch:0.4.1-cuda9-cudnn7-devel

Q&A

<https://help-khidi.kakaobrain.com>

감사합니다.