

Neural Network Consoleの 操作手順

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層の構築 / 積層方法

N Neural Network Console

Home

PROJECT

+ New Project

Open Project

ACTION ▾

DATASET

test1.sdcproj	Dataset "Training": train1.csv (16 samples, 2 columns) Dataset "Validation": C:\Users\1219722\Documents\Documents\Out	2020/01/16 13:22:19
result.sdcproj	Dataset "Training": train.csv (16 samples, 2 columns) Dataset "Validation": C:\Users\1219722\Documents\Documents\Out	2019/12/13 7:57:54
02_binary_cnn.sdcproj		2019/12/11 12:30:02
01_logistic_regression.sdcproj	Inputs : x[1,28,28] Outputs : y[1] Training Dataset : small_mnist_4or9_trainin C:\Users\1219722\Documents\Documents\121	2015/06/29 15:58:00
06_auto_encoder.sdcproj	Inputs : x[1,28,28] Outputs : x[1,28,28] Training Dataset : small_mnist_4or9_trainin	2015/06/18 14:15:40

Training

Evaluation

▶ ⏪ □ ▶ □

Overview: Main

Statistics

Output	0
CostParameter	0
CostAdd	0
CostMultiply	0
CostMultiplyAdd	0
CostDivision	0
CostExp	0
CostIf	0

Tasks

Training: ----

Evaluation: ----



PROJECT

+ New Project

Open Project

ACTION ▾

DATASET

Create new empty project. Use NNabla for training. (Ctrl+N) 020/01/16 13:22:19

『New Project』の
『+』ボタンをクリック

result.sdcproj

Dataset "Training": 2019/12/13 7:57:54
train.csv (16 samples,
2 columns)
Dataset "Validation":
C:\Users\1219722\Documents\Documents\Out

02_binary_cnn.sdcproj

2019/12/11 12:30:02

C:\Users\1219722\Documents\Documents\121

01_logistic_regression.sdcproj

Inputs : x[1,28,28] 2015/06/29 15:58:00
Outputs : y[1]
Training Dataset :
small_mnist_4or9_trainin
C:\Users\1219722\Documents\Documents\121

06_auto_encoder.sdcproj

Inputs : x[1,28,28] 2015/06/18 14:15:40
Outputs : x[1,28,28]
Training Dataset :
small_mnist_4or9_trainin

Training

Evaluation



Overview: Main

Statistics

Output	0
CostParameter	0
CostAdd	0
CostMultiply	0
CostMultiplyAdd	0
CostDivision	0
CostExp	0
CostIf	0

Tasks

Training: ----

Evaluation: ----

N Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

DATASET CONFIG

Components Search Text Here

IO

Input

Loss

- SquaredError
- HuberLoss
- AbsoluteError
- EpsilonInsensitiveLoss
- BinaryCrossEntropy
- SigmoidCrossEntropy
- CategoricalCrossEntropy
- SoftmaxCrossEntropy
- KLMultinomial

Parameter

- Parameter
- WorkingMemory

Layer Property

Main x +

100% ACTION ▾

Training Evaluation

Overview: Main

Statistics

Output	784
CostParameter	0
CostAdd	0
CostMultiply	0
CostMultiplyAdd	0
CostDivision	0
CostExp	0
CostIf	0

Tasks

Training: ----

Evaluation: ----

Drag & Drop ⇒ Layer Structure

Input
Dataset : x
1, 28, 28

Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Components Search Text Here

Input Loss

- SquaredError
- HuberLoss
- AbsoluteError
- EpsilonInsensitiveLoss
- BinaryCrossEntropy**
- SigmoidCrossEntropy
- CategoricalCrossEntropy
- SoftmaxCrossEntropy
- KLMultinomial

Parameter

- Parameter
- WorkingMemory

Basic

Layer Property

Main x +

Input
Dataset : x 1, 28, 28

C Convolution
KernelShape : 3, 3 w b 16, 28, 28

R ReLU 16, 28, 28

A Affine w b 100

S Sigmoid 100

B BinaryCrossEntropy T.Dataset : y 100

層を積み重ねる

DATASET CONFIG

Training Evaluation

Overview: Main

Statistics

Output	26,172
CostParameter	1,254,660
CostAdd	12,744
CostMultiply	0
CostMultiplyAdd	1,367,296
CostDivision	100
CostExp	100
CostIf	12,544

Tasks

Training: ----

Evaluation: ----

The screenshot shows the NNabla interface with a central workspace displaying a neural network diagram. The diagram consists of five layers: Input, Convolution, ReLU, Affine, and Sigmoid. The Input layer has dimensions 1, 28, 28. The Convolution layer uses a kernel shape of 3, 3 and produces 16, 28, 28. The ReLU layer follows. The Affine layer has 100 units. The Sigmoid layer follows. Below the diagram, the Japanese text '層を積み重ねる' (Stacking layers) is displayed. To the right of the workspace, there is a sidebar with tabs for 'Training' and 'Evaluation'. The 'Training' tab is active, showing an overview of the main training process with various metrics and tasks listed. The 'Evaluation' tab is also present. The top navigation bar includes tabs for 'EDIT', 'TRAINING', and 'EVALUATION', along with icons for 'DATASET' and 'CONFIG'. A search bar and component list are also visible on the left.

EDIT TRAINING EVALUATION

DATASET CONFIG

Components Search Text Here

Main

Input Dataset : x 1, 28, 28

B BatchNormalization m, g, v 1, 28, 28

C Convolution KernelShape : 3, 3 16, 28, 28

R ReLU 16, 28, 28

A Affine w, b 100

S Sigmoid 100

B BinaryCrossEntropy T.Dataset : y 100

Training Evaluation

Overview: Main

Statistics

Output	26,956
CostParameter	1,254,664
CostAdd	13,528
CostMultiply	784
CostMultiplyAdd	1,367,296
CostDivision	100
CostExp	100
CostIf	12,544

Tasks

Training: ----

Evaluation: ----

更に層を積み重ねる

Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Components Search Text Here

- FusedBatchNormalization
- Dropout
- Concatenate
- Reshape
- Broadcast
- BroadcastTo
- Tile
- Pad
- Flip
- Shift
- Transpose
- Slice
- Stack
- MatrixDiag
- MatrixDiagPart

Layer Property

I Input

Name Input
Size 1, 28, 28
Dataset x

Main

Input Dataset: x 1, 28, 28

B BatchNormalization 1, 28, 28

C Convolution KernelShape : 3, 3 16, 28, 28

R ReLU 16, 28, 28

A Affine 100

S Sigmoid 100

B BinaryCrossEntropy T.Dataset : y 100

Training Evaluation

Action

Overview: Main

Statistics

Output	26,956
CostParameter	1,254,664
CostAdd	13,528
CostMultiply	784
CostMultiplyAdd	1,367,296
CostDivision	100
CostExp	100
CostIf	12,544

Tasks

Training: ----

Evaluation: ----

Input層をクリック

詳細が表示される

画像Dataの読み込み方法

Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Datasets ACTION ▾

Training MAIN

Num Data = 0, Num Column = 0
Shuffle = Yes, Cache = No, Normalize = Yes

Validation

Num Data = 0, Num Column = 0
Shuffle = No, Cache = No, Normalize = Yes

URI: (Not Set)

Main Shuffle Enable Dataset Cache Image Normalization

**DATASETを
クリック**

Training Evaluation

▶ ⏪ □ ▶ □

Overview: Main

Statistics

Output	26,956
CostParameter	1,254,664
CostAdd	13,528
CostMultiply	784
CostMultiplyAdd	1,367,296
CostDivision	100
CostExp	100
CostIf	12,544

Tasks

Training: ----

Evaluation: ----

The screenshot shows the Neural Network Console (NNabla) interface. The top navigation bar includes 'EDIT', 'TRAINING', and 'EVALUATION' tabs. Below them is a 'DATASET' tab, which is highlighted with a red box and has the Japanese text 'DATASETをクリック' (Click DATASET) overlaid. The main workspace contains sections for 'Training' and 'Validation' datasets, each showing configuration options like 'Main', 'Shuffle', and 'Normalize'. On the right side, there's a detailed 'Statistics' section with a table of numerical values, and a 'Tasks' section with progress bars for 'Training' and 'Evaluation'. The overall theme is dark with blue highlights.

N Neural Network Console (NNabla)

EDIT TRAINING EVALUATION DATASET CONFIG

Datasets ACTION ▾ URI: (Not Set) Training Evaluation

Training MAIN Main Shuffle Enable Dataset Cache Image N Open dataset (Ctrl+O) ▶ □

Num Data = 0, Num Column = 0
Shuffle = Yes, Cache = No, Normalize = Yes

Validation

Num Data = 0, Num Column = 0
Shuffle = No, Cache = No, Normalize = Yes

Open dataset を
クリック

Overview: Main

Statistics

Output	26,956
CostParameter	1,254,664
CostAdd	13,528
CostMultiply	784
CostMultiplyAdd	1,367,296
CostDivision	100
CostExp	100
CostIf	12,544

Tasks

Training: ----

Evaluation: ----

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EDIT TRAINING EVALUATION DATASET CONFIG

Datasets ACTION URI: (Not Set) Training Evaluation

Training MAIN + Create Dataset Open Dataset ACTION ▶ E▶ □ □ □ □

Create a new image classification dataset (Ctrl+N)
Create Datasetの
『+』ボタンをクリック

Num Data = 0, Num Column = 0 2019/12/13 9:02:53

Shuffle = Yes, Cache = No, Normalize = Yes

Validation

Num Data = 0, Num Column = 0 Output 26,956

Shuffle = No, Cache = No, Normalize = Yes CostParameter 1,254,664

train1.csv Num Data = 16 CostAdd 13,528

Num Column = 2 CostMultiply 784

Columns = x:image, CostMultiplyAdd 1,367,296

y:label CostDivision 100

C:\Users\1219722\Documents\Documents\Out] CostExp 100

test.csv Num Data = 7 CostIf 12,544

Num Column = 2

Columns = x:image,

y:label

C:\Users\1219722\Documents\Documents\Out]

train.csv Num Data = 16

Num Column = 2

Columns = x:image,

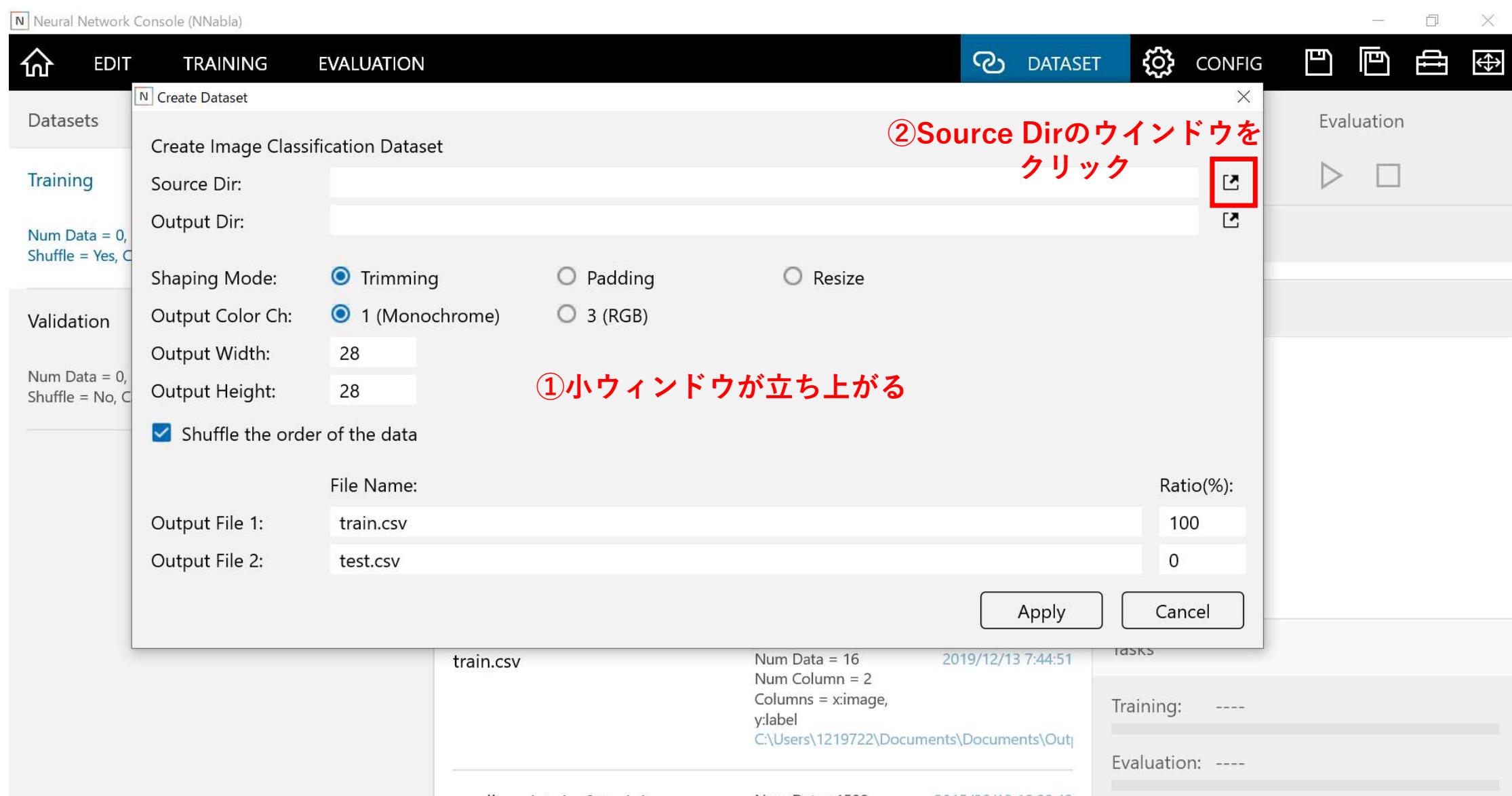
y:label

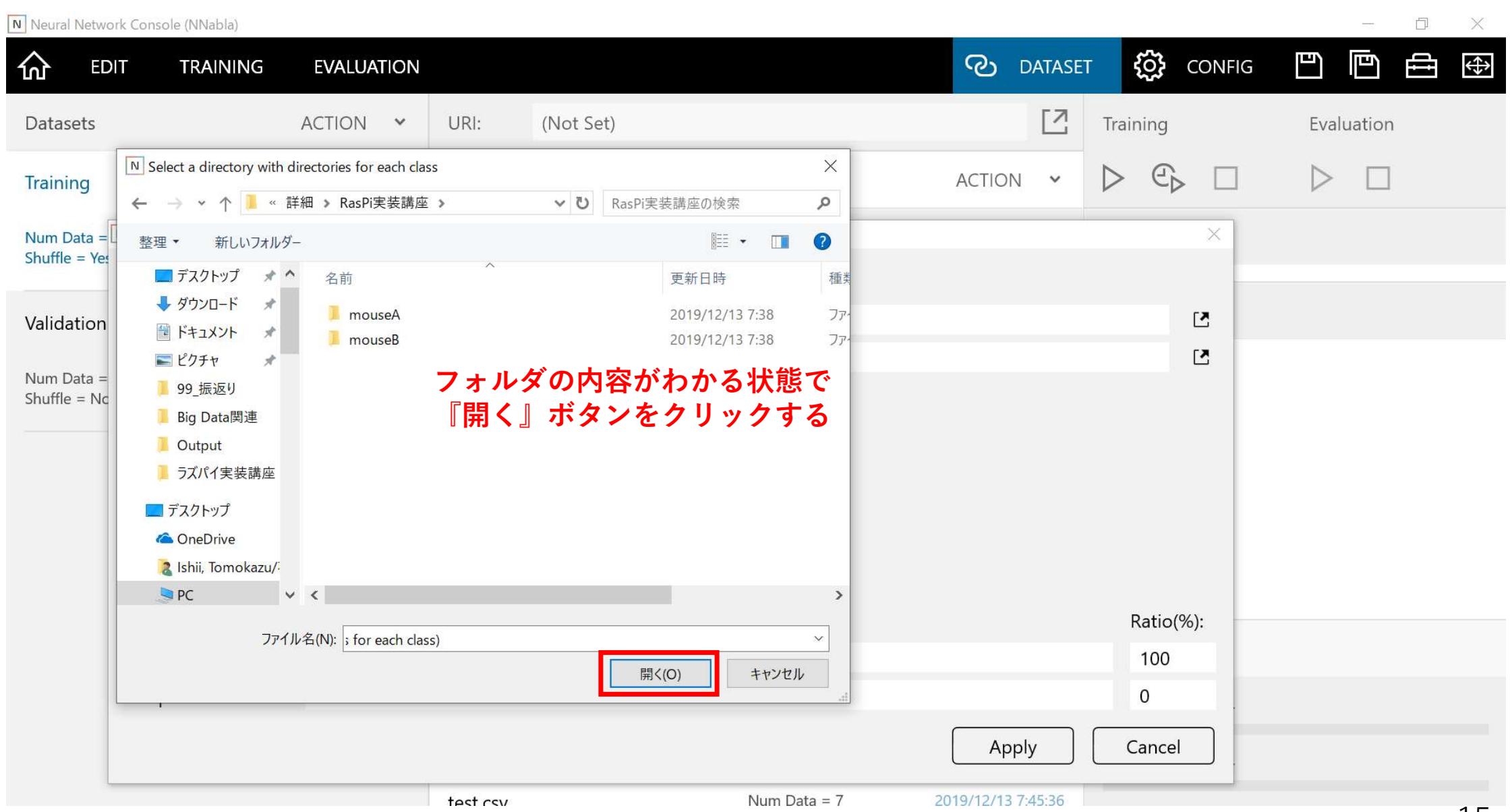
C:\Users\1219722\Documents\Documents\Out]

Tasks

Training: ----

Evaluation: ----





画像解析を行うための画像ファイル・フォルダの構成について

Source Dir はどのフォルダを選べばよいのか

ex:) 猫画像・犬画像をつかって犬猫を判別する場合

→ 「dog_cat」 フォルダを作成しその中に、「cat」 フォルダ・「dog」 フォルダを作成する
「cat」 フォルダに猫画像を保存する
「dog」 フォルダに犬画像を保存する

このケースでは、Source Dir として 「dog_cat」 フォルダを選択すれば
犬猫判別の画像解析を行うことができる



Neural Network Console (NNabla)

EDIT TRAINING EVALUATION DATASET CONFIG

Datasets

Create Image Classification Dataset

Source Dir: C:\Users\1219722\Documents\Documents\RasPi実装講座

Output Dir: Output Dirのウインドウをクリック

Shaping Mode: Trimming Padding Resize

Output Color Ch: 1 (Monochrome) 3 (RGB)

Output Width: 28

Output Height: 28

Shuffle the order of the data

File Name: Ratio(%):

Output File 1: train.csv 100

Output File 2: test.csv 0

Apply Cancel

train.csv Num Data = 16 2019/12/13 7:44:51

Num Column = 2 Columns = x:image, y:label

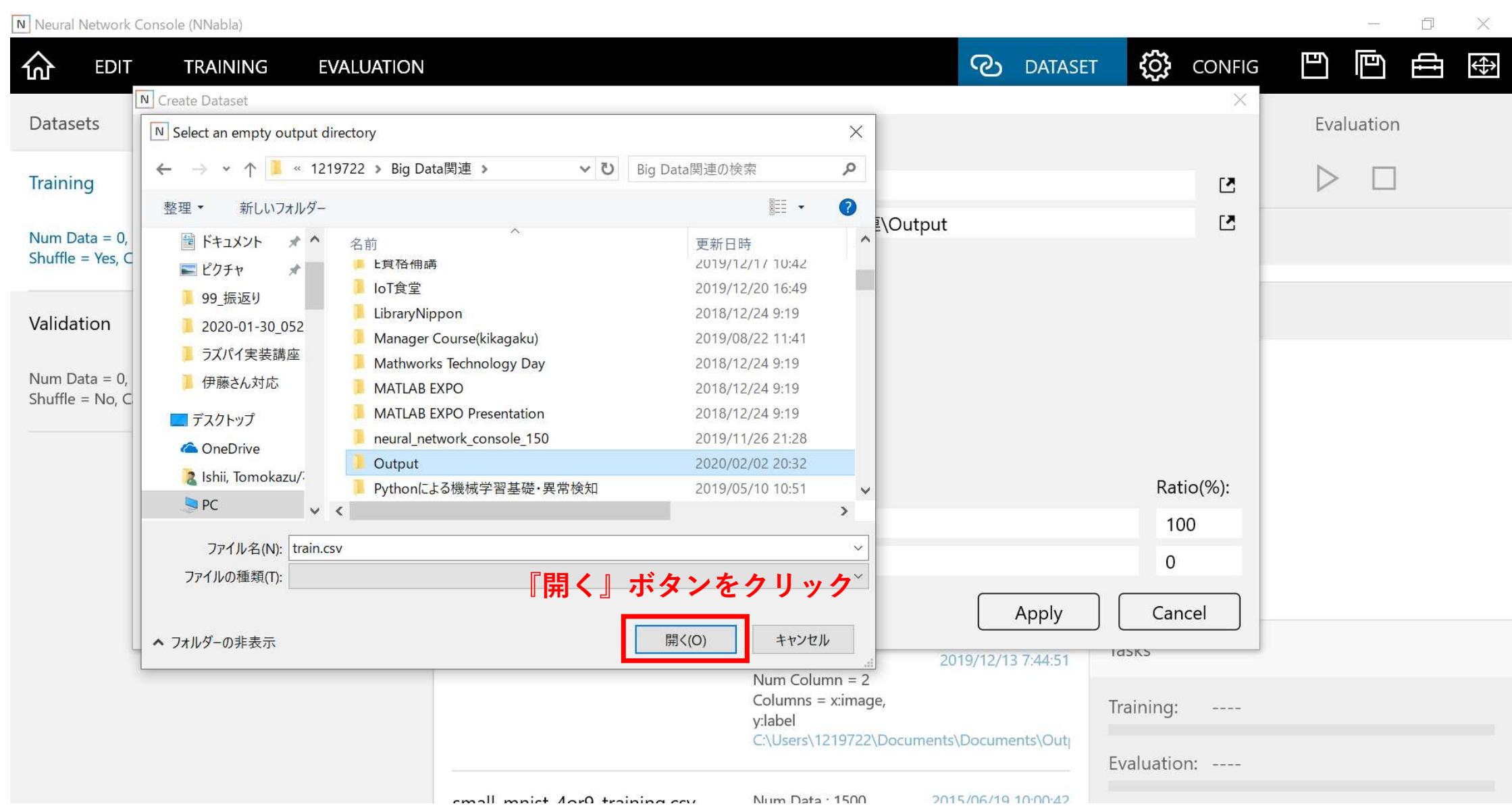
C:\Users\1219722\Documents\Documents\Out

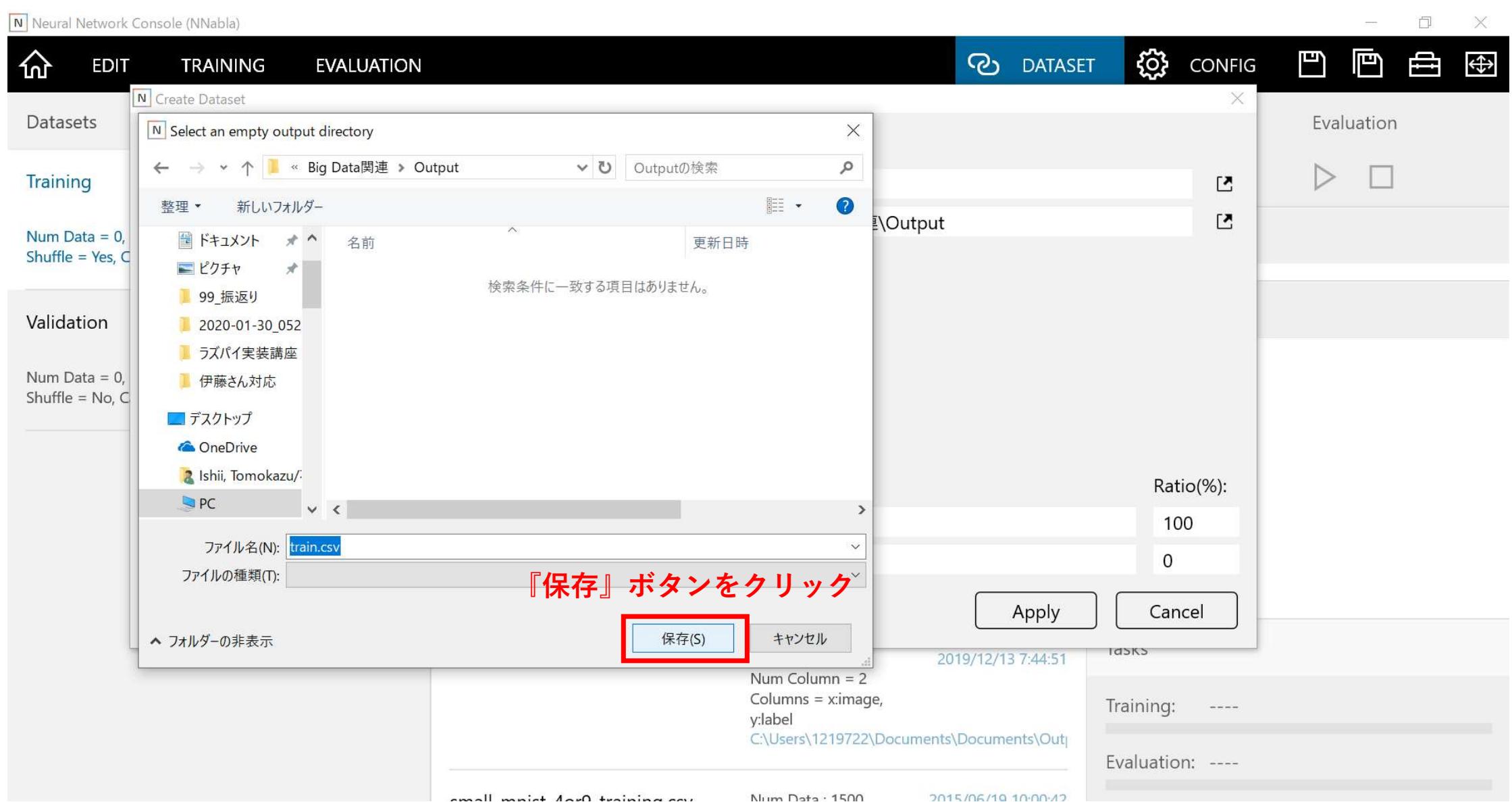
small_mnist_4or9_training.csv Num Data : 1500 2015/06/19 10:00:42

Evaluation

Training: ----

Evaluation: ----





Neural Network Console (NNabla)

EDIT TRAINING EVALUATION DATASET CONFIG

Datasets

Create Dataset

Create Image Classification Dataset

Source Dir: C:\Users\1219722\Documents\Documents\RasPi実装講座

Output Dir: C:\Users\1219722\Documents\Documents\1219722\Big Data関連\Output

Shaping Mode: Trimming Padding Resize

Output Color Ch: 1 (Monochrome) 3 (RGB)

Output Width: 28

Output Height: 28

Shuffle the order of the data

File Name: train.csv Ratio(%): 100

Output File 1: train.csv

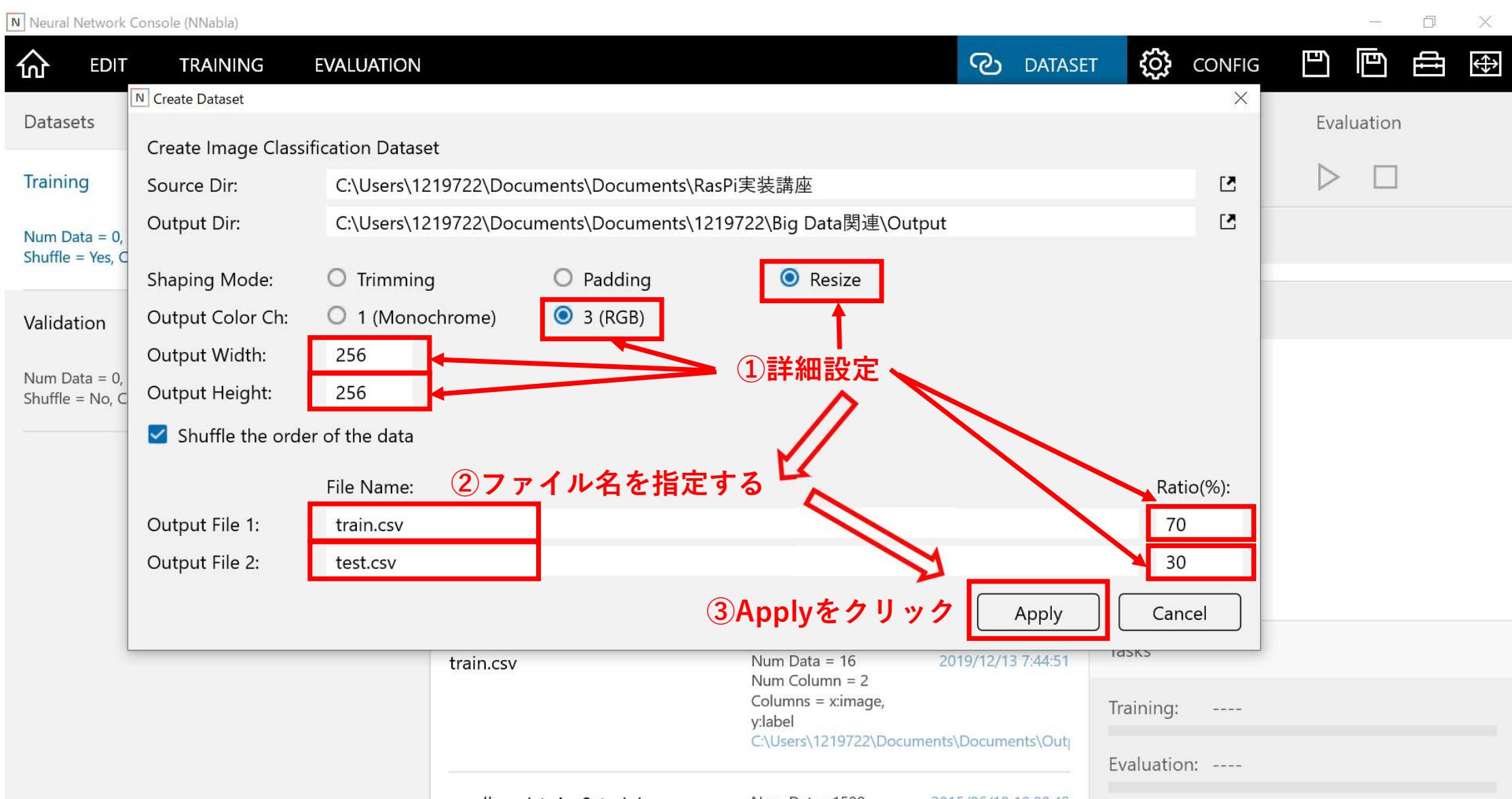
Output File 2: test.csv Ratio(%): 0

Apply Cancel

Evaluation

Source DirとOutput Dirの設定完了

	train.csv	Num Data = 16 Num Column = 2 Columns = x:image, y:label C:\Users\1219722\Documents\Documents\Out	2019/12/13 7:44:51	tasks
	small_mnist_4or9_training.csv	Num Data : 1500	2015/06/19 10:00:42	Training: ---- Evaluation: ----



Neural Network Console (NNabla)

TRAINING

Datasets ACTION URI: (Not Set) DATASET CONFIG

Training MAIN Create Dataset Open Dataset ACTION

Create a new image classification dataset (Ctrl+N) 2019/12/13 9:02:53

Num Column = 2
Columns = x:image,
y:label
C:\Users\1219722\Documents\Documents\Out

Validation

Num Data = 0, Num Column = 0
Shuffle = Yes, Cache = No, Normalize = Yes

Creating dataset...

Abort

2020-02-02 20:36:12,245 [nnabla]: Creating file list...
0% | 0/100 [00:00<?, ?%/s] 97% #####| 97/100 [00:00<00:00, 19450.57%/s]
2020-02-02 20:36:12,252 [nnabla]: Creating output images...

Num Column = 2
Columns = x:image,
y:label
C:\Users\1219722\Documents\Documents\Out

Training: ----

Evaluation: ----

N Neural Network Console (NNabla)

EDIT TRAINING EVALUATION DATASET CONFIG

Datasets ACTION ▾

Training MAIN

train.csv
Num Data = 16, Num Column = 2
Shuffle = Yes, Cache = No, Normalize = Yes

Validation

Num Data = 0, Num Column = 0
Shuffle = No, Cache = No, Normalize = Yes

URI: (Not Set)

Main Shuffle Enable Dataset Cache Image Normalization

Training Evaluation

▶ ⏪ ▶ □ ▶ □

Overview: Main

Statistics

Output	26,956
CostParameter	1,254,664
CostAdd	13,528
CostMultiply	784
CostMultiplyAdd	1,367,296
CostDivision	100
CostExp	100
CostIf	12,544

Tasks

Training: ----

Evaluation: ----

『Validation』をクリック

Neural Network Console (NNabla)

EDIT TRAINING EVALUATION DATASET CONFIG

Datasets ACTION URI: (Not Set) Training Evaluation

Training MAIN Main Shuffle Enable Dataset Cache Image N Open dataset (Ctrl+O)

train.csv
Num Data = 16, Num Column = 2
Shuffle = Yes, Cache = No, Normalize = Yes

Validation

Num Data = 0, Num Column = 0
Shuffle = No, Cache = No, Normalize = Yes

Open dataset を
クリック

Overview: Main

Statistics

Output	26,956
CostParameter	1,254,664
CostAdd	13,528
CostMultiply	784
CostMultiplyAdd	1,367,296
CostDivision	100
CostExp	100
CostIf	12,544

Tasks

Training: ----

Evaluation: ----

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EDIT

TRAINING

EVALUATION



DATASET



CONFIG



Datasets

ACTION ▾

URI: C:\Users\1219722\Documents\Documents\1219722\Big D



Training

Evaluation

Training

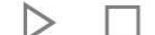
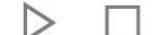
MAIN

+ Create Dataset

↗ Open Dataset

ACTION

Open dataset (Ctrl+O)



train.csv

Num Data = 16, Num Column = 2

Shuffle = Yes, Cache = No, Normalize = Yes

Validation

test.csv

Num Data = 7, Num Column = 2

Shuffle = No, Cache = No, Normalize = Yes

test.csv

Num Data = 7

Num Column = 2

Columns = x:image,

y:label

C:\Users\1219722\Documents\Documents\1219722\Big D

2020/02/02 20:39:48

train.csv

Num Data = 16

Num Column = 2

Columns = x:image,

y:label

C:\Users\1219722\Documents\Documents\1219722\Big D

2020/02/02 20:36:15

test1.csv

Num Data = 7

Num Column = 2

Columns = x:image,

y:label

C:\Users\1219722\Documents\Documents\Out

2019/12/13 9:02:53

train1.csv

Num Data = 16

Num Column = 2

Columns = x:image,

y:label

C:\Users\1219722\Documents\Documents\Out

2019/12/13 9:02:50

test.csv

Num Data = 7

2019/12/13 7:45:36

Overview: Main

Statistics

Output 26,956

CostParameter 1,254,664

CostAdd 13,528

CostMultiply 784

CostMultiplyAdd 1,367,296

CostDivision 100

CostExp 100

CostIf 12,544

Tasks

Training: ----

Evaluation: ----

Neural Network Console (NNabla)

EDIT **TRAINING** **EVALUATION** **DATASET** **CONFIG**

Datasets	ACTION	URI:	C:\Users\1219722\Documents\Documents\1219722\Big D	Training	Evaluation
Training	MAIN	+ Create Dataset	Open Dataset	ACTION	
		test.csv	Num Data = 7 Num Column = 2 Columns = x:image, y:label C:\Users\1219722\Documents\Documents\1219722\Big D	2020/02/02 20:41:32	Overview: Main
		train.csv	Num Data = 16 Num Column = 2 Columns = x:image, y:label C:\Users\1219722\Documents\Documents\1219722\Big D	2020/02/02 20:36:15	Statistics
		test1.csv	Num Data = 7 Num Column = 2 Columns = x:image, y:label C:\Users\1219722\Documents\Documents\Out	2019/12/13 9:02:53	Output 26,956
		train1.csv	Num Data = 16 Num Column = 2 Columns = x:image, y:label C:\Users\1219722\Documents\Documents\Out	2019/12/13 9:02:50	CostParameter 1,254,664
		test.csv	Num Data = 7	2019/12/13 7:45:36	CostAdd 13,528
					CostMultiply 784
					CostMultiplyAdd 1,367,296
					CostDivision 100
					CostExp 100
					CostIf 12,544
					Tasks
					Training: ----
					Evaluation: ----

Neural Network Console (NNabla)

TRAINING **EVALUATION**

DATASET

Datasets ACTION ▾

URI: C:\Users\1219722\Documents\Documents\1219722\Big D []

Training MAIN

Main Shuffle Enable Dataset Cache Image Normalization

Validation

test.csv
Num Data = 7, Num Column = 2
Shuffle = No, Cache = No, Normalize = Yes

Index x:image y:label

1		1
2		1
3		0
4		0

Training Evaluation

Overview: Main

Statistics

- Output 26,956
- CostParameter 1,254,664
- CostAdd 13,528
- CostMultiply 784
- CostMultiplyAdd 1,367,296
- CostDivision 100
- CostExp 100
- CostIf 12,544

Tasks

Training: ----

Evaluation: ----

GPU活用の設定方法

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION DATASET CONFIG

Datasets ACTION URI: C:\Users\ents\Documents\Output\train1.csv Training Evaluation Setup

Main Shuffle Enable Dataset Cache Image Normalize

Training MAIN train1.csv Num Data = 16, Num Column = 2 Shuffle = No, Cache = No, Normalize = Yes

Validation test1.csv Num Data = 7, Num Column = 2 Shuffle = No, Cache = No, Normalize = Yes

Index	x:image	y:label
1		1
2		1
3		1
4		1

Statistics

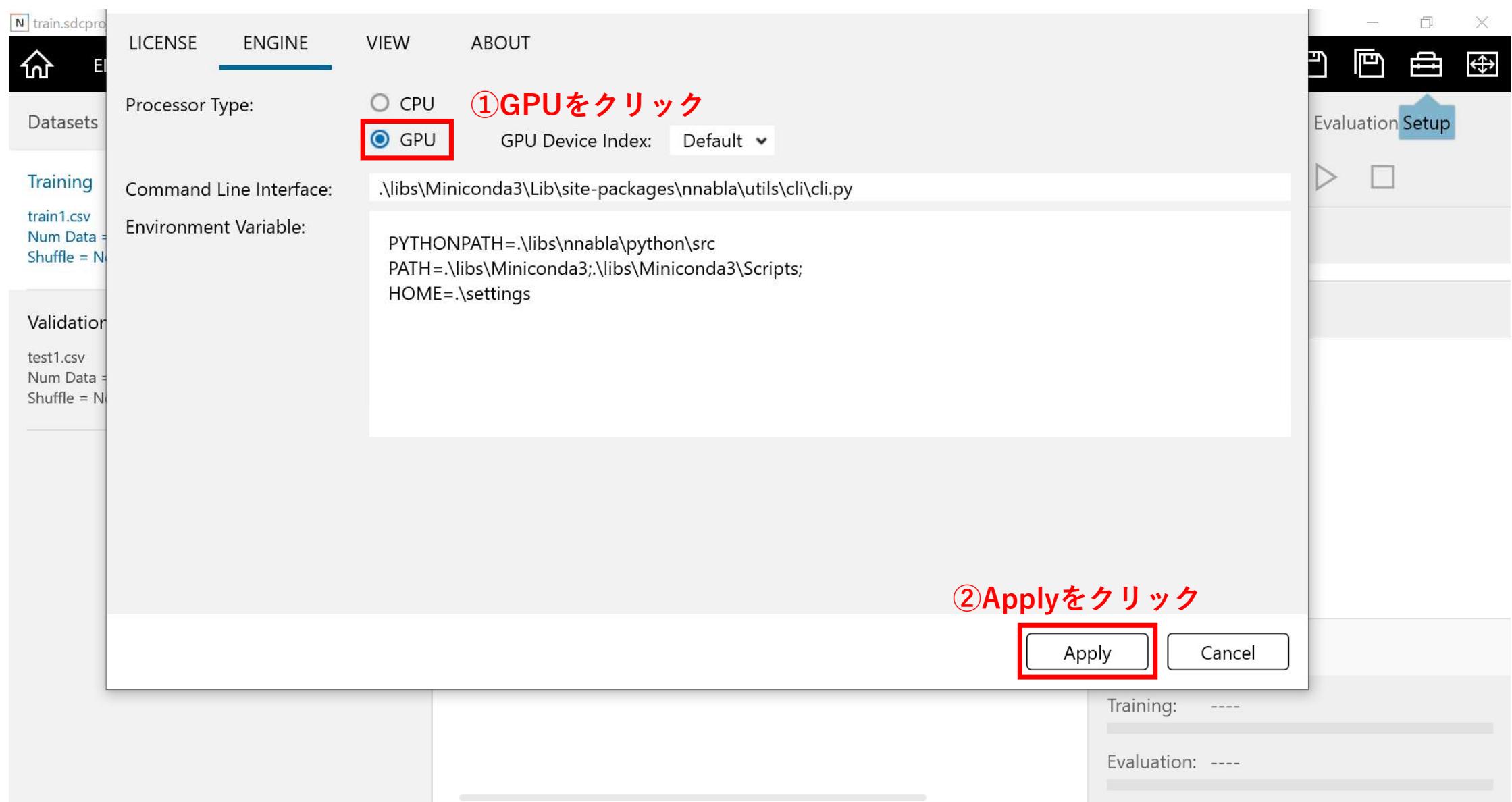
Output	1,902,987
CostParameter	5,743,334
CostAdd	1,079,750
CostMultiply	403,200
CostMultiplyAdd	82,571,952
CostDivision	1
CostExp	1
CostIf	1,082,820

Tasks

Training: ----

Evaluation: ----

Setupを
クリック



各層の詳細設定方法

Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Components Search Text Here

- FusedBatchNormalization
- Dropout
- Concatenate
- Reshape
- Broadcast
- BroadcastTo
- Tile
- Pad
- Flip
- Shift
- Transpose
- Slice
- Stack
- MatrixDiag
- MatrixDiagPart

Layer Property

I	Input	Input
Name	Input	
Size	1, 28, 28	
Dataset	x	
Generator	None	

Main x +

Input
Dataset: x 1, 28, 28

B BatchNormalization m, g, v 1, 28, 28

C Convolution KernelShape: 3, 3 16, 28, 28

R ReLU 16, 28, 28

A Average 100

S Sigmoid 100

B BinaryCrossEntropy T.Dataset: y 100

Training Evaluation

Overview: Main

Statistics

Output	26,956
CostParameter	1,254,664
CostAdd	13,528
CostMultiply	784
CostMultiplyAdd	1,367,296
CostDivision	100
CostExp	100
CostIf	12,544

Tasks

Training: ----

Evaluation: ----

Neural Network Console (NNabla)

EDIT TRAINING EVALUATION DATASET CONFIG

Components Search Text Here

- FusedBatchNormalization
- Dropout
- Concatenate
- Reshape
- Broadcast**
- BroadcastTo
- Tile
- Pad
- Flip
- Shift
- Transpose
- Slice
- Stack
- MatrixDiag
- MatrixDiagPart

Layer Property

I Input

Name: Input
Size: **3,256,256** (1) 詳細を変更
Dataset: x

Main

Input Dataset : x 3, 256, 256

B BatchNormalization 3, 256, 256

C Convolution KernelShape 16, 256, 256

R ReLU 16, 256, 256

A Affine 100

S Sigmoid 100

B BinaryCrossEntropy T.Dataset : y 100

②左記に反映される

Training Evaluation

Overview: Main

Statistics

Output	2,490,668
CostParameter	104,858,160
CostAdd	1,245,384
CostMultiply	196,608
CostMultiplyAdd	133,169,152
CostDivision	100
CostExp	100
CostIf	1,048,576

Tasks

Training: ----

Evaluation: ----

Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Components Search Text Here

- FusedBatchNormalization
- Dropout
- Concatenate
- Reshape
- Broadcast
- BroadcastTo
- Tile**
- Pad
- Flip
- Shift
- Transpose
- Slice
- Stack
- MatrixDiag
- MatrixDiagPart

Layer Property

I Input

Dataset

Generator

GeneratorMultiplier

Output

Main x +

Input Dataset : x 3, 256, 256

B BatchNormalization m, g, v 3, 256, 256

C Convolution KernelShape : 3, 3 w, b 16, 256, 256

R ReLU 16, 256, 256

A Affine w, b 100

S Sigmoid 100

B BinaryCrossEntropy T.Dataset : y 100

DATASET CONFIG

Training Evaluation

Overview: Main

Statistics

Output	2,490,668
CostParameter	104,858,160
CostAdd	1,245,384
CostMultiply	196,608
CostMultiplyAdd	133,169,152
CostDivision	100
CostExp	100
CostIf	1,048,576

Tasks

Training: ----

Evaluation: ----

Outputが変更されている

Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Components Search Text Here

- FusedBatchNormalization
- Dropout
- Concatenate
- Reshape
- Broadcast
- BroadcastTo
- Tile
- Pad
- Flip
- Shift
- Transpose
- Slice
- Stack
- MatrixDiag
- MatrixDiagPart

Layer Property

C Convolution

Name Convolution
Input 3, 256, 256
OutMaps 16

Main

Input Dataset : x 3, 256, 256

B BatchNormalization 3, 256, 256

C Convolution KernelShape : 3, 3 16, 256, 256

R ReLU 16, 256, 256

A Affine 100

S Sigmoid 100

B BinaryCrossEntropy T.Dataset : y 100

①Convolution層をクリック

②詳細が表示される

DATASET CONFIG

Training Evaluation

Overview: Main

Statistics

Input	2,490,668
CostParameter	104,858,160
CostAdd	1,245,384
CostMultiply	196,608
CostMultiplyAdd	133,169,152
CostDivision	100
CostExp	100
CostIf	1,048,576

Tasks

Training: ----

Evaluation: ----

The screenshot shows the NNabla interface with a central workspace displaying a neural network diagram. The diagram consists of several layers: Input, BatchNormalization, Convolution (highlighted with a red box), ReLU, Affine, Sigmoid, and BinaryCrossEntropy. A red arrow points from the 'Convolution' layer to a tooltip labeled '①Convolution層をクリック'. Another red arrow points from the 'Convolution' layer to the 'Layer Property' panel on the left, which displays details for the selected layer: Name: Convolution, Input: 3, 256, 256, OutMaps: 16. The 'Layer Property' panel also features a 'C' icon and a 'Convolution' label.

Neural Network Console (NNabla)

TRAINING

Components Search Text Here

- FusedBatchNormalization
- Dropout
- Concatenate
- Reshape
- Broadcast
- BroadcastTo
- Tile
- Pad
- Flip**
- Shift
- Transpose
- Slice
- Stack
- MatrixDiag
- MatrixDiagPart

Layer Property

C Convolution

KernelShape	3, 3	3, 256, 256
BorderMode	same	3, 256, 256
Padding	1, 1	16, 256, 256
Stride	1, 1	100

Main

Training

Evaluation

Overview: Main

Statistics	
Output	2,490,668
CostParameter	104,858,160
CostAdd	1,245,384
CostMultiply	196,608
CostMultiplyAdd	133,169,152
CostDivision	100
CostExp	100
CostIf	1,048,576

Tasks

Training: ----

Evaluation: ----

今は、詳細を変更せず、
そのままにする

N Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Components Search Text Here

Main

Input Dataset : x 3, 256, 256

B BatchNormalization m, v 3, 256, 256

C Convolution KernelShape : 3, 3 16, 256, 256

R ReLU 16, 256, 256

A Affine w, b 100

S Sigmoid 100

B BinaryCrossEntropy T.Dataset : y 100

①Affine層をクリック

②詳細が表示される
⇒ 詳細を変更

Training Evaluation

Overview: Main

Statistics

Output	2,490,668
CostParameter	104,858,160
CostAdd	1,245,384
CostMultiply	196,608
CostMultiplyAdd	133,169,152
CostDivision	100
CostExp	100
CostIf	1,048,576

Tasks

Training: ----

Evaluation: ----

The screenshot shows the NNabla interface with a main workspace displaying a neural network diagram and a detailed properties panel for the 'Affine' layer.

Main Workspace:

- Nodes listed vertically: Input, BatchNormalization, Convolution, ReLU, Affine, Sigmoid, BinaryCrossEntropy.
- Input node: Dataset : x, shape 3, 256, 256.
- BatchNormalization node: m, v, shape 3, 256, 256.
- Convolution node: KernelShape : 3, 3, shape 16, 256, 256.
- ReLU node: shape 16, 256, 256.
- Affine node (highlighted with a red box):** w, b, shape 100.
- Sigmoid node: shape 100.
- BinaryCrossEntropy node: T.Dataset : y, shape 100.

Properties Panel (Bottom Left):

Affine

Name	Affine
Input	16, 256, 256
OutShape	100

Right Panel (Statistics):

Overview: Main

Statistics	
Output	2,490,668
CostParameter	104,858,160
CostAdd	1,245,384
CostMultiply	196,608
CostMultiplyAdd	133,169,152
CostDivision	100
CostExp	100
CostIf	1,048,576

Bottom Right Panel (Tasks):

Training: ----

Evaluation: ----

N Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Components Search Text Here

Main

Input Dataset : x 3, 256, 256

B BatchNormalization m v 3, 256, 256

C Convolution KernelShape : 3, 3 w b 16, 256, 256

R ReLU 16, 256, 256

A Affine w b 1

S Sigmoid 1

B BinaryCrossEntropy T D 1

②左記に反映される

①詳細を変更

Training Evaluation

Overview: Main

Statistics

Output	2,490,371
CostParameter	1,049,037
CostAdd	1,245,186
CostMultiply	196,608
CostMultiplyAdd	29,360,128
CostDivision	1
CostExp	1
CostIf	1,048,576

Tasks

Training: ----

Evaluation: ----

The screenshot shows the NNabla interface with a central workspace displaying a neural network diagram. The diagram consists of several layers: Input, BatchNormalization, Convolution, ReLU, Affine, Sigmoid, and BinaryCrossEntropy. Each layer has specific parameters and shapes listed next to it. A red arrow points from the 'Affine' layer in the diagram to a detailed configuration panel on the left, which is highlighted with a red box. This panel shows the layer name 'Affine', its type 'Affine', and its input shape '16, 256, 256'. Another red arrow points from this panel to the right side of the interface, where a red box highlights the '1' value in the 'OutShape' field of the configuration panel. To the right of the diagram, there is a statistics table listing various cost components and their counts. Below the statistics is a 'Tasks' section with 'Training' and 'Evaluation' status indicators.

學習方法

Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

DATASET CONFIG

Components Search Text Here

Main

Run training を走らせる

Training Evaluation

Run training (F5)

Statistics

Output	2,490,371
CostParameter	1,049,037
CostAdd	1,245,186
CostMultiply	196,608
CostMultiplyAdd	29,360,128
CostDivision	1
CostExp	1
CostIf	1,048,576

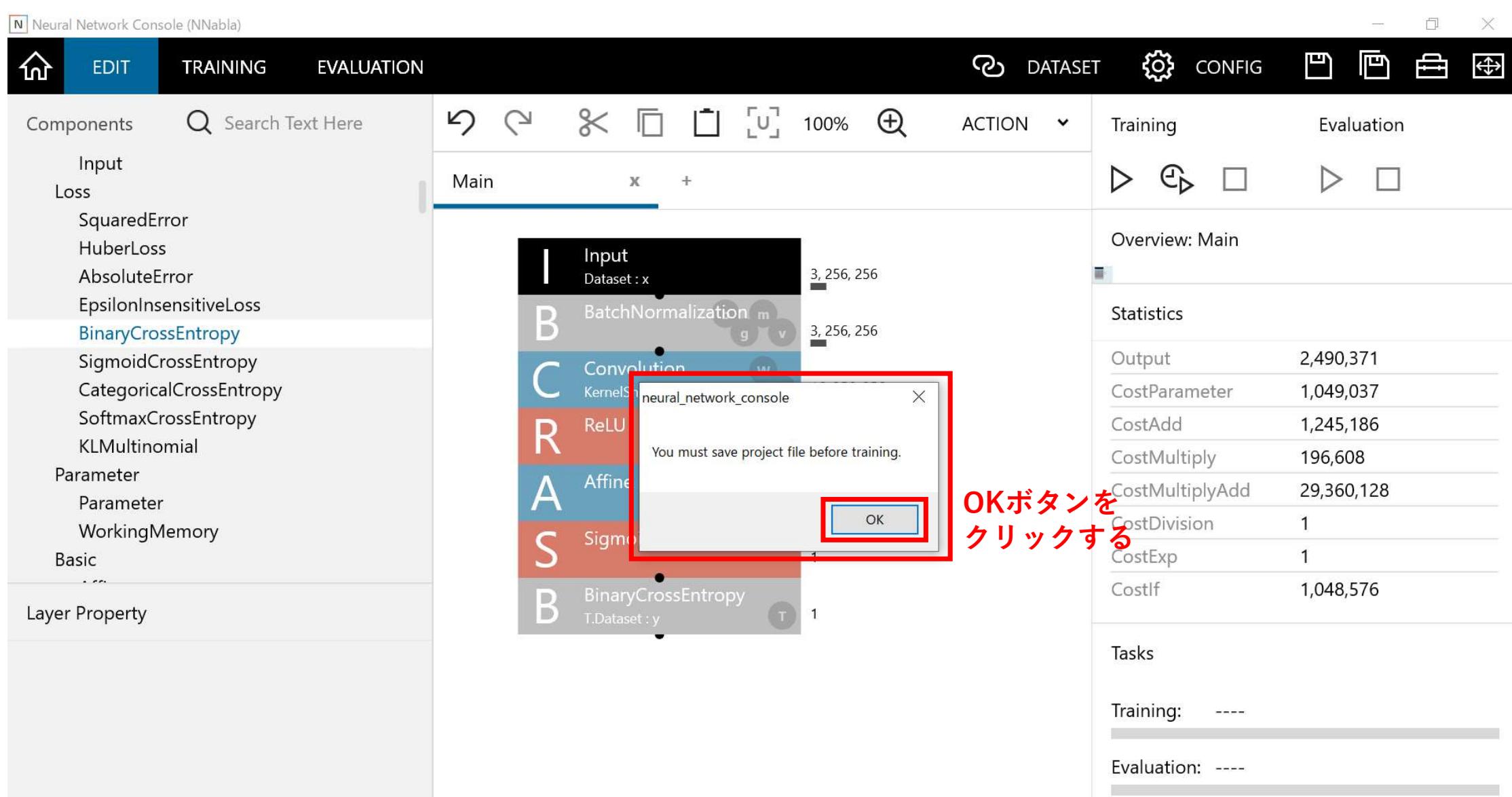
Tasks

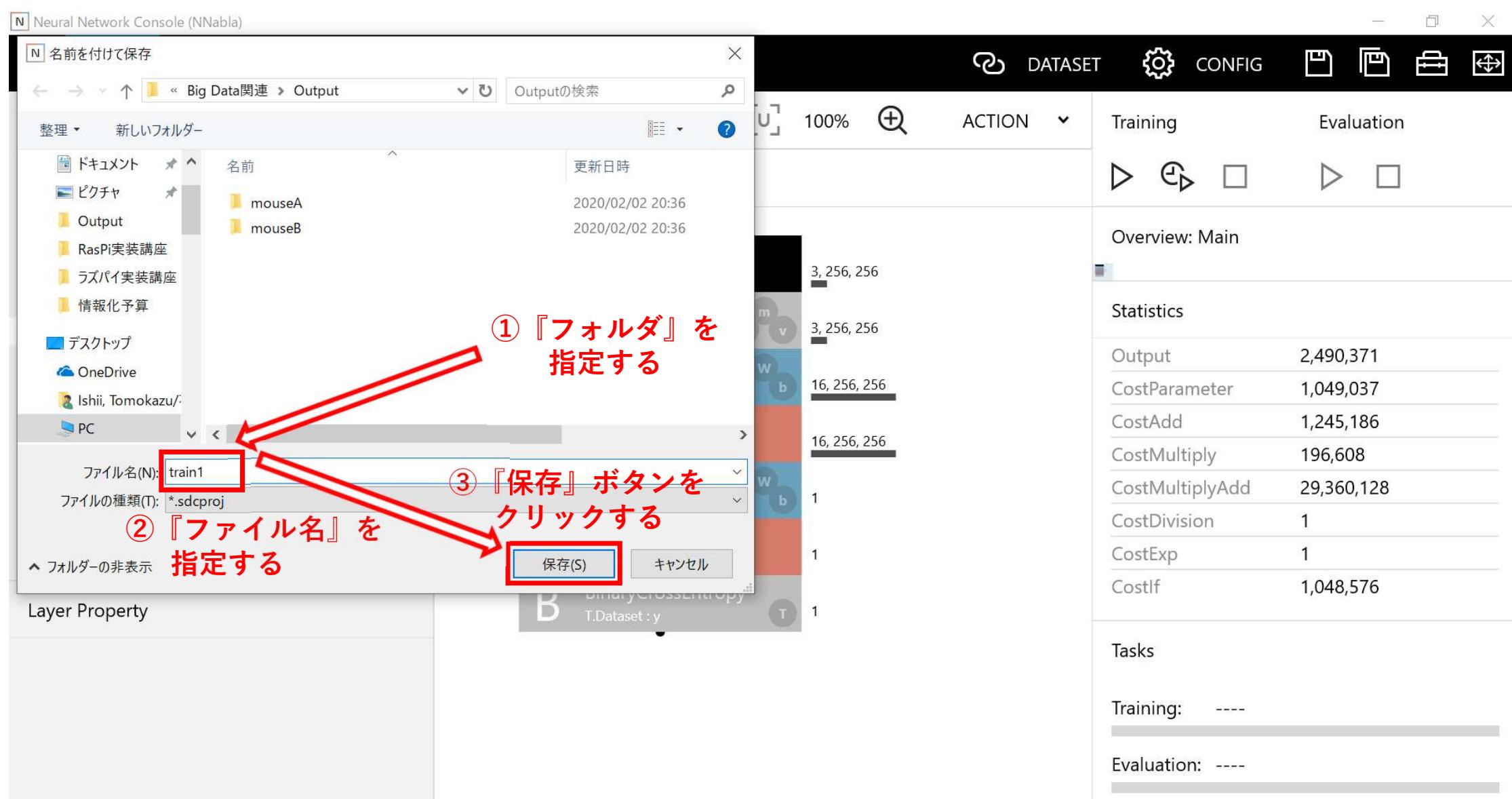
Training: ----

Evaluation: ----

```

graph TD
    I[Input  
Dataset: x] --> B[BatchNormalization]
    B --> C[Convolution  
KernelShape: 3, 3]
    C --> R[ReLU]
    R --> A[Affine]
    A --> S[Sigmoid]
    S --> B[BinaryCrossEntropy  
T.Dataset: y]
  
```





N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Elapsed: --:--:--:-- Remaining: --:--:--:-- Total: -

Training Evaluation

Learning Curve Trade-off Graph All

Overview: Main

Statistics

Output	2,490,371
CostParameter	1,049,037
CostAdd	1,245,186
CostMultiply	196,608
CostMultiplyAdd	29,360,128
CostDivision	1
CostExp	1
CostIf	1,048,576

『Batch size is larger than dataset』 の
エラーが出た場合は設定を変更する

[Error 1] Batch size is larger than dataset "Training".
[Error 2] Batch size is larger than dataset "Validation".
2 errors.

Tasks

Training:

Evaluation:

This screenshot shows the NNabla Neural Network Console interface. The top navigation bar includes 'EDIT', 'TRAINING' (which is selected), and 'EVALUATION'. Below the navigation is a header with 'Elapsed', 'Remaining', and 'Total' time fields, followed by 'Training' and 'Evaluation' buttons. A dropdown menu for 'ACTION' is open, showing 'Learning Curve' (selected) and 'Trade-off Graph'. To the right, there's a 'DATASET' button and a 'CONFIG' button. On the far right are standard window control buttons. The main content area has a large red warning message: '『Batch size is larger than dataset』 のエラーが出た場合は設定を変更する' (Change settings if 'Batch size is larger than dataset' error occurs). Below this, two error messages are listed: '[Error 1] Batch size is larger than dataset "Training"' and '[Error 2] Batch size is larger than dataset "Validation"', followed by a note '2 errors.' To the right of the error message, there are sections for 'Overview: Main', 'Statistics' (with a table of output counts for various operations like CostParameter, CostAdd, etc.), 'Tasks' (with 'Training:' and 'Evaluation:' progress bars), and a section for 'Evaluation'.

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

DATASET CONFIG

①『CONFIG』をクリックする

Training Evaluation

Project Description:

Max Epoch: 100 Save Best
Batch Size: 64

Optimizer OPTIMIZER

Network = Main
Dataset = Training

train_error MONITOR

Network = MainValidation
Dataset = Training

valid_error MONITOR

Network = MainValidation
Dataset = Validation

Executor EXECUTOR

Network = MainRuntime
Dataset = Validation

②『Max Epoch』と『Batch Size』を変更する

Structure Search:
Enable Method: Random
Optimize for: Error and Calculation
Search Range: Min Validation Multiply Add
Early Stopping
Time Limit (days:hours:minutes:seconds):

Statistics

Output	2,490,371
CostParameter	1,049,037
CostAdd	1,245,186
CostMultiply	196,608
CostMultiplyAdd	29,360,128
CostDivision	1
CostExp	1
CostIf	1,048,576

Tasks

Training: ----

Evaluation: ----

The screenshot shows the NNabla console interface. The top navigation bar includes 'EDIT', 'TRAINING', 'EVALUATION', 'DATASET', and a redboxed 'CONFIG' button. Below the navigation is a toolbar with icons for saving, opening, and other operations. The main area has tabs for 'Config' and 'ACTION'. A 'Global Config' section shows 'Max Epoch = 100' and 'Batch Size = 64'. On the left, sections for 'Optimizer', 'train_error', 'valid_error', and 'Executor' are listed with their respective network and dataset configurations. The central part of the screen is titled 'Project Description:' and contains fields for 'Max Epoch' (set to 100), 'Batch Size' (set to 64), 'Precision' (set to 'Float'), 'Monitor Interval' (set to 10), and 'Structure Search' options. Red boxes highlight the 'Max Epoch' and 'Batch Size' input fields. Red text instructions above these fields say '①『CONFIG』をクリックする' (Click on CONFIG) and '②『Max Epoch』と『Batch Size』を変更する' (Change Max Epoch and Batch Size). To the right, there's a 'Statistics' table with various performance metrics and a 'Tasks' section showing progress bars for 'Training' and 'Evaluation'.

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION DATASET CONFIG

Config ACTION

Global Config
Max Epoch = 30
Batch Size = 8

Optimizer OPTIMIZER
Network = Main
Dataset = Training

train_error MONITOR
Network = MainValidation
Dataset = Training

valid_error MONITOR
Network = MainValidation
Dataset = Validation

Executor EXECUTOR
Network = MainRuntime
Dataset = Validation

Project Description:

『Max Epoch』の『default値：100』
→ 試行なので『30』程度に変更

『Batch Size』を、train画像の枚数
より小さくする
ex.) 『64』 ⇒ 『8』 or 『16』に変更する

Max Epoch: 30
Batch Size: 8
Precision: Float
Monitor Interval: 10
Structure Search:
 Enable
 Method: Random
 Optimize for: Error and Calculation
 Search Range: Min
 Validation
 Multiply Add
 Early Stopping
 Time Limit (days:hours:minutes:seconds):

Training Evaluation

Overview: Main

	Statistics
Output	7,546,252
CostParameter	35,691,688
CostAdd	4,271,814
CostMultiply	605,632
CostMultiplyAdd	339,424,224
CostDivision	1
CostExp	1
CostIf	4,312,773

Tasks

Training: ----

Evaluation: ----

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION DATASET CONFIG

Config ACTION ▾

Global Config

Max Epoch = 30
Batch Size = 8

Optimizer OPTIMIZER

Network = Main
Dataset = Training

train_error MONITOR

Network = MainValidation
Dataset = Training

valid_error MONITOR

Network = MainValidation
Dataset = Validation

Executor EXECUTOR

Network = MainRuntime
Dataset = Validation

Project Description:

Run training を走らせる

Training Evaluation

Run training (F5)

Statistics

Output	7,546,252
CostParameter	35,691,688
CostAdd	4,271,814
CostMultiply	1,605,632
CostMultiplyAdd	339,424,224
CostDivision	1
CostExp	1
CostIf	4,312,773

Tasks

Training: ----

Evaluation: ----

Max Epoch: 30 Save Best

Batch Size: 8

Precision: Float ▾

Monitor Interval: 10 epoch

Structure Search: Enable

Method: Random

Optimize for: Error and Calculation

Search Range: Min

Validation

Multiply Add

Early Stopping

Time Limit (days:hours:minutes:seconds):

The screenshot shows the NNabla console interface. On the left, there are sections for Global Config (Max Epoch = 30, Batch Size = 8), Optimizer (Network = Main, Dataset = Training), Monitor (train_error, valid_error), and Executor (Network = MainRuntime, Dataset = Validation). The main area has a 'Run training' button highlighted with a red box. The right side shows Statistics (Output: 7,546,252, etc.) and Tasks (Training: ----, Evaluation: ----).

N train.sdcproj - Neural Network Console (NNabla)

TRAINING

Results History ACTION ▾

20200203_093023 TRAINING

Training 0.409109
Validation 0.893036
Best Validation 0.722488 @ epoch 2
CostMultiplyAdd 82,571,952

Elapsed: 00:00:00:11 Remaining: 00:00:01:10 Total: 00:00:01:22

Learning Curve Trade-off Graph: All

Learning Curve COST TRAINING ERROR VALIDATION ERROR

Cost Error

Epoch 0 1 2 3

0.60 0.80 1.00

4.000 2.000

学習曲線が表示される

```

2020-02-03 09:30:25,505 [nnabla]: Creating cache data for "C:\Users\12197"
2020-02-03 09:30:25,393 [nnabla]: Creating cache data for "C:\Users\12197"
2020-02-03 09:30:25,682 [nnabla]: Train with contexts ['cpu']
2020-02-03 09:30:25,721 [nnabla]: Training epoch 1 of 30 begin
2020-02-03 09:30:28,733 [nnabla]: epoch 1 of 30 cost=1.035316 {train_errc
2020-02-03 09:30:31,239 [nnabla]: epoch 2 of 30 cost=0.992489 {train_errc
2020-02-03 09:30:33,143 [nnabla]: epoch 3 of 30 cost=0.581522 {train_errc
Training : cost=0.184723 (25.00%)

```

Training Evaluation

Training Evaluation

Overview: Main

Statistics

Output	1,902,987
CostParameter	5,743,334
CostAdd	1,079,750
CostMultiply	403,200
CostMultiplyAdd	82,571,952
CostDivision	1
CostExp	1
CostIf	1,082,820

Tasks

Training: 20200203_093023

Evaluation: 20200203_093023

N train.sdcproj - Neural Network Console (NNabla)

— □ ×

TRAINING

Results History ACTION ▾

20200203_093023 PARETO OPTIMAL

Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ epoch 30
CostMultiplyAdd 82,571,952

Elapsed: 00:00:00:55 Remaining: 00:00:00:00 Total: 00:00:00:55

Learning Curve Trade-off Graph: All

Learning Curve COST TRAINING ERROR VALIDATION ERROR

Cost

Epoch

Error

学習が終了する

2020-02-03 09:31:12,475 [nnabla]: epoch 20 of 30 cost=0.000000 time=(4s)
2020-02-03 09:31:13,879 [nnabla]: epoch 27 of 30 cost=0.000000 time=(4s)
2020-02-03 09:31:15,286 [nnabla]: epoch 28 of 30 cost=0.000000 time=(4s)
2020-02-03 09:31:16,670 [nnabla]: epoch 29 of 30 cost=0.000000 time=(5s)
2020-02-03 09:31:19,173 [nnabla]: epoch 30 of 30 cost=0.000000 {train_error}
2020-02-03 09:31:19,788 [nnabla]: Training Completed.
NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)

DATASET CONFIG

Training Evaluation

▶ 🔍 □ ▶ □

Overview: Main

Statistics

Output 1,902,987
CostParameter 5,743,334
CostAdd 1,079,750
CostMultiply 403,200
CostMultiplyAdd 82,571,952
CostDivision 1
CostExp 1
CostIf 1,082,820

Tasks

Training: 20200203_093023

Evaluation: 20200203_093023

推論方法

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

RESULTS HISTORY ACTION ▾

20200203_093023 PARETO OPTIMAL

Training Cost: 0.000000
Validation Cost: 0.000010
Best Validation Cost: 0.000010 @ epoch 30
CostMultiplyAdd: 82,571,952

Elapsed: 00:00:00:55 Remaining: 00:00:00:00 Total: 00:00:00:55

Learning Curve Trade-off Graph: All

Learning Curve COST TRAINING ERROR VALIDATION ERROR

Cost Error

```

2020-02-03 09:31:12,475 [nnabla]: epoch 20 of 30 cost=0.000000 time=(4s)
2020-02-03 09:31:13,879 [nnabla]: epoch 27 of 30 cost=0.000000 time=(4s)
2020-02-03 09:31:15,286 [nnabla]: epoch 28 of 30 cost=0.000000 time=(4s)
2020-02-03 09:31:16,670 [nnabla]: epoch 29 of 30 cost=0.000000 time=(5s)
2020-02-03 09:31:19,173 [nnabla]: epoch 30 of 30 cost=0.000000 {train_error}
2020-02-03 09:31:19,788 [nnabla]: Training Completed.
NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)

```

Training Evaluation

Run evaluation (F6) Run evaluation を走らせる

Overview: Main Statistics

Output	1,902,987
CostParameter	5,743,334
CostAdd	1,079,750
CostMultiply	403,200
CostMultiplyAdd	82,571,952
CostDivision	1
CostExp	1
CostIf	1,082,820

Tasks

Training: 20200203_093023

Evaluation: 20200203_093023

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Elapsed: 00:00:00:04 Remaining: 00:00:00:00 Total: 00:00:00:04

Output Result Confusion Matrix: $y - y'$

Index	x:image	y:label
1		0
2		1

--replace_pain
 2020-02-03 09:32:49,002 [nnabla]: data 2 / 7
 2020-02-03 09:32:49,050 [nnabla]: data 4 / 7
 2020-02-03 09:32:49,102 [nnabla]: data 6 / 7
 2020-02-03 09:32:49,156 [nnabla]: data 7 / 7
 2020-02-03 09:32:49,159 [nnabla]: Forward Completed.
 NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)

Training Evaluation

▶ ⏪ □ ▶ □

Overview: Main

Statistics

Output 1,902,987
 CostParameter 5,743,334
 CostAdd 1,079,750
 CostMultiply 403,200
 CostMultiplyAdd 82,571,952
 CostDivision 1
 CostExp 1
 CostIf 1,082,820

Tasks

Training: 20200203_093023
 Evaluation: 20200203_093023

推論が完了する

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Elapsed: 00:00:00:04 Remaining: 00:00:00:00 Total: 00:00:00:00

Output Result Confusion Matrix: $y - y'$

Index	y:label	y'
3	1	0.9999405
4	0	9.041383e-16

--replace_pain
 2020-02-03 09:32:49,002 [nnabla]: data 2 / 7
 2020-02-03 09:32:49,050 [nnabla]: data 4 / 7
 2020-02-03 09:32:49,102 [nnabla]: data 6 / 7
 2020-02-03 09:32:49,156 [nnabla]: data 7 / 7
 2020-02-03 09:32:49,159 [nnabla]: Forward Completed.
 NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)

Training Evaluation

Overview: Main

Statistics

Output	1,902,987
CostParameter	5,743,334
CostAdd	1,079,750
CostMultiply	403,200
CostMultiplyAdd	82,571,952
CostDivision	1
CostExp	1
CostIf	1,082,820

Tasks

Training: 20200203_093023

Evaluation: 20200203_093023

右にスクロールすると『ラベル結果』と『確率』が表示される

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Elapsed: 00:00:00:04 Remaining: 00:00:00:00 Total: 00:00:00:04

Output Result Confusion Matrix: $y - y'$

Training Evaluation

Results History ACTION ▾

20200203_093023 PARETO OPTIMAL

Training Validation Best Validation CostMultiplyAdd
0.000000 0.000010 0.000010 @ epoch 30 82,571,952

『Confusion Matrix』をクリックする

	$y' = 0$	$y' = 1$	Recall
y:label=0	4	0	1
y:label=1	0	3	1
Precision	1	1	
F-Measures	1	1	
Accuracy	1		

```
--replace_pain
2020-02-03 09:32:49,002 [nnabla]: data 2 / 7
2020-02-03 09:32:49,050 [nnabla]: data 4 / 7
2020-02-03 09:32:49,102 [nnabla]: data 6 / 7
2020-02-03 09:32:49,156 [nnabla]: data 7 / 7
2020-02-03 09:32:49,159 [nnabla]: Forward Completed.
NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)
```

Overview: Main

Statistics

- Output 1,902,987
- CostParameter 5,743,334
- CostAdd 1,079,750
- CostMultiply 403,200
- CostMultiplyAdd 82,571,952
- CostDivision 1
- CostExp 1
- CostIf 1,082,820

Tasks

Training: 20200203_093023

Evaluation: 20200203_093023

報告資料の 自動書き出し方法

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Results History

ACTION ▾

Elapsed: 00:00:00:04 Remaining: 00:00:00:00 Total: 00:00:00:00

Training Evaluation

20200203_093023

Open Result Location
Rename
Refresh
Open Learning Curve for Comparison
Clear Learning Curve for Comparison
Export
Open in EDIT Tab
Open in EDIT Tab with Weight
Force Complete
Retrain (in place)
Retrain (not in place)
Retrain All (in place)
Cancel Schedule
Cancel All Scheduled Task
Resume Scheduled Task
More Tools
Delete from Disk
Delete All Incomplete Results from Disk

『ACTION』をクリックする

Fusion Matrix: $y - y'$

		$y' = 1$	Recall
0	0	1	
	3	1	
1	1		
	1		

Overview: Main

Statistics

- Output 1,902,987
- CostParameter 5,743,334
- CostAdd 1,079,750
- CostMultiply 403,200
- CostMultiplyAdd 82,571,952
- CostDivision 1
- CostExp 1
- CostIf 1,082,820

Tasks

Training: 20200203_093023

Evaluation: 20200203_093023

2020-02-03 09:32:49,159 [nnabla]: Forward Completed.
NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Elapsed: 00:00:00:04 Remaining: 00:00:00:00 Total: 00:00:00:00

Training Evaluation

Results History

ACTION ▾

20200203_093023

Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ epoch 82,571,952

Open Result Location
Rename
Refresh
Open Learning Curve for Comparison
Clear Learning Curve for Comparison
Export
Open in EDIT Tab
Open in EDIT Tab with Weight
Force Complete
Retrain (in place)
Retrain (not in place)
Retrain All (in place)
Cancel Schedule
Cancel All Scheduled Task
Resume Scheduled Task
More Tools
Delete from Disk
Delete All Incomplete Results from Disk

Union Matrix: $y - y'$

$y' = 1$ Recall

0 1

NNP (Neural Network Libraries file format)
NNB (NNabla C Runtime file format)
ONNX
pptx beta
html beta

『Export』 → 『pptx beta』 をクリックする

bla]: data 2 / 7
bla]: data 4 / 7
bla]: data 6 / 7
bla]: data 7 / 7

2020-02-03 09:32:49,159 [nnabla]: Forward Completed.
NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)

DATASET CONFIG

Training: 20200203_093023
Evaluation: 20200203_093023

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Results History ACTION ▾

	Elapsed: 00:00:00:55	Remaining: 00:00:00:30	Total: 00:00:00:85	Training	Evaluation
<input checked="" type="checkbox"/> 20200203_093023	PARETO OPTIMAL	<input checked="" type="radio"/> Learning Curve <input type="radio"/> Trade-off Graph:	All 100% <input type="button" value="+"/>	<input type="button" value="▶"/> <input type="button" value="⟳"/> <input type="button" value="□"/> <input type="button" value="◀"/> <input type="button" value="⟲"/> <input type="button" value="□"/>	
Training Validation Best Validation CostMultiplyAdd	0.000000 0.000010 0.000010 @ epoch 30 82,571,952	EVALUATED		Overview: Main	

Exporting ... pptx



```

2020-02-03 09:43:42,159 [nnabla]: Exporting configuration report...
2020-02-03 09:43:42,162 [nnabla]: Exporting experimental result...
2020-02-03 09:43:42,247 [nnabla]: Exporting references...
2020-02-03 09:43:42,251 [nnabla]: Saving pptx file...
2020-02-03 09:43:42,313 [nnabla]: Export pptx completed successfully.

```

2020-02-03 09:31:16,670 [nnabla]: epoch 29 of 30 cost=0.000000 time=(50)
2020-02-03 09:31:19,173 [nnabla]: epoch 30 of 30 cost=0.000000 {train_end}
2020-02-03 09:31:19,788 [nnabla]: Training Completed.
NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)

Training: 20200203_093023

Evaluation: 20200203_093023

report.pptx - PowerPoint

Ishii, Tomokazu/石井 伴和 共有

ファイル ホーム 挿入 デザイン 画面切り替え アニメーション スライド ショー 校閲 表示 DocuWorks 実行したい作業を入力してください...

切り取り 剪貼り 署名のコピー/貼り付け クリップボード

レイアウト リセット 新しい セクション スライド

フォント 文字列の方向 文字の配置 SmartArt に変換

段落

図形描画 配置 クイックスタイル 図形の効果

検索 置換 選択

編集

1 train

2 Dataset : Training
Number of data: 16
- Variable x (image)
- Class: 0, 1, 2, 3
- Shape: 0, 1, 2, 3
- Type: 0, 1, 2, 3

3 Dataset : Examples of variable x in "Training"
4 Dataset : Validation
Number of data: 7
- Variable x (image)
- Class: 0, 1, 2, 3
- Shape: 0, 1, 2, 3
- Type: 0, 1, 2, 3

5 Dataset : Examples of variable x in "Validation"

6 Network Architecture : Main

報告用資料の『report.pptx』
ファイルが作成される

train

サブタイトルを入力

ノートを入力

スライド 1/10 日本語

ノート コメント 回 視聴豆 - + 85% 58

Grad-CAM (画像識別判断根拠) の表示方法

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Elapsed: 00:00:00:04 Remaining: 00:00:00:00 Total: 0 Training Evaluation

20200203_093023 PARETO OPTIMAL Output Result Confusion Matrix: $y - y'$

Training Validation Best Validation CostMultiplyAdd 0.000000 0.000010 0.000010 @ epoch 30 82,571,952 EVALUATED

①『Output Result』をクリックする

Index x:image y:label

1	 C:\Users\1219722\Documents\... c, 128, 128	0
2	 C:\Users\1219722\... c, 128, 128	0

Open Open File Location Sort Save CSV as... Plugin More Tools Check Consistency Cross Tabulation Grad-CAM Parameter Stats Tile Images

②写真を右クリックする

Output 1,902,987
CostParameter 5,743,334
CostAdd 1,079,750
CostMultiplyAdd 403,200
CostGradAdd 82,571,952
Add 1
1
1,082,820

③『Plugin』→『Grad-CAM』をクリックする

--replace_pain
2020-02-03 09:32:49,002 [nnabla]: data 2 / 7
2020-02-03 09:32:49,050 [nnabla]: data 4 / 7
2020-02-03 09:32:49,102 [nnabla]: data 6 / 7
2020-02-03 09:32:49,156 [nnabla]: data 7 / 7
2020-02-03 09:32:49,159 [nnabla]: Forward Completed.
NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)

Training: 20200203_093023
Evaluation: 20200203_093023

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

RESULTS HISTORY

20200203_093023

Training	0.000000
Validation	0.000010
Best Validation	0.000010 @ 82,571,952
CostMultiplyAdd	

Grad-CAM

Grad-CAM: Visual Explanations from Deep Networks via Gradient-based Localization
Ramprasaath R. Selvaraju, Michael Cogswell, Abhishek Das, Ramakrishna Vedantam, Devi Parikh, Dhruv Batra
<https://arxiv.org/abs/1610.02391>

model - path to model nnp file (model)
results.nnp

image - path to input image file (image)
C:\Users\1219722\Documents\Documents\Output\mouseA\camera_capture_4.png

class_index - class index to visualize (int)
0

output - path to output image file (image)
grad_cam.png

『OK』ボタンをクリックする

OK Cancel

RESULTS HISTORY

2020-02-03 09:32:49,002 [nnabla]: data 2 / 7
2020-02-03 09:32:49,050 [nnabla]: data 4 / 7
2020-02-03 09:32:49,102 [nnabla]: data 6 / 7
2020-02-03 09:32:49,156 [nnabla]: data 7 / 7
2020-02-03 09:32:49,159 [nnabla]: Forward Completed.
NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)

DATASET CONFIG

Total: Training Evaluation

Overview: Main

Statistics

Output	1,902,987
CostParameter	5,743,334
CostAdd	1,079,750
CostMultiply	403,200
CostMultiplyAdd	82,571,952
CostDivision	1
CostExp	1
CostIf	1,082,820

Tasks

Training: 20200203_093023

Evaluation: 20200203_093023

HOME EDIT TRAINING EVALUATION

RESULTS HISTORY ACTION

Elapsed: 00:00:00:04 Remaining: 00:00:00:00 Total: 00:00:00:04

Training Validation Best Validation CostMultiplyAdd 0.000000 0.000010 0.000010 @ epoch 30 82,571,952

PARETO OPTIMAL

Output Result Confusion Matrix: $y - y'$

EVALUATED

Training Evaluation

Grad-CAM...

Abort

2020-02-03 09:32:49,102 [nnabla]: data 6 / 7
2020-02-03 09:32:49,156 [nnabla]: data 7 / 7
2020-02-03 09:32:49,159 [nnabla]: Forward Completed.
NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)

Training: 20200203_093023
Evaluation: 20200203_093023

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

RESULTS HISTORY ACTION ▾

20200203_093023 PARETO OPTIMAL

Training	0.000000
Validation	0.000010
Best Validation	0.000010 @ epoch 30
CostMultiplyAdd	82,571,952

EVALUATED

Elapsed: 00:00:00:04 Remaining: 00:00:00:00 Total: 00:00:00:04

Output Result Confusion Matrix: $y - y'$

Training Evaluation

Index Result

1 C:\Users\1219722\Documents\NNabla\output\image_128x128.jpg

『Grad-CAM』の結果が表示される

```
--replace_path
2020-02-03 09:32:49,002 [nnabla]: data 2 / 7
2020-02-03 09:32:49,050 [nnabla]: data 4 / 7
2020-02-03 09:32:49,102 [nnabla]: data 6 / 7
2020-02-03 09:32:49,156 [nnabla]: data 7 / 7
2020-02-03 09:32:49,159 [nnabla]: Forward Completed.
NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)
```

DATASET CONFIG

Training Evaluation

▶ 🔍 □ ▶ □

Overview: Main

Statistics

Output	1,902,987
CostParameter	5,743,334
CostAdd	1,079,750
CostMultiply	403,200
CostMultiplyAdd	82,571,952
CostDivision	1
CostExp	1
CostIf	1,082,820

Tasks

Training: 20200203_093023

Evaluation: 20200203_093023

【ご参考】

**Neural Network Consoleの
Pythonへの書き出し方法**

N train.sdcproj - Neural Network Console (NNabla) - X

EDIT TRAINING EVALUATION

Results History

ACTION ▾ ①『Action』をクリックする

Elapsed: 00:00:00:04 Remaining: 00:00:00:00 Total: 0 Training Evaluation

20200203_093023

Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ epoch 82,571,952

Open Result Location
Rename
Refresh
Open Learning Curve for Comparison
Clear Learning Curve for Comparison
Export ②『Export』⇒『NNP』をクリックする

Open in EDIT Tab
Open in EDIT Tab with Weight
Force Complete
Retrain (in place)
Retrain (not in place)
Retrain All (in place)
Cancel Schedule
Cancel All Scheduled Task
Resume Scheduled Task
More Tools
Delete from Disk
Delete All Incomplete Results from Disk

Fusion Matrix: $y - y'$ ○ ○

Overview: Main

Statistics

Output	1,902,987
CostParameter	5,743,334
CostAdd	1,079,750
CostMultiply	403,200
CostMultiplyAdd	82,571,952
CostDivision	1
CostExp	1
CostIf	1,082,820

Tasks

Training: 20200203_093023
Evaluation: 20200203_093023

2020-02-03 09:32:49,159 [nnabla]: Forward Completed.
NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)

N train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION

Dataset Config

Elapsed: 00:00:00:04 Remaining: 00:00:00:00 Total: 00:00:00:04

Action: PARETO OPTIMAL

Output Result Confusion Matrix: $y - y'$

Training Evaluation

Training: 0.000000
Validation: 0.000010
Best Validation: 0.000010 @ epoch 30
CostMultiplyAdd: 82,571,952

EVALUATED

Overview: Main Statistics

Exporting ... 20200203_093023

2020-02-03 10:14:15,495 [nnabla]: Converting temporary .nnp file to .nnp file...

2020-02-03 09:32:49,102 [nnabla]: data 6 / 7
2020-02-03 09:32:49,156 [nnabla]: data 7 / 7
2020-02-03 09:32:49,159 [nnabla]: Forward Completed.
NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)

Training: 20200203_093023
Evaluation: 20200203_093023