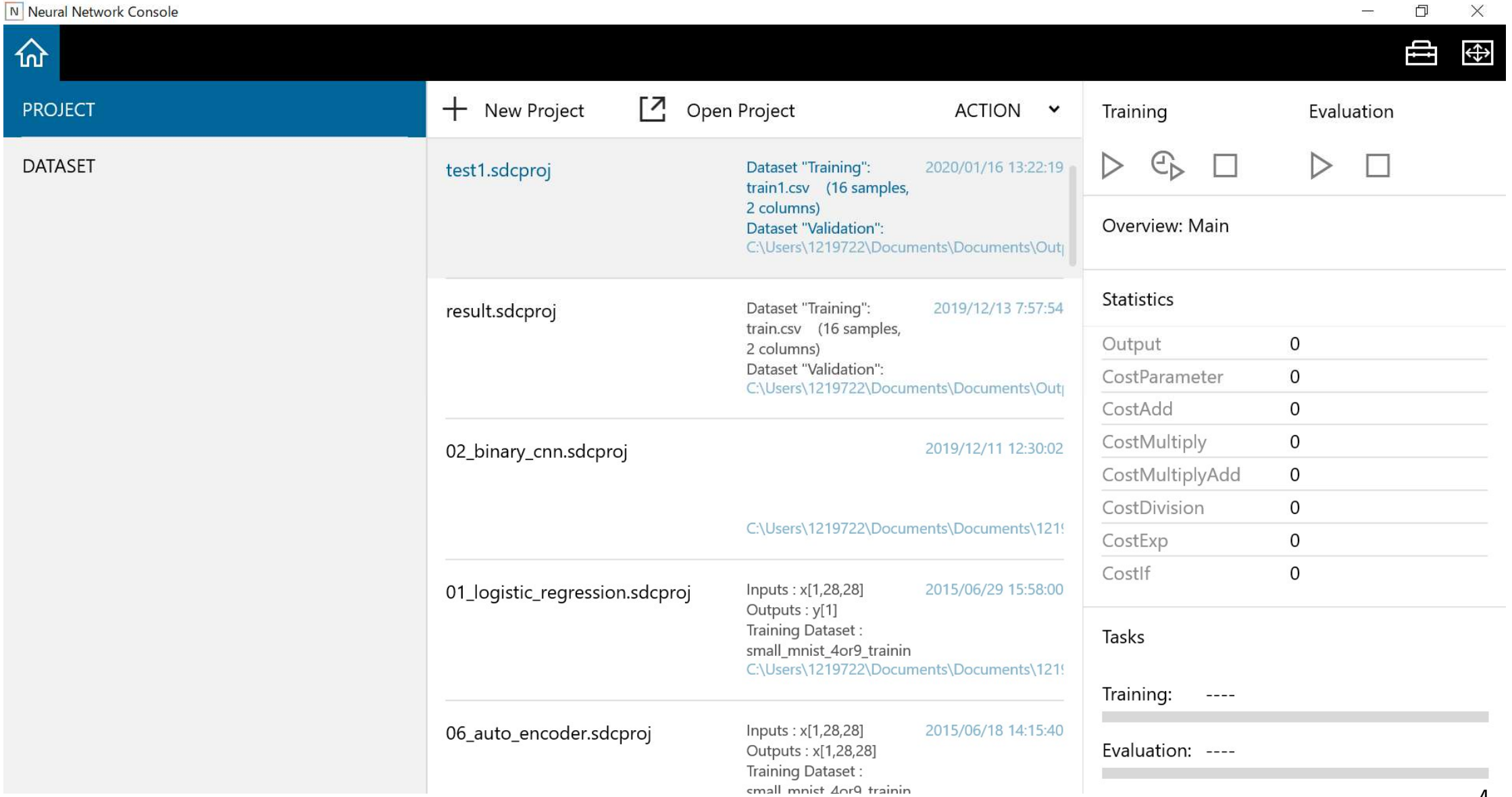
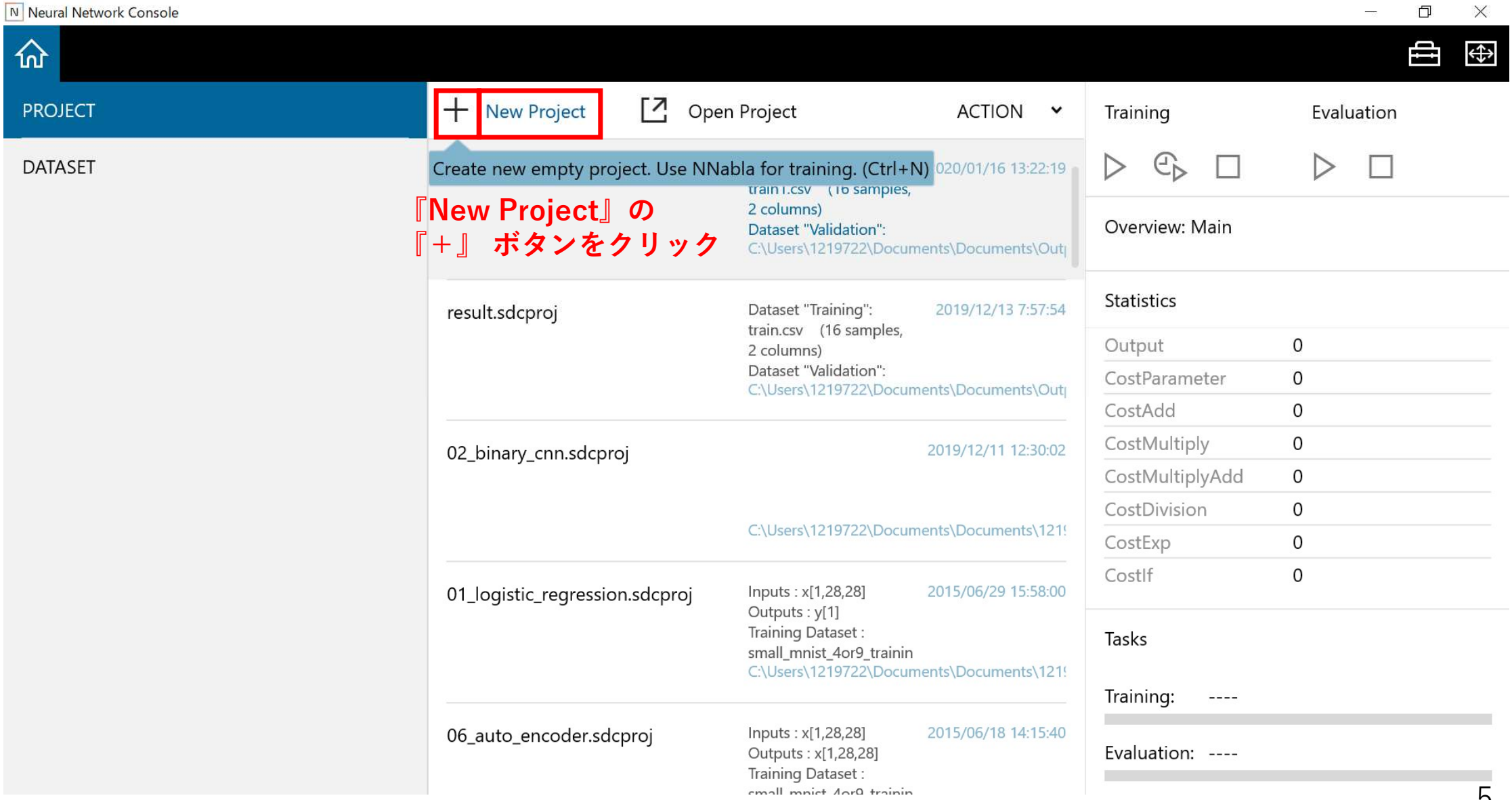
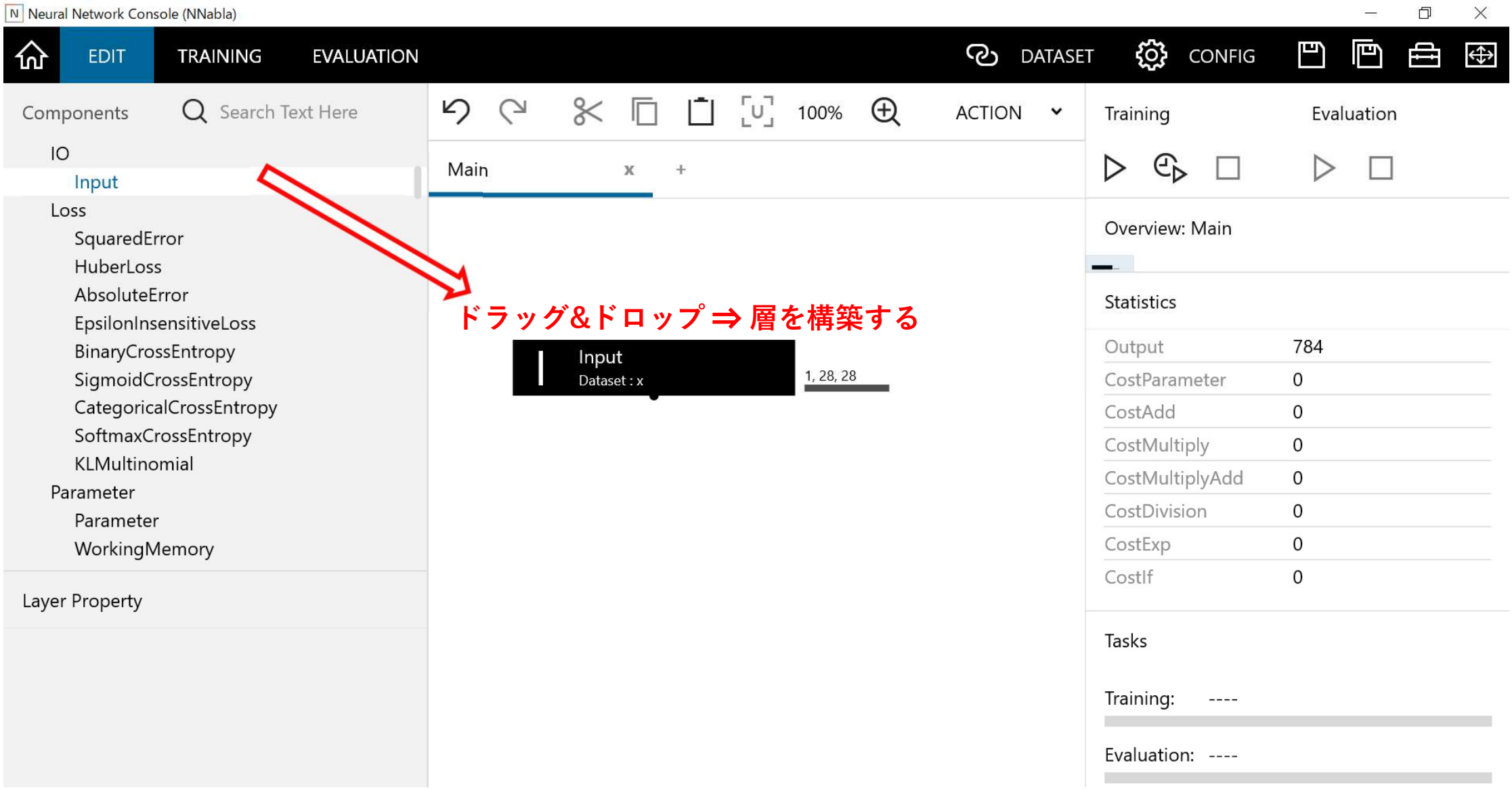
Neural Network Consoleの操作手順

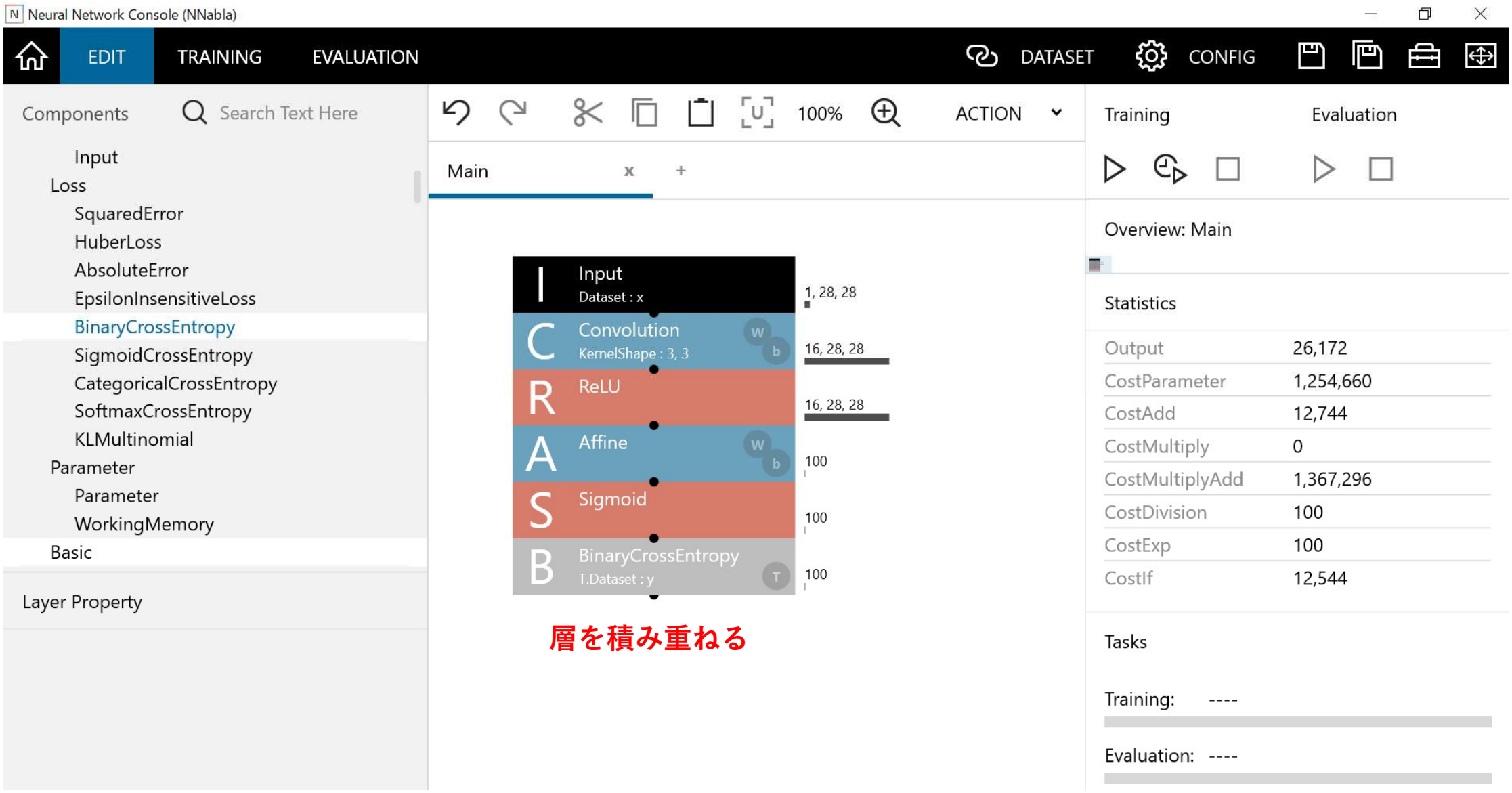
目次

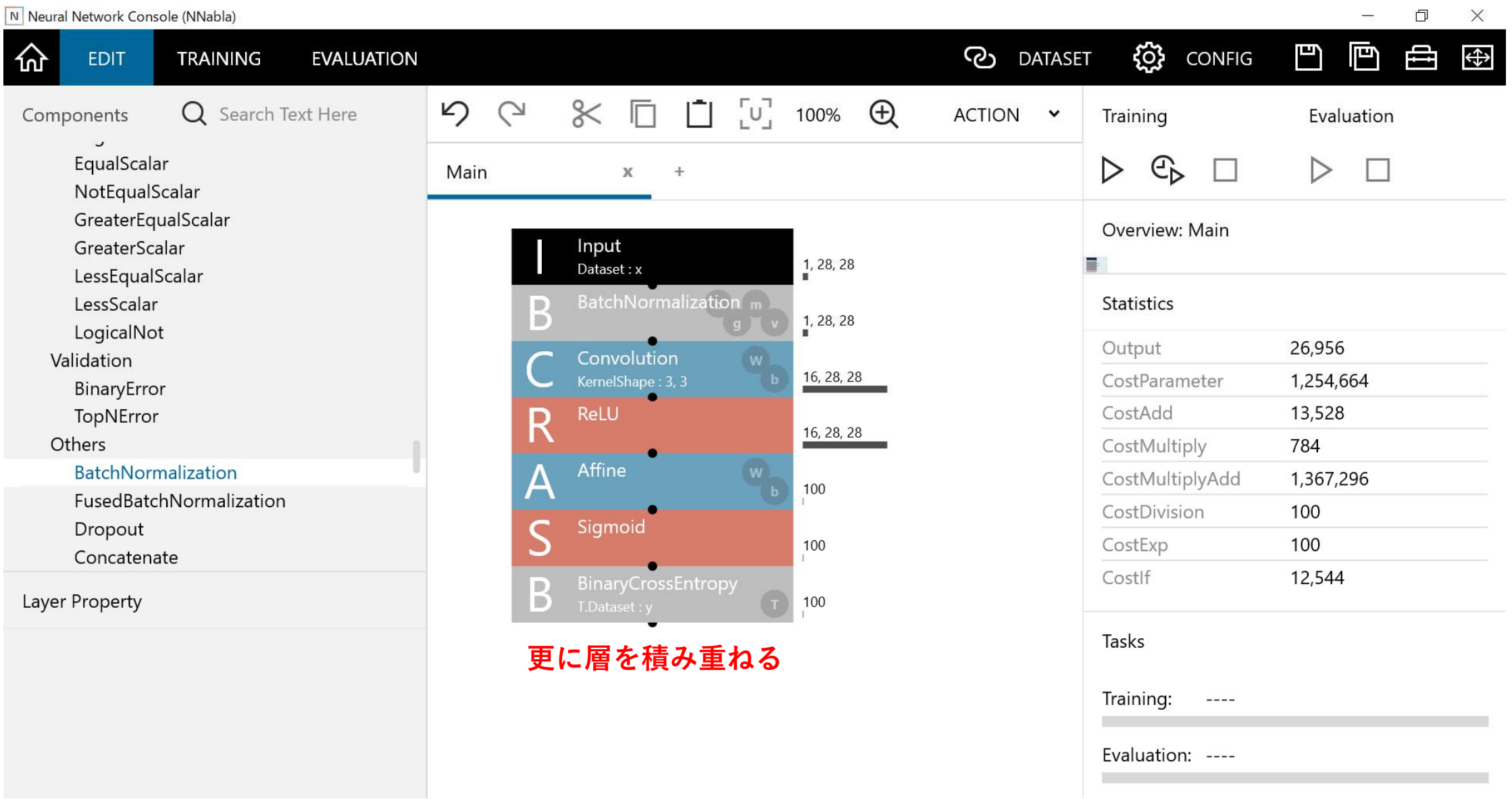
層の構築/積層方法

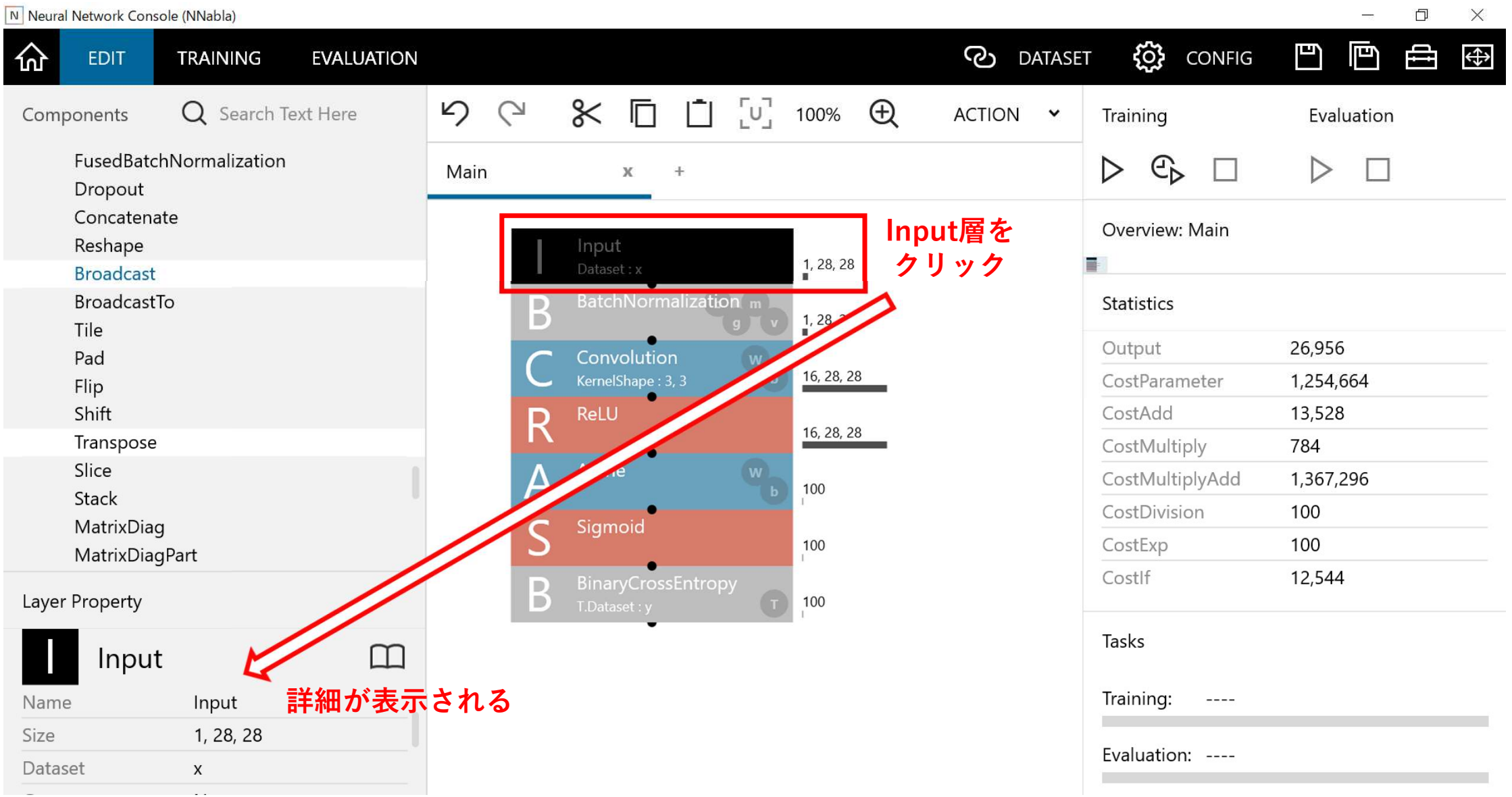

Neural Network Console
PROJECT
DATASET
New Project
Open Project
ACTION
test1.sdcproj
Dataset "Training": train1.csv (16 samples, 2 columns)
Dataset "Validation": C:\Users\1219722\Documents\Documents\Out
2020/01/16 13:22:19
result.sdcproj
Dataset "Training": train.csv (16 samples, 2 columns)
Dataset "Validation": C:\Users\1219722\Documents\Documents\Out
2019/12/13 7:57:54
02_binary_cnn.sdcproj
C:\Users\1219722\Documents\Documents\121
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 :
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: ----


Neural Network Console
PROJECT
DATASET
New Project
Open Project
ACTION
Create new empty project. Use NNabla for training. (Ctrl+N)
『New Project』の
『＋』 ボタンをクリック
result.sdcproj
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
2015/06/29 15:58:00
06_auto_encoder.sdcproj
Inputs : x[1,28,28]
Outputs : x[1,28,28]
Training Dataset :
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: ----

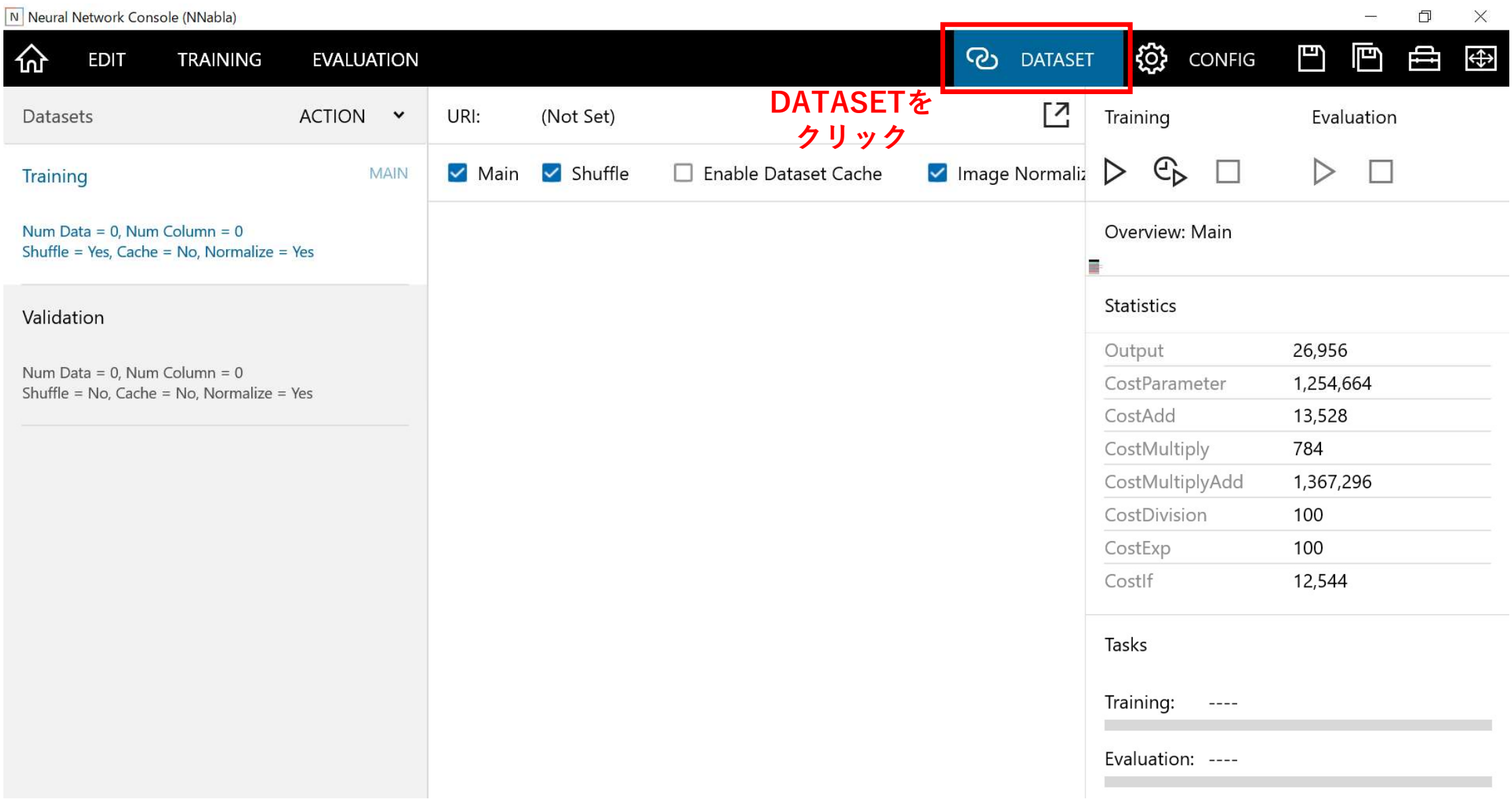

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Components
Search Text Here
IO
Input
Loss
SquaredError
HuberLoss
AbsoluteError
EpsilonInsensitiveLoss
BinaryCrossEntropy
SigmoidCrossEntropy
CategoricalCrossEntropy
SoftmaxCrossEntropy
KLMultinomial
Parameter
Parameter
WorkingMemory
Layer Property
100%
ACTION
Main
x
+
ドラッグ&ドロップ ⇒ 層を構築する
Input
Dataset : x
1, 28, 28
Training
Evaluation
Overview: Main
Statistics
Output 784
CostParameter 0
CostAdd 0
CostMultiply 0
CostMultiplyAdd 0
CostDivision 0
CostExp 0
CostIf 0
Tasks
Training: ----
Evaluation: ----

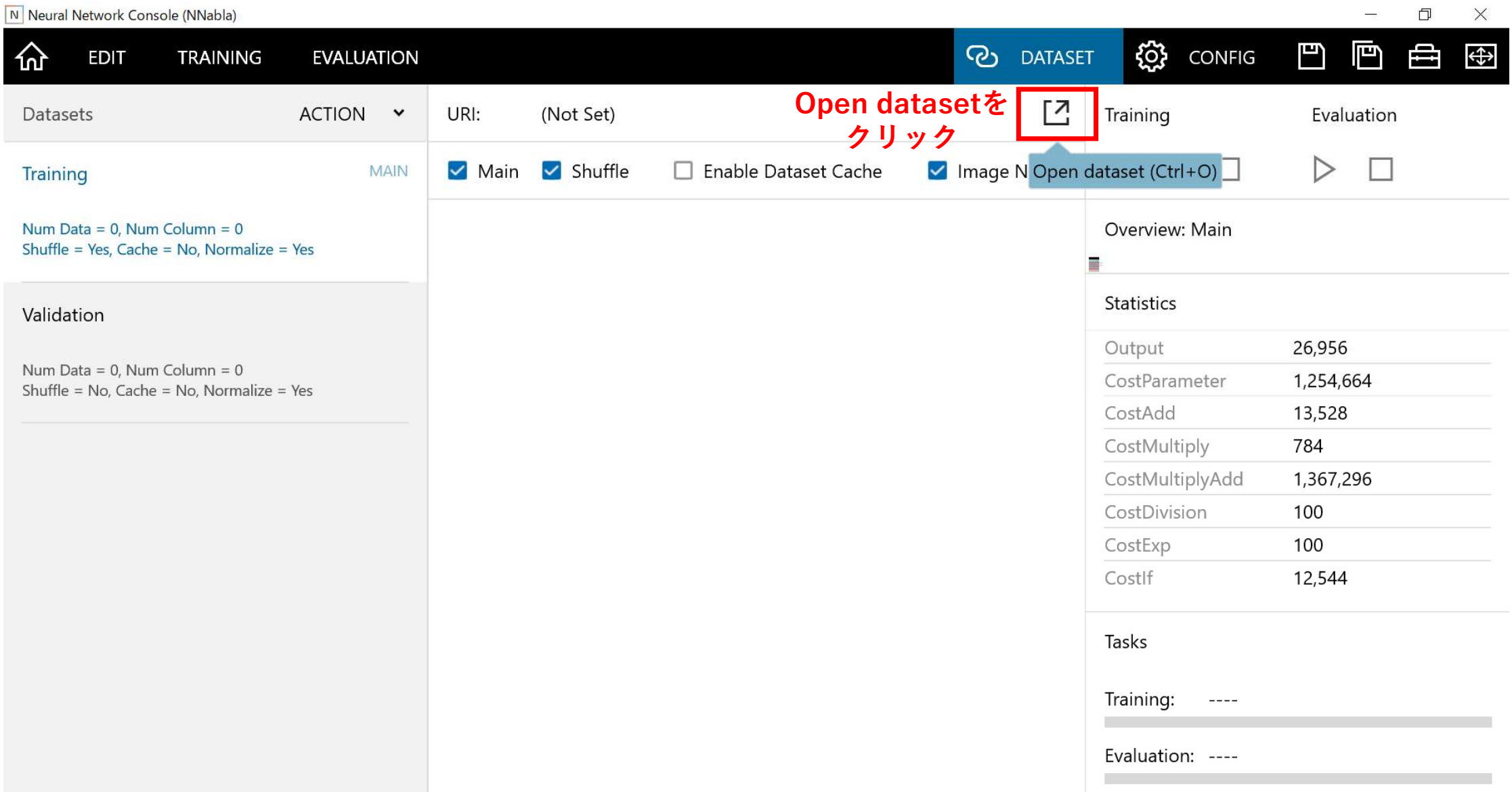

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Components
Search Text Here
Input
Loss
SquaredError
HuberLoss
AbsoluteError
EpsilonInsensitiveLoss
BinaryCrossEntropy
SigmoidCrossEntropy
CategoricalCrossEntropy
SoftmaxCrossEntropy
KLMultinomial
Parameter
Parameter
WorkingMemory
Basic
Layer Property
100%
ACTION
Main
Input
Dataset : x
1, 28, 28
Convolution
KernelShape : 3, 3
16, 28, 28
ReLU
16, 28, 28
Affine
100
Sigmoid
100
BinaryCrossEntropy
T.Dataset : y
100
層を積み重ねる
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: ----

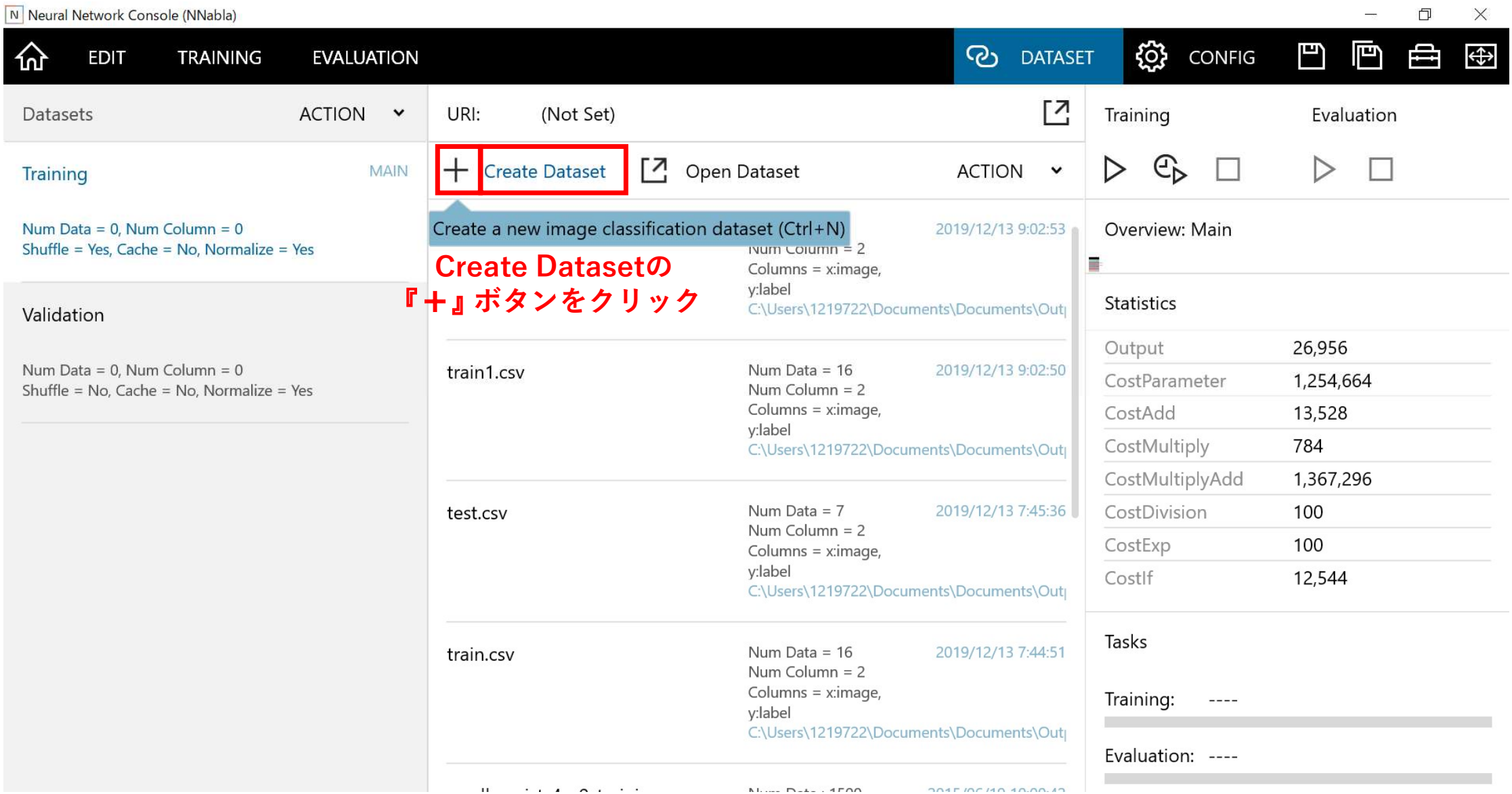

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Components
Search Text Here
EqualScalar
NotEqualScalar
GreaterEqualScalar
GreaterScalar
LessEqualScalar
LessScalar
LogicalNot
Validation
BinaryError
TopNError
Others
BatchNormalization
FusedBatchNormalization
Dropout
Concatenate
Layer Property
100%
ACTION
Main
Input
Dataset : x
1, 28, 28
BatchNormalization
1, 28, 28
Convolution
KernelShape : 3, 3
16, 28, 28
ReLU
16, 28, 28
Affine
100
Sigmoid
100
BinaryCrossEntropy
T.Dataset : y
100
更に層を積み重ねる
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: ----

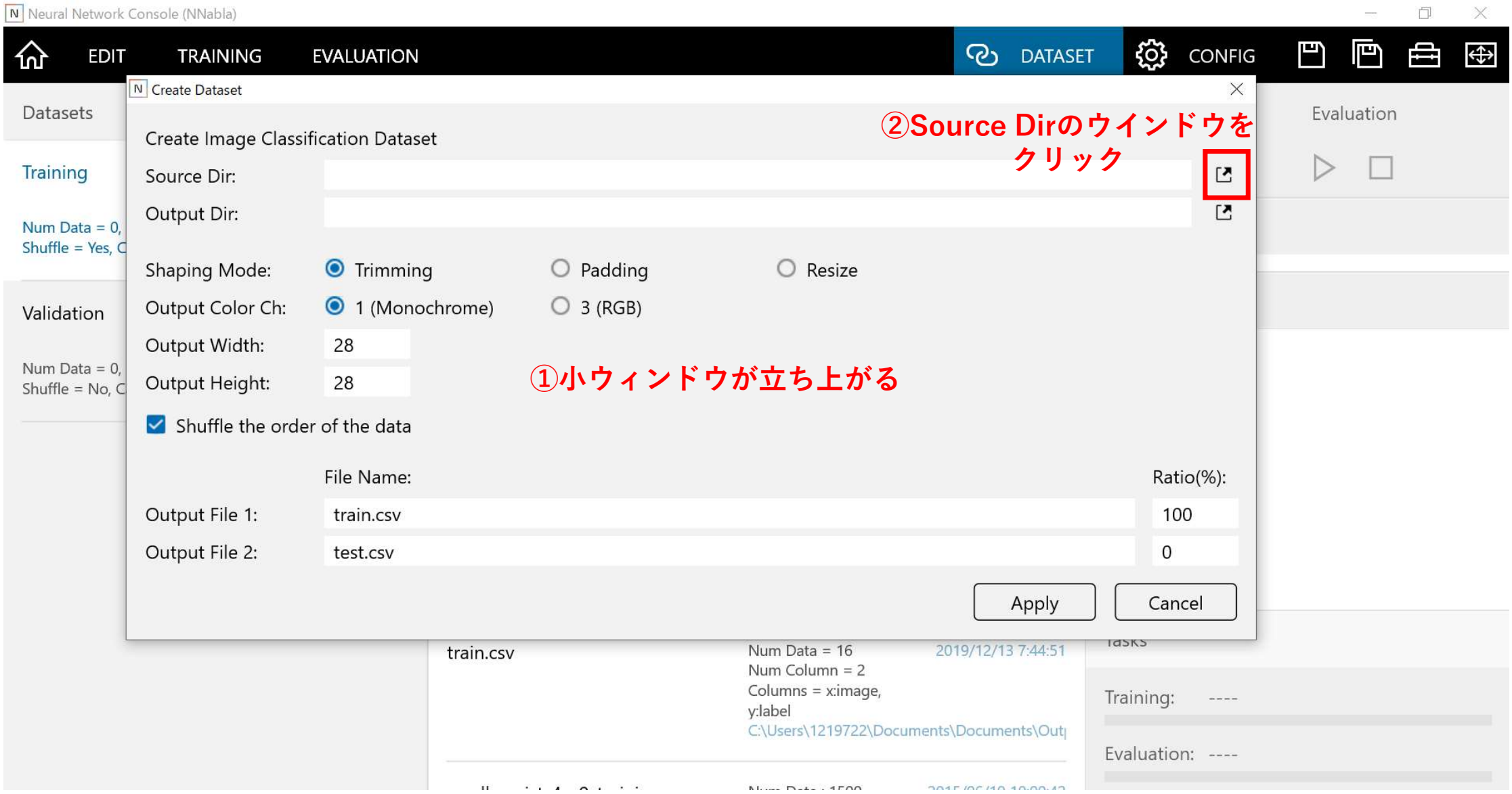

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Components
Search Text Here
FusedBatchNormalization
Dropout
Concatenate
Reshape
Broadcast
BroadcastTo
Tile
Pad
Flip
Shift
Transpose
Slice
Stack
MatrixDiag
MatrixDiagPart
Layer Property
Input
Name Input
Size 1, 28, 28
Dataset x
100%
ACTION
Main
Input
Dataset : x
1, 28, 28
BatchNormalization
Convolution
KernelShape : 3, 3
16, 28, 28
ReLU
16, 28, 28
Sigmoid
100
BinaryCrossEntropy
T.Dataset : y
100
Input層をクリック
詳細が表示される
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: ----

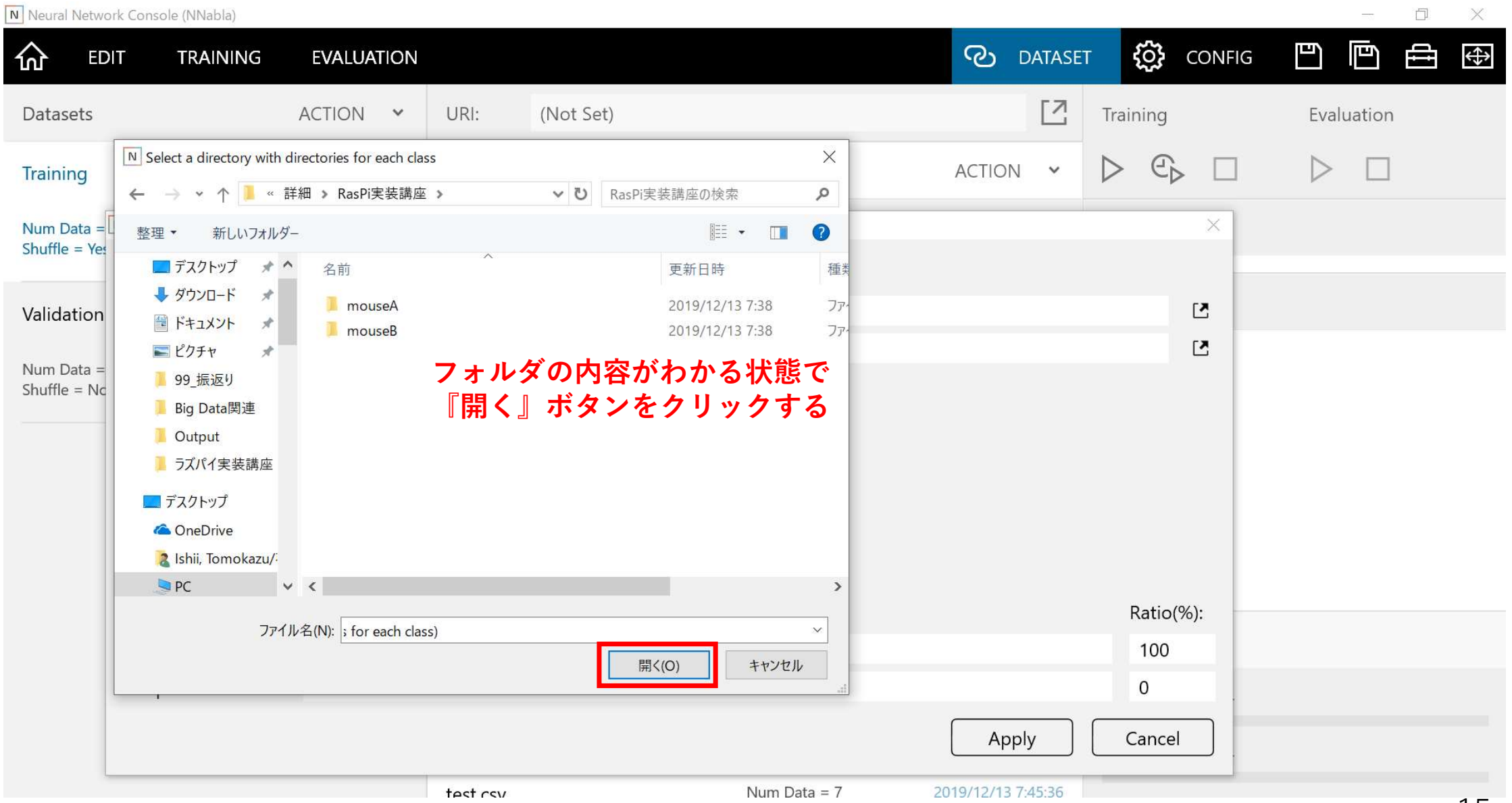
画像Dataの読み込み方法


Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
DATASETを
クリック
Datasets
ACTION
URI:
(Not Set)
Training
Evaluation
Training
MAIN
Main
Shuffle
Enable Dataset Cache
Image Normaliz
Num Data = 0, Num Column = 0
Shuffle = Yes, Cache = No, Normalize = Yes
Overview: Main
Validation
Statistics
Num Data = 0, Num Column = 0
Shuffle = No, Cache = No, Normalize = Yes
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:
(Not Set)
Open datasetを
クリック
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
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
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)
Create Dataset
Open Dataset
ACTION
Create a new image classification dataset (Ctrl+N)
Create Datasetの
『＋』ボタンをクリック
2019/12/13 9:02:53
Num Column = 2
Columns = x:image,
y:label
C:\Users\1219722\Documents\Documents\Out
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
Num Column = 2
Columns = x:image,
y:label
C:\Users\1219722\Documents\Documents\Out
2019/12/13 7:45:36
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
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
Datasets
Training
Num Data = 0,
Shuffle = Yes, C
Validation
Num Data = 0,
Shuffle = No, C
Create Dataset
Create Image Classification Dataset
Source Dir:
Output Dir:
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
②Source Dirのウインドウをクリック
①小ウィンドウが立ち上がる
train.csv
Num Data = 16
Num Column = 2
Columns = x:image, y:label
2019/12/13 7:44:51
Evaluation
Training: ----
Evaluation: ----


Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Datasets
ACTION
URI:
(Not Set)
Training
Evaluation
Training
ACTION
Num Data =
Shuffle = Yes
Validation
Num Data =
Shuffle = No
Select a directory with directories for each class
詳細 › RasPi実装講座 ›
RasPi実装講座の検索
整理
新しいフォルダー
デスクトップ
ダウンロード
ドキュメント
ピクチャ
99_振返り
Big Data関連
Output
ラズパイ実装講座
デスクトップ
OneDrive
Ishii, Tomokazu/
PC
名前
更新日時
mouseA
2019/12/13 7:38
mouseB
2019/12/13 7:38
フォルダの内容がわかる状態で
『開く』ボタンをクリックする
ファイル名(N):
; for each class)
開く(O)
キャンセル
Ratio(%):
100
0
Apply
Cancel
test.csv
Num Data = 7
2019/12/13 7:45:36

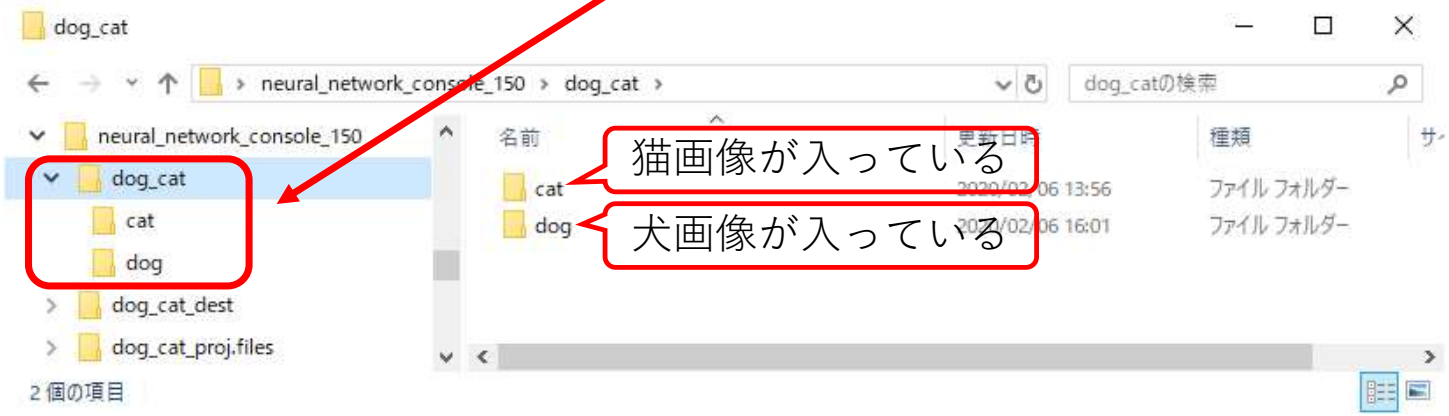
画像解析を行うための画像ファイル・フォルダの構成について

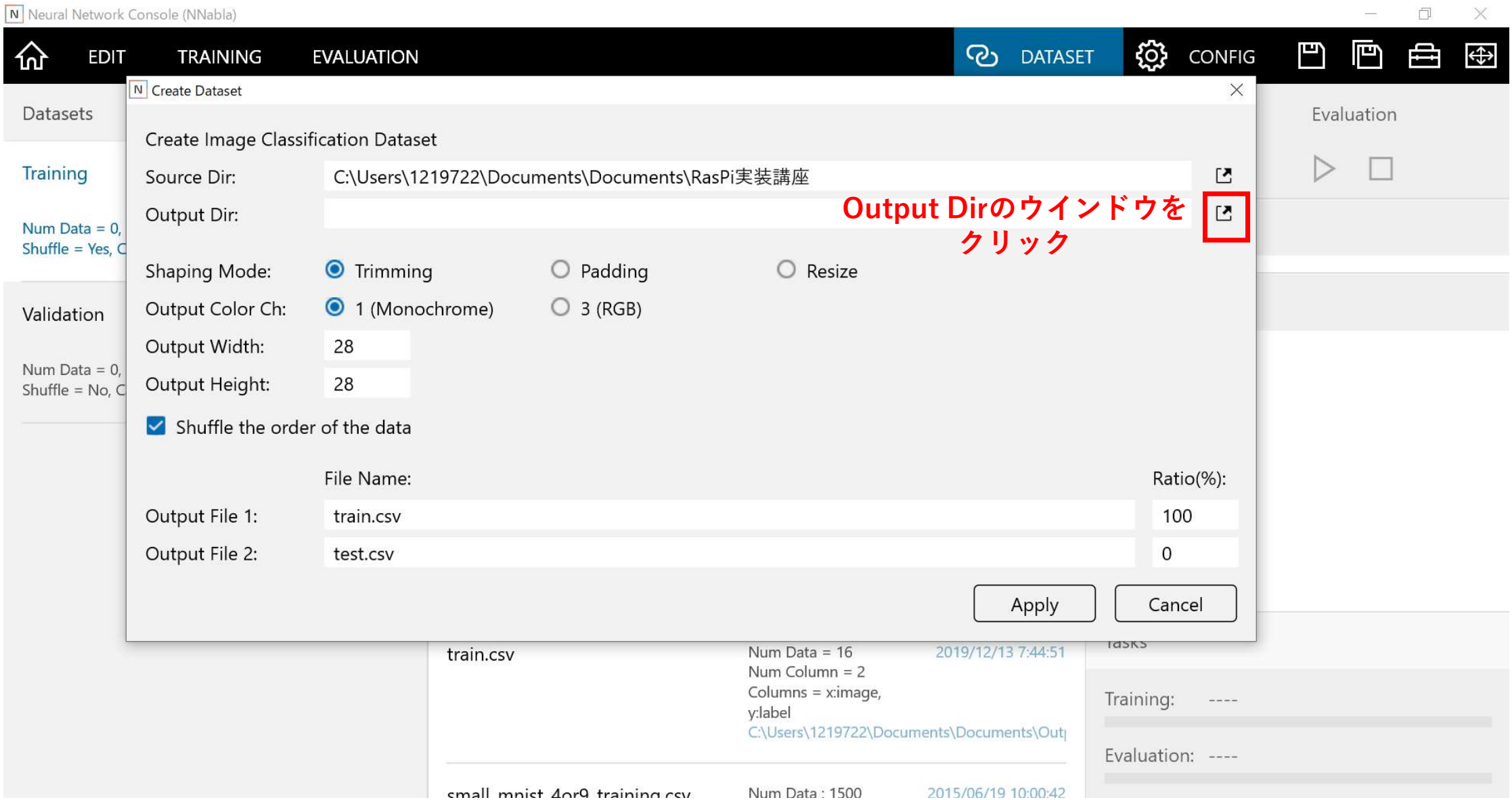
Source Dir はどのフォルダを選べばよいのか

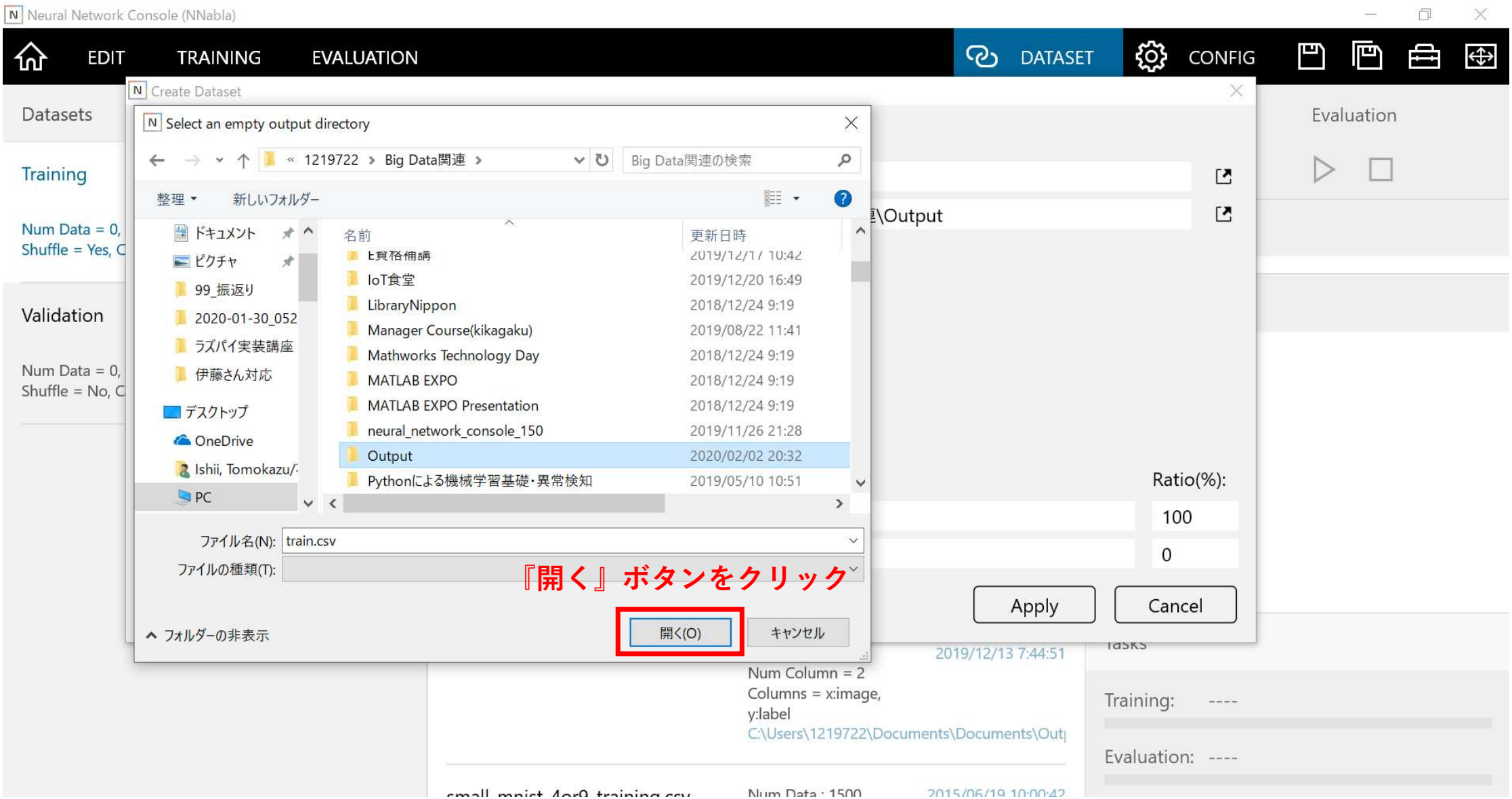
ex:) 猫画像・犬画像をつかって犬猫を判別する場合

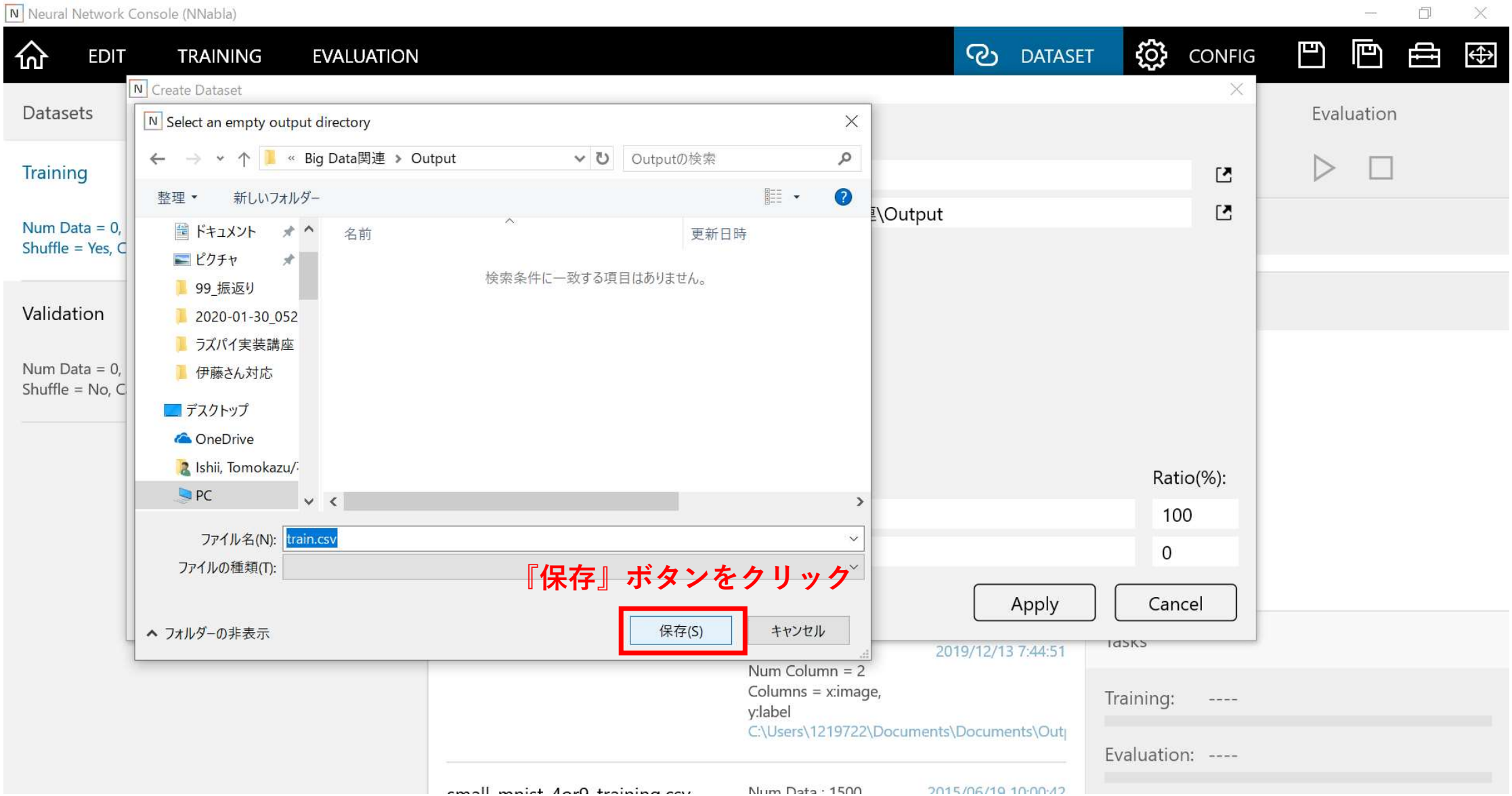
→　「dog_cat」フォルダを作成しその中に、「cat」フォルダ・「dog」フォルダを作成する
　　「cat」フォルダに猫画像を保存する
　　「dog」フォルダに犬画像を保存する

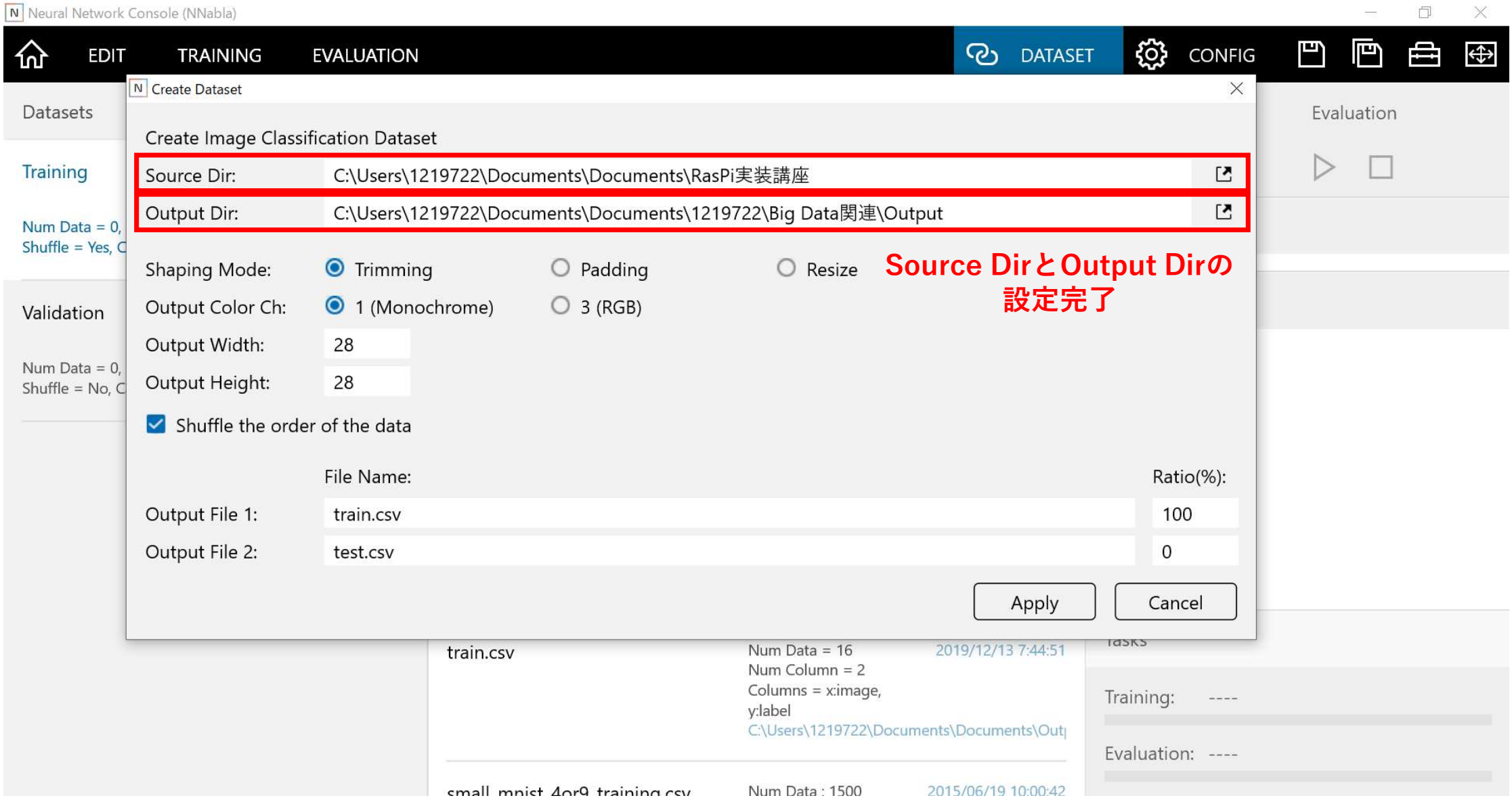
このケースでは、Source Dir として「doc_cat」フォルダを選択すれば
犬猫判別の画像解析を行うことができる

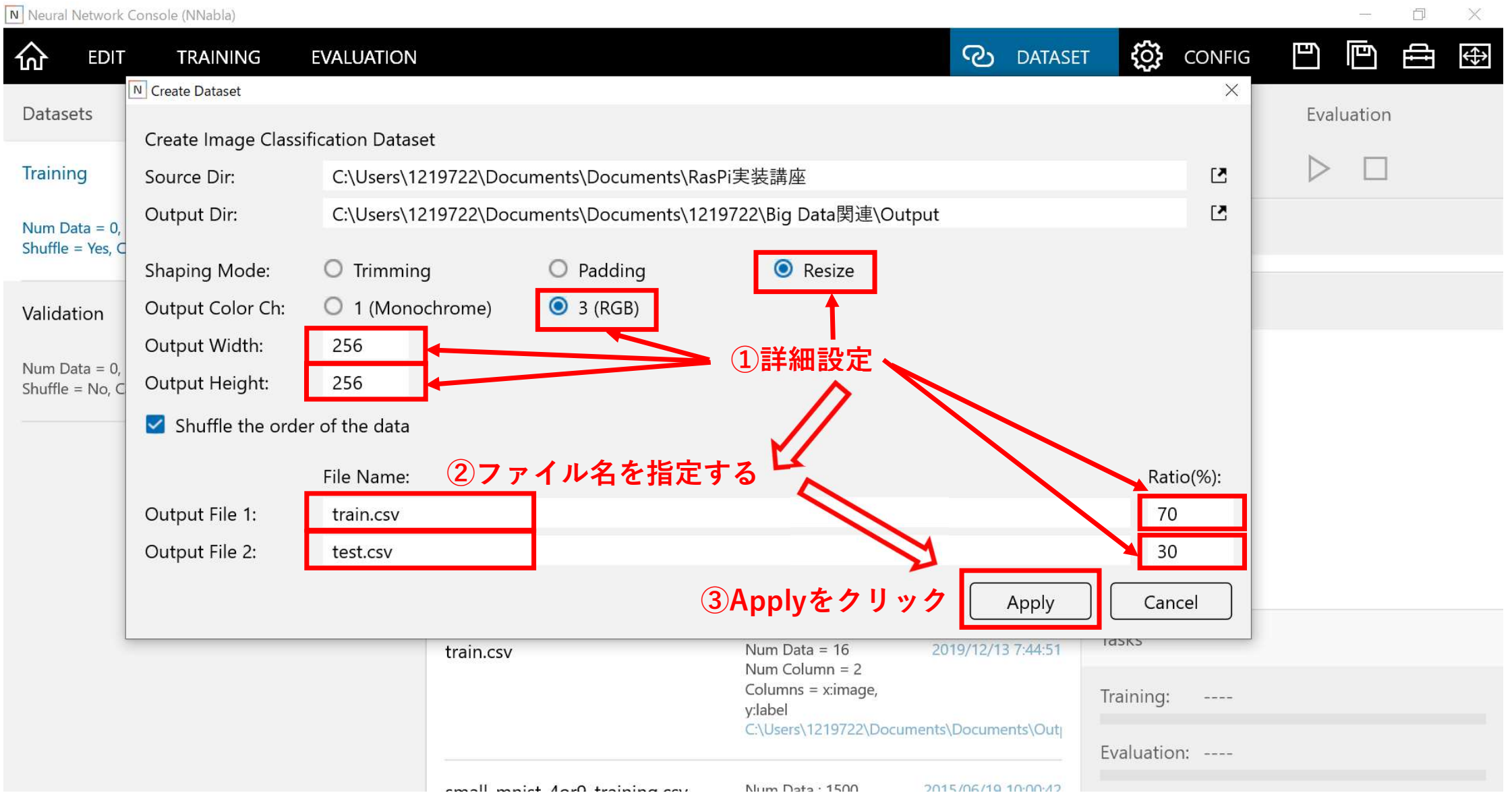


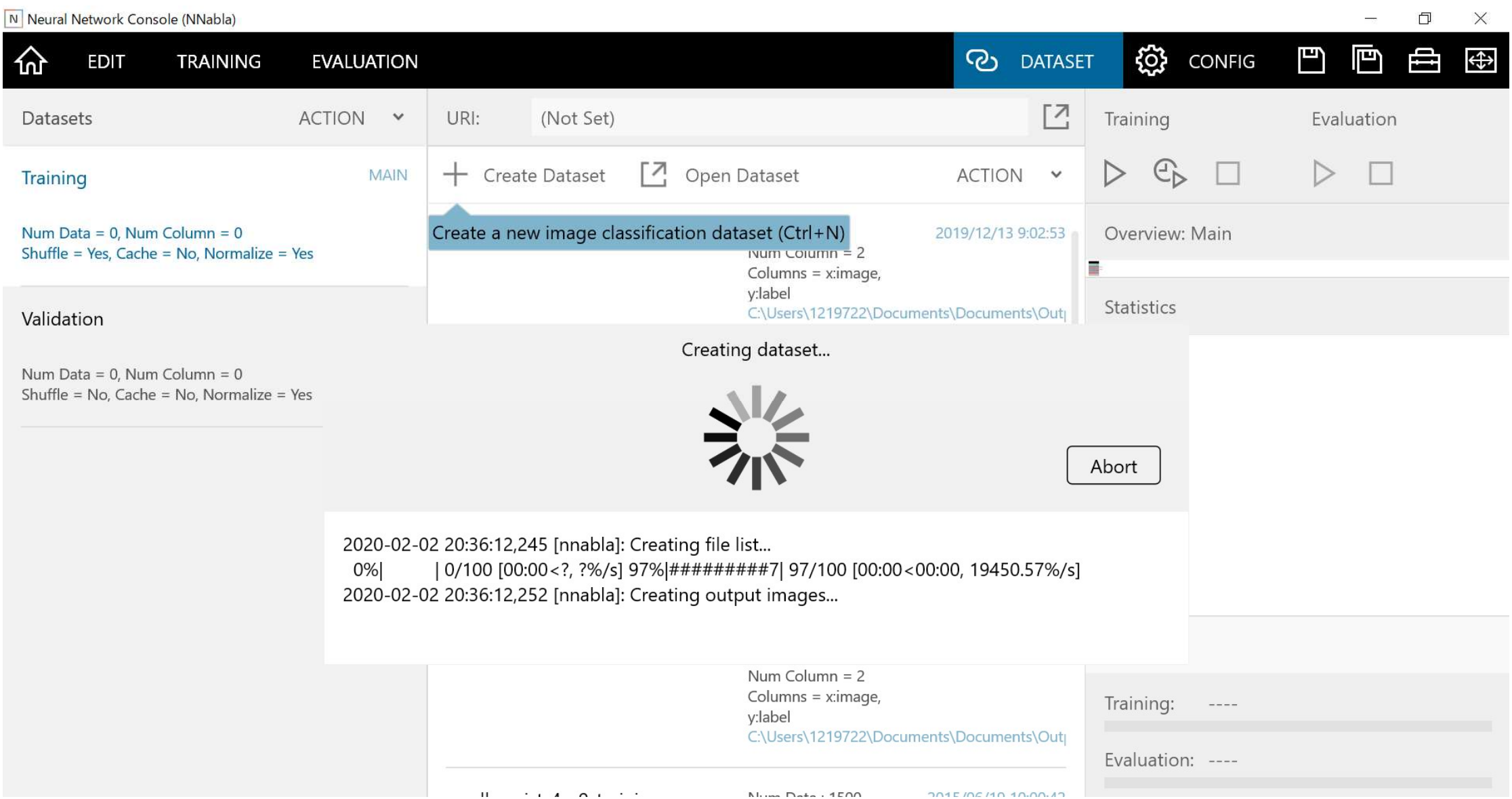

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Datasets
Training
Num Data = 0,
Shuffle = Yes, C
Validation
Num Data = 0,
Shuffle = No, C
Create Dataset
Create Image Classification Dataset
Source Dir:
C:\Users\1219722\Documents\Documents\RasPi実装講座
Output Dir:
Output Dirのウインドウを
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
Num Column = 2
Columns = x:image,
y:label
2019/12/13 7:44:51
Num Data : 1500
2015/06/19 10:00:42
Evaluation
Training: ----
Evaluation: ----

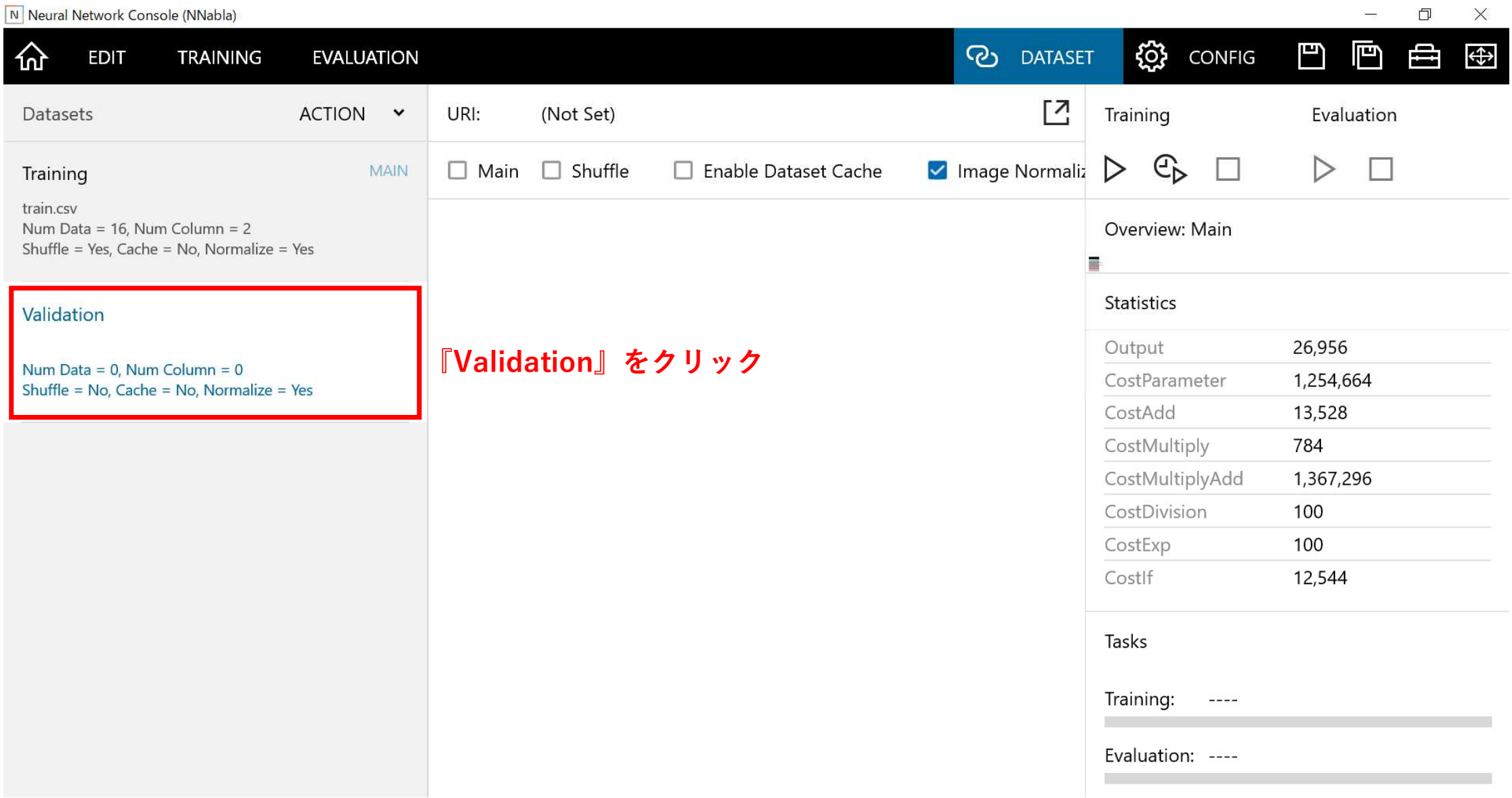

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Datasets
Training
Num Data = 0,
Shuffle = Yes, C
Validation
Num Data = 0,
Shuffle = No, C
Create Dataset
Select an empty output directory
1219722 › Big Data関連 ›
Big Data関連の検索
整理
新しいフォルダー
ドキュメント
ピクチャ
99_振返り
2020-01-30_052
ラズパイ実装講座
伊藤さん対応
デスクトップ
OneDrive
Ishii, Tomokazu/
PC
名前
更新日時
IoT食堂 2019/12/20 16:49
LibraryNippon 2018/12/24 9:19
Manager Course(kikagaku) 2019/08/22 11:41
Mathworks Technology Day 2018/12/24 9:19
MATLAB EXPO 2018/12/24 9:19
MATLAB EXPO Presentation 2018/12/24 9:19
neural_network_console_150 2019/11/26 21:28
Output 2020/02/02 20:32
Pythonによる機械学習基礎・異常検知 2019/05/10 10:51
ファイル名(N): train.csv
ファイルの種類(T):
『開く』ボタンをクリック
フォルダーの非表示
開く(O)
キャンセル
\Output
Ratio(%):
100
0
Apply
Cancel
Evaluation
2019/12/13 7:44:51
Num Column = 2
Columns = x:image,
y:label
C:\Users\1219722\Documents\Documents\Outp
Training: ----
Evaluation: ----


Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Datasets
Training
Num Data = 0,
Shuffle = Yes, C
Validation
Num Data = 0,
Shuffle = No, C
Create Dataset
Select an empty output directory
Big Data関連 › Output
Outputの検索
整理
新しいフォルダー
ドキュメント
ピクチャ
99_振返り
2020-01-30_052
ラズパイ実装講座
伊藤さん対応
デスクトップ
OneDrive
Ishii, Tomokazu/
PC
名前
更新日時
検索条件に一致する項目はありません。
ファイル名(N):
train.csv
ファイルの種類(T):
『保存』ボタンをクリック
フォルダーの非表示
保存(S)
キャンセル
\Output
Ratio(%):
100
0
Apply
Cancel
Evaluation
2019/12/13 7:44:51
Num Column = 2
Columns = x:image,
y:label
C:\Users\1219722\Documents\Documents\Out
Training: ----
Evaluation: ----

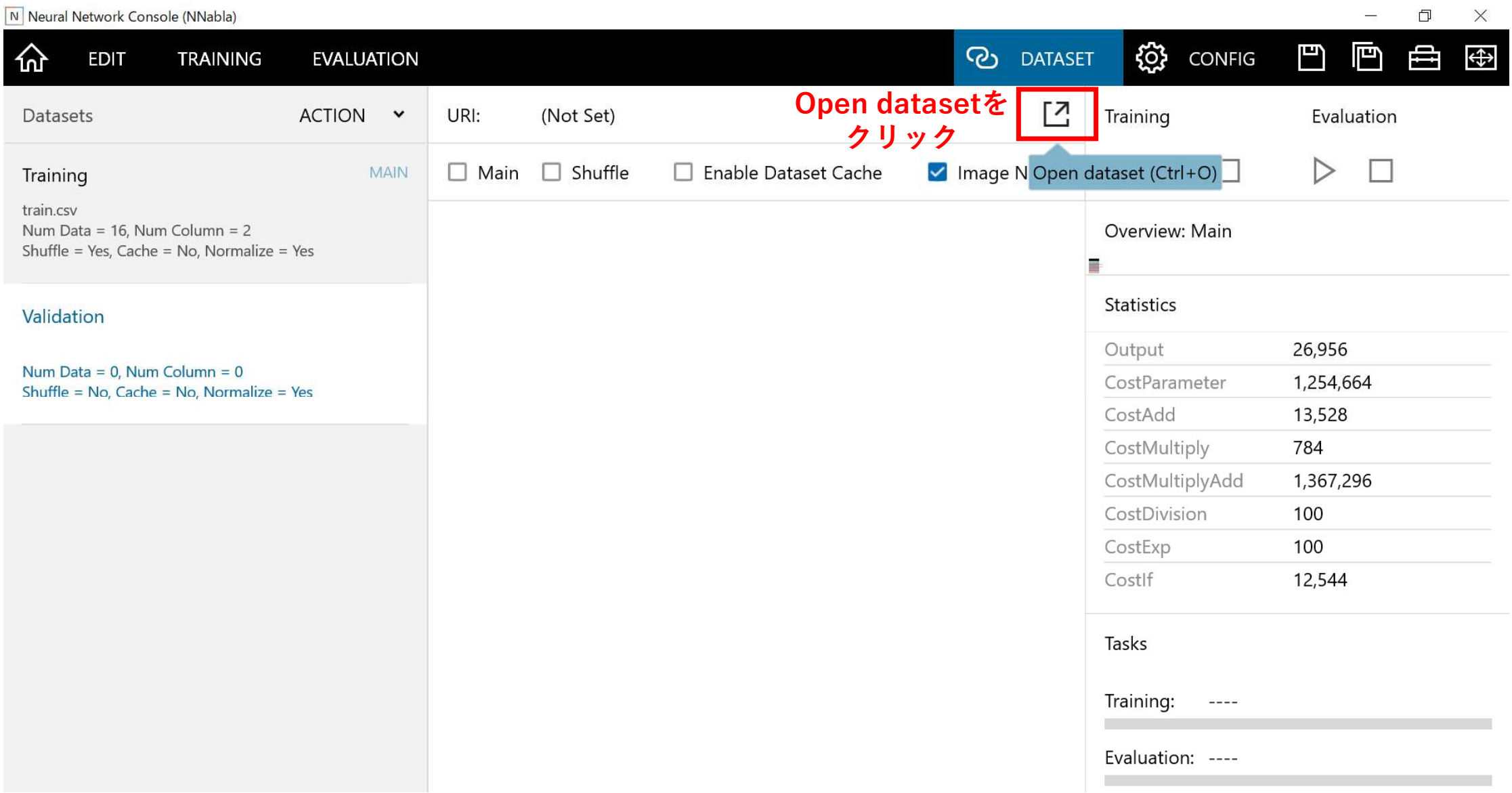

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Datasets
Training
Num Data = 0,
Shuffle = Yes, C
Validation
Num Data = 0,
Shuffle = No, C
Evaluation
Create Dataset
Create Image Classification Dataset
Source Dir:
C:\Users\1219722\Documents\Documents\RasPi実装講座
Output Dir:
C:\Users\1219722\Documents\Documents\1219722\Big 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:
Ratio(%):
Output File 1:
train.csv
100
Output File 2:
test.csv
0
Apply
Cancel
Source DirとOutput Dirの
設定完了
train.csv
Num Data = 16
Num Column = 2
Columns = x:image,
y:label
2019/12/13 7:44:51
Training: ----
Evaluation: ----
Num Data : 1500
2015/06/19 10:00:42

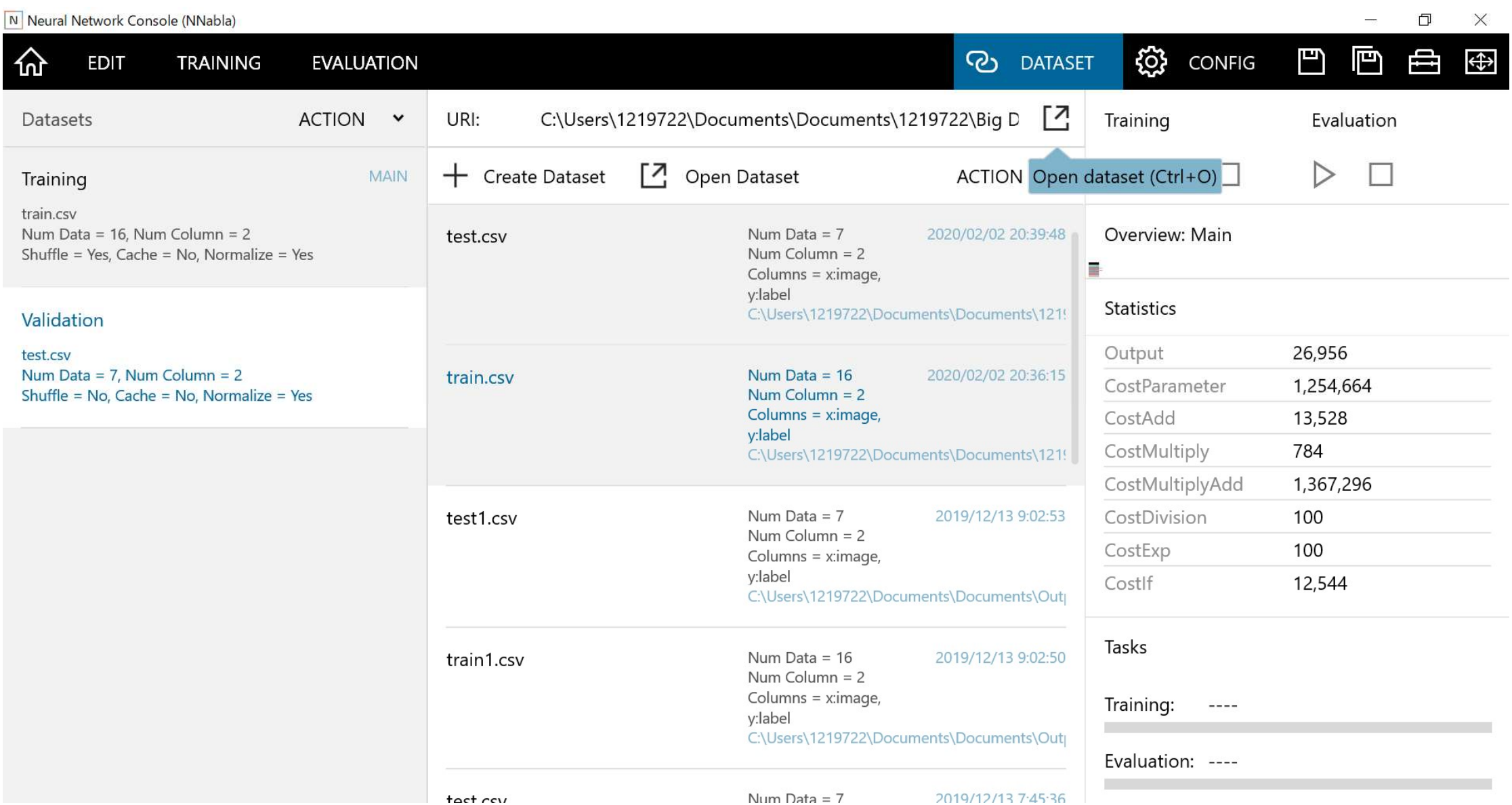

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Datasets
Training
Num Data = 0,
Shuffle = Yes, C
Validation
Num Data = 0,
Shuffle = No, C
Evaluation
Create Dataset
Create Image Classification Dataset
Source Dir:
C:\Users\1219722\Documents\Documents\RasPi実装講座
Output Dir:
C:\Users\1219722\Documents\Documents\1219722\Big Data関連\Output
Shaping Mode:
Trimming
Padding
Resize
Output Color Ch:
1 (Monochrome)
3 (RGB)
Output Width:
256
Output Height:
256
①詳細設定
Shuffle the order of the data
File Name:
②ファイル名を指定する
Ratio(%):
Output File 1:
train.csv
70
Output File 2:
test.csv
30
③Applyをクリック
Apply
Cancel
train.csv
Num Data = 16
Num Column = 2
Columns = x:image,
y:label
2019/12/13 7:44:51
Training: ----
Evaluation: ----

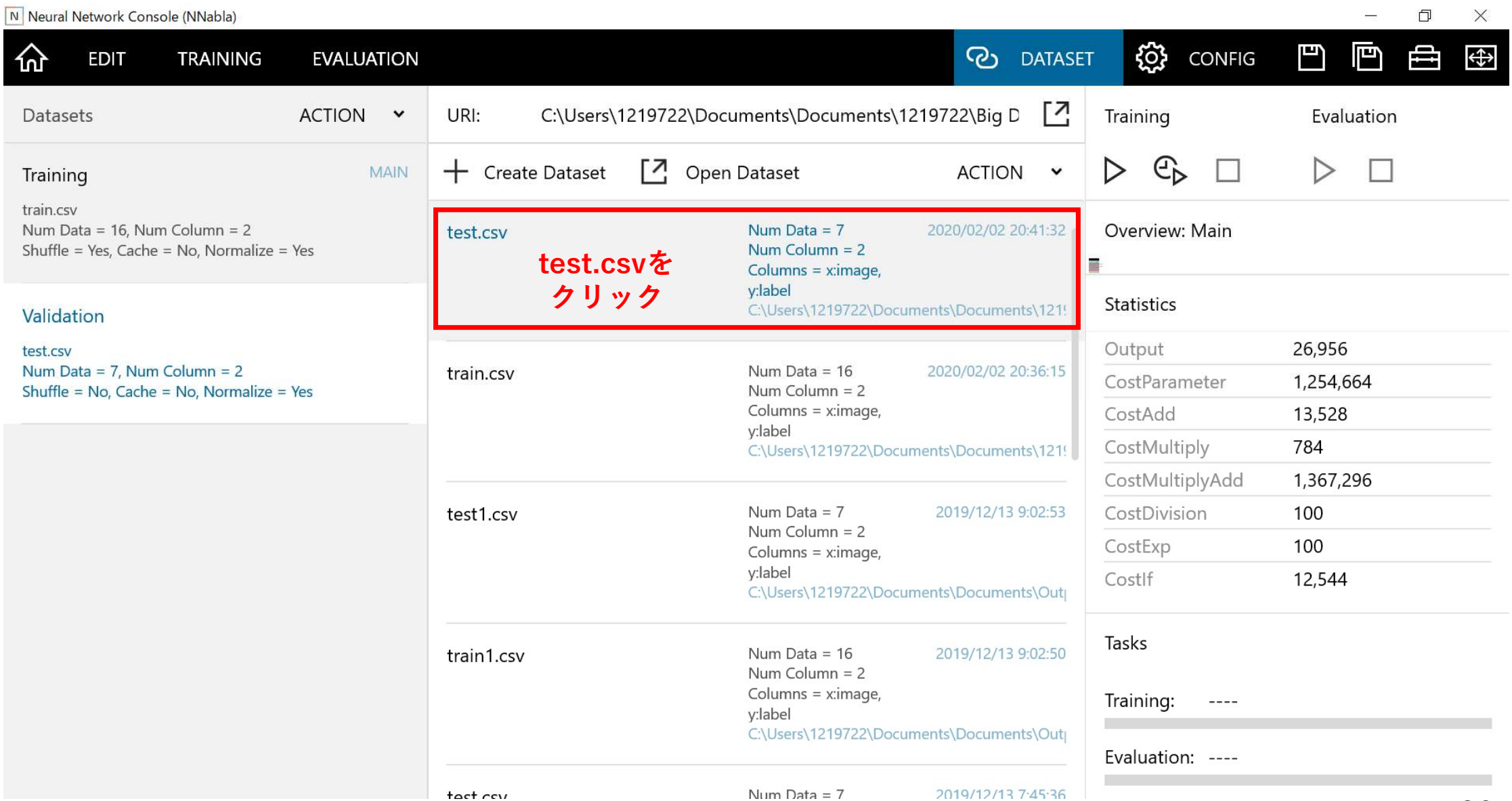

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Datasets
ACTION
URI:
(Not Set)
Training
Evaluation
Training
MAIN
Create Dataset
Open Dataset
ACTION
Num Data = 0, Num Column = 0
Shuffle = Yes, Cache = No, Normalize = Yes
Create a new image classification dataset (Ctrl+N)
2019/12/13 9:02:53
Num Column = 2
Columns = x:image,
y:label
C:\Users\1219722\Documents\Documents\Out
Overview: Main
Validation
Statistics
Num Data = 0, Num Column = 0
Shuffle = No, 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%|#########7| 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: ----



『Validation』をクリック


Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Datasets
ACTION
URI:
(Not Set)
Open datasetを
クリック
Training
Evaluation
Training
MAIN
train.csv
Num Data = 16, Num Column = 2
Shuffle = Yes, Cache = No, Normalize = Yes
Main
Shuffle
Enable Dataset Cache
Image N
Open dataset (Ctrl+O)
Validation
Num Data = 0, Num Column = 0
Shuffle = No, Cache = No, Normalize = Yes
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
Training
MAIN
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
URI:
C:\Users\1219722\Documents\Documents\1219722\Big D
Create Dataset
Open Dataset
ACTION
Open dataset (Ctrl+O)
test.csv
Num Data = 7
2020/02/02 20:39:48
Num Column = 2
Columns = x:image,
y:label
C:\Users\1219722\Documents\Documents\121
train.csv
Num Data = 16
2020/02/02 20:36:15
Num Column = 2
Columns = x:image,
y:label
C:\Users\1219722\Documents\Documents\121
test1.csv
Num Data = 7
2019/12/13 9:02:53
Num Column = 2
Columns = x:image,
y:label
C:\Users\1219722\Documents\Documents\Outp
train1.csv
Num Data = 16
2019/12/13 9:02:50
Num Column = 2
Columns = x:image,
y:label
C:\Users\1219722\Documents\Documents\Outp
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
Datasets
ACTION
Training
MAIN
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
URI:
C:\Users\1219722\Documents\Documents\1219722\Big D
Create Dataset
Open Dataset
ACTION
test.csv
Num Data = 7
Num Column = 2
Columns = x:image, y:label
2020/02/02 20:41:32
test.csvをクリック
train.csv
Num Data = 16
Num Column = 2
Columns = x:image, y:label
2020/02/02 20:36:15
test1.csv
Num Data = 7
Num Column = 2
Columns = x:image, y:label
2019/12/13 9:02:53
train1.csv
Num Data = 16
Num Column = 2
Columns = x:image, y:label
2019/12/13 9:02:50
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

Datasets ACTION

Training MAIN

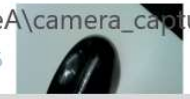
train.csv
Num Data = 16, Num Column = 2
Shuffle = Yes, Cache = No, Normalize = Yes

Validation

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

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

Main Shuffle Enable Dataset Cache Image Normaliz

Index	x:image	y:label
1	.\mouseB\camera_capture_10.pr c, 256, 256 	1
2	.\mouseB\camera_capture_13.pr c, 256, 256 	1
3	.\mouseA\camera_capture_2.pn c, 256, 256 	0
4	.\mouseA\camera_capture_6.pn c, 256, 256 	0

Training Evaluation

Overview: Main

Statistics

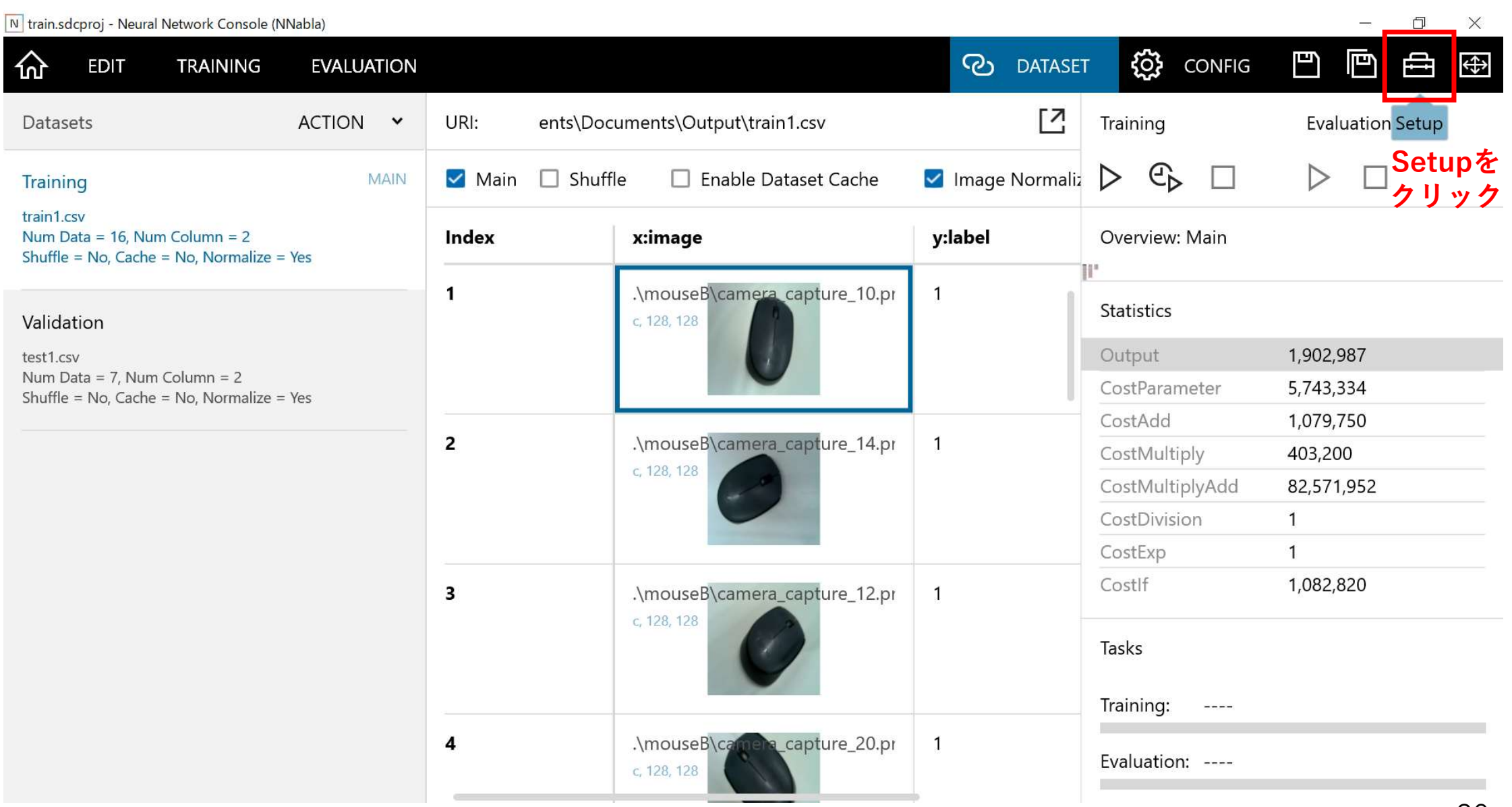
Output	26,956
CostParameter	1,254,664
CostAdd	13,528
CostMultiply	784
CostMultiplyAdd	1,367,296
CostDivision	100
CostExp	100
CostIf	12,544

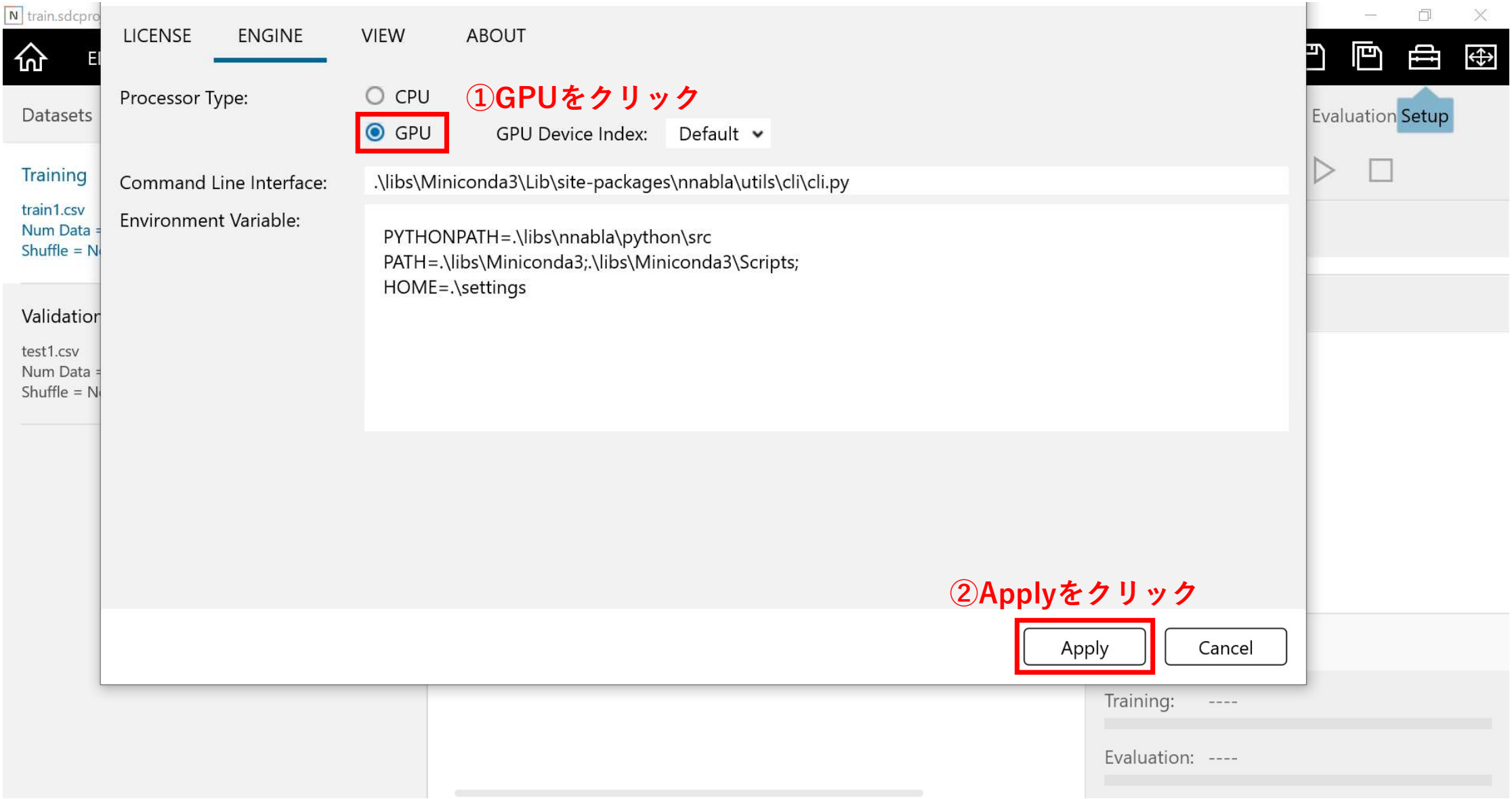
Tasks

Training: ----

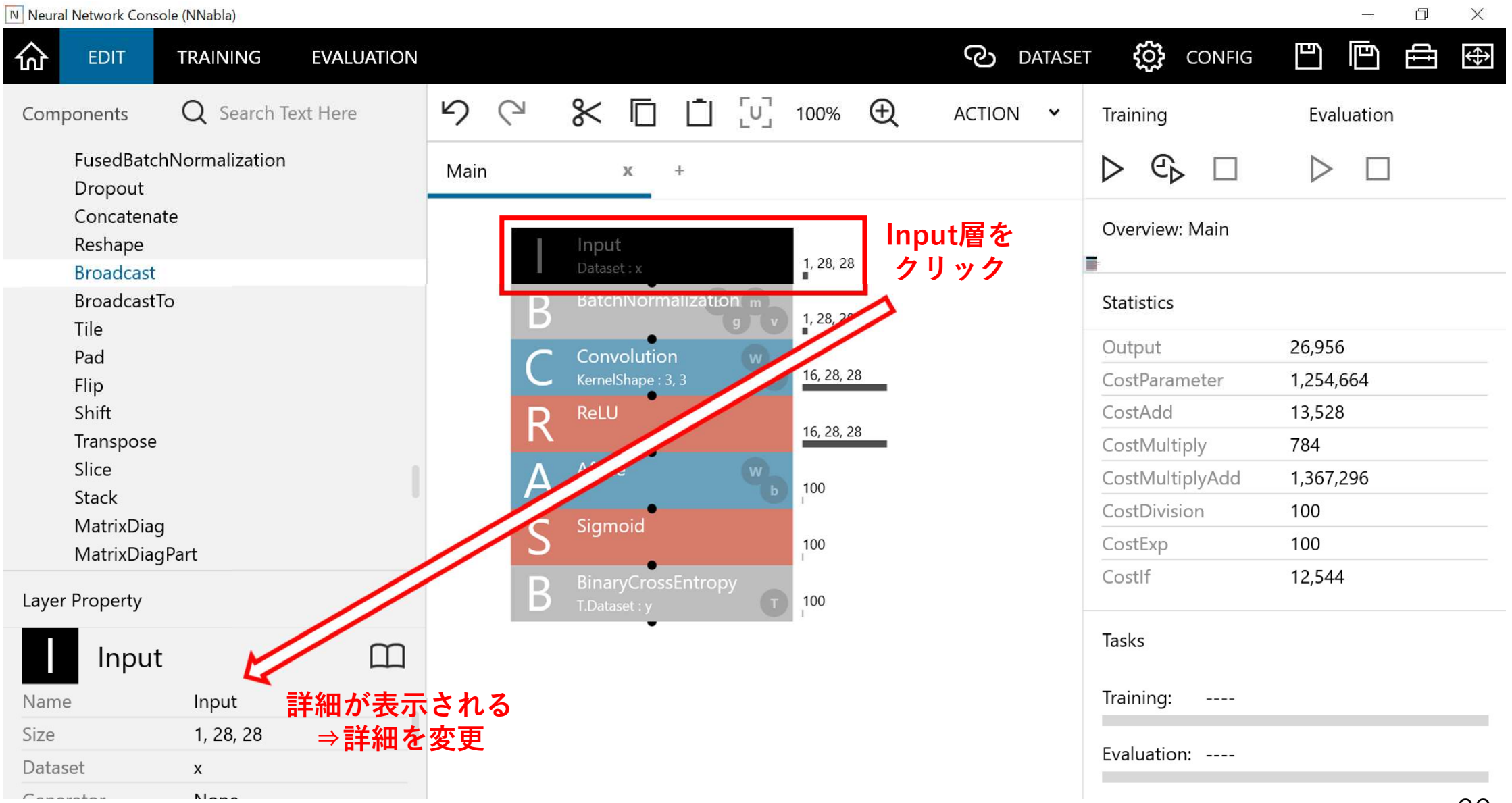
Evaluation: ----

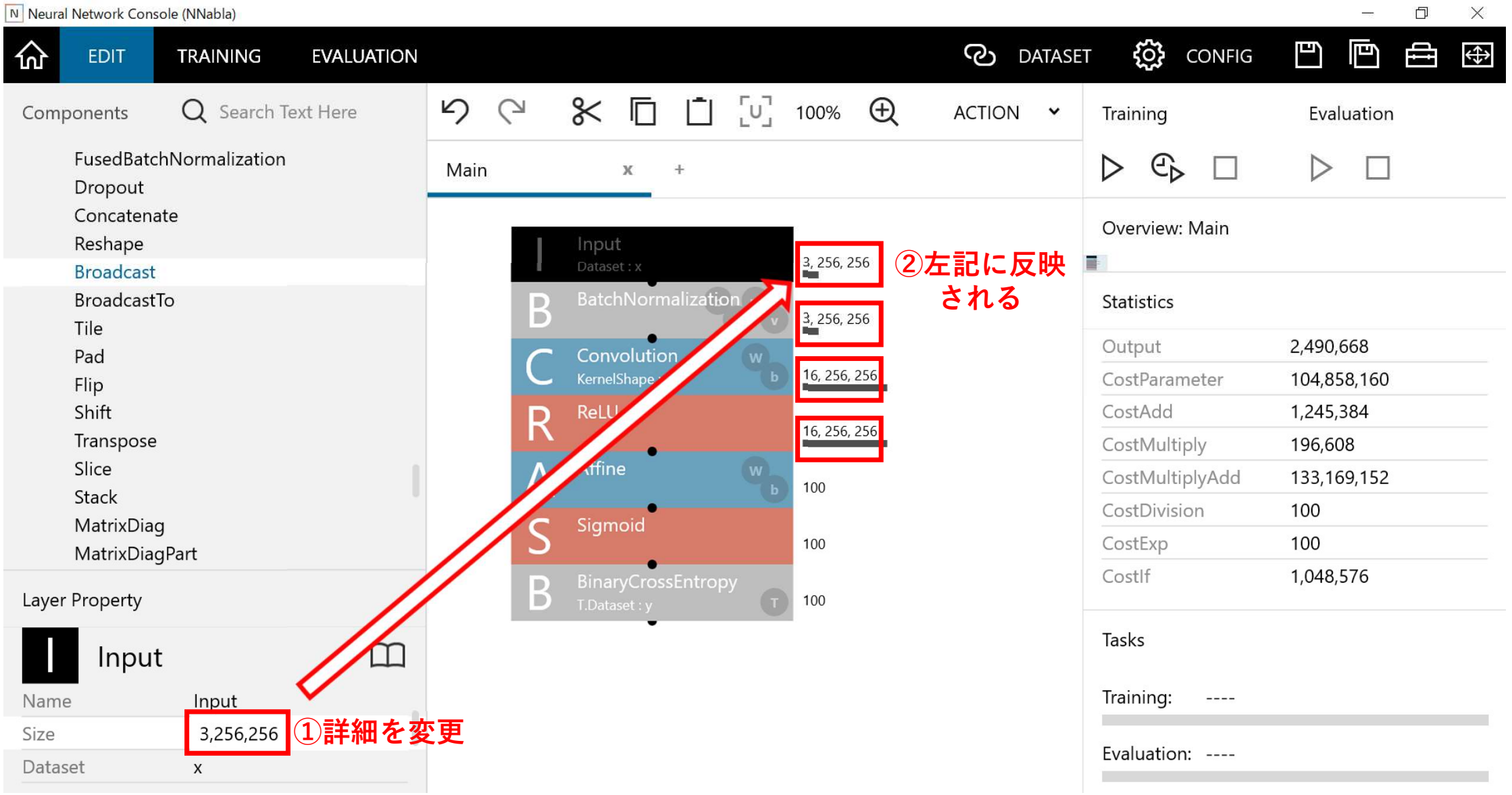
GPU活用の設定方法

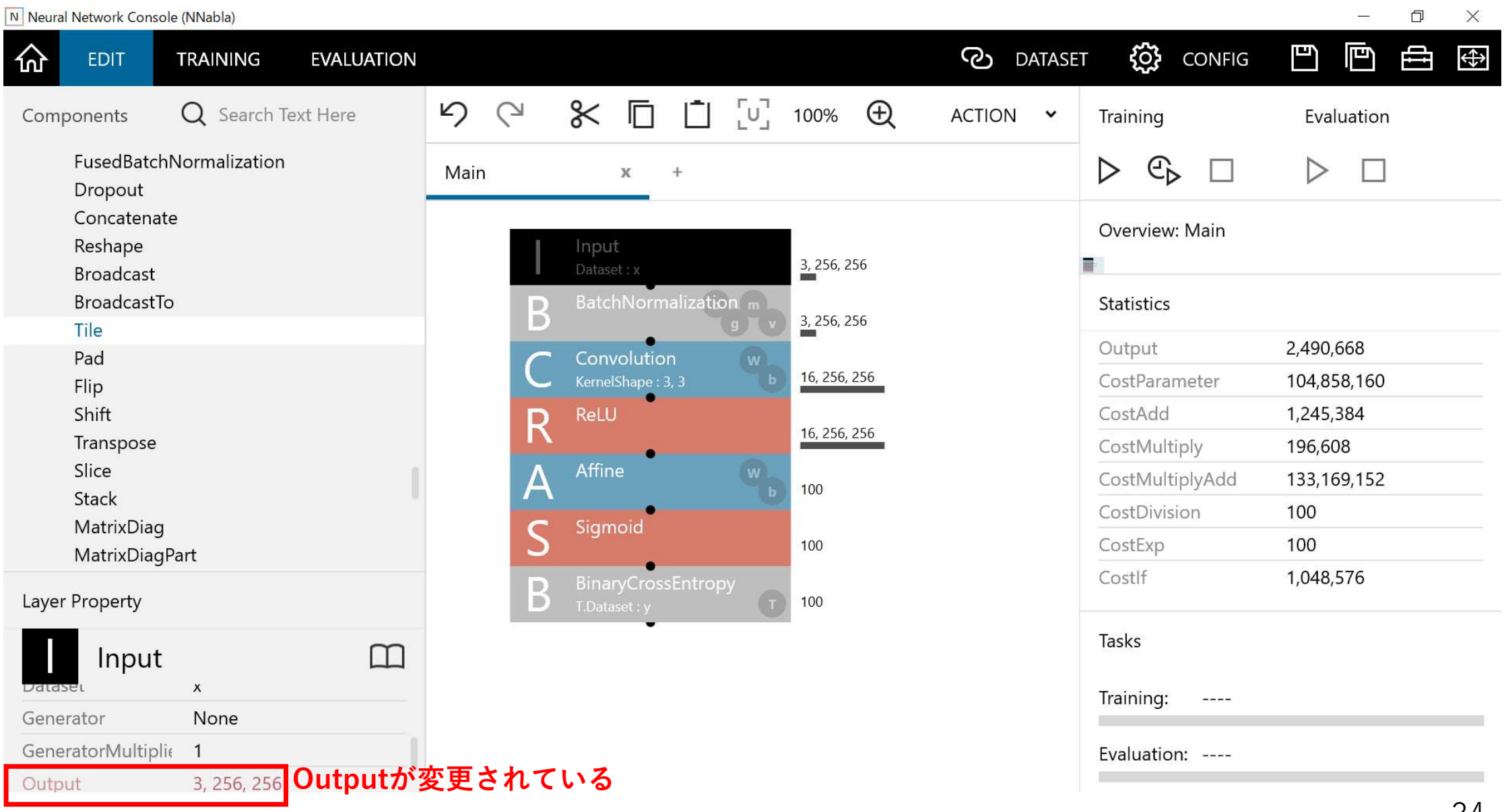

train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Datasets
ACTION
Training
MAIN
train1.csv
Num Data = 16, Num Column = 2
Shuffle = No, Cache = No, Normalize = Yes
Validation
test1.csv
Num Data = 7, Num Column = 2
Shuffle = No, Cache = No, Normalize = Yes
URI:
ents\Documents\Output\train1.csv
Main
Shuffle
Enable Dataset Cache
Image Normaliz
Index
x:image
y:label
1
.\mouseB\camera_capture_10.pr
c, 128, 128
1
2
.\mouseB\camera_capture_14.pr
c, 128, 128
1
3
.\mouseB\camera_capture_12.pr
c, 128, 128
1
4
.\mouseB\camera_capture_20.pr
c, 128, 128
1
Training
Evaluation
Setup
Setupをクリック
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: ----
Evaluation: ----


LICENSE
ENGINE
VIEW
ABOUT
Processor Type:
CPU
GPU
①GPUをクリック
GPU Device Index:
Default
Command Line Interface:
.\libs\Miniconda3\Lib\site-packages\nnabla\utils\cli\cli.py
Environment Variable:
PYTHONPATH=.\libs\nnabla\python\src
PATH=.\libs\Miniconda3;.\libs\Miniconda3\Scripts;
HOME=.\settings
②Applyをクリック
Apply
Cancel
Datasets
Training
train1.csv
Validation
test1.csv
Evaluation
Setup
Training: ----
Evaluation: ----

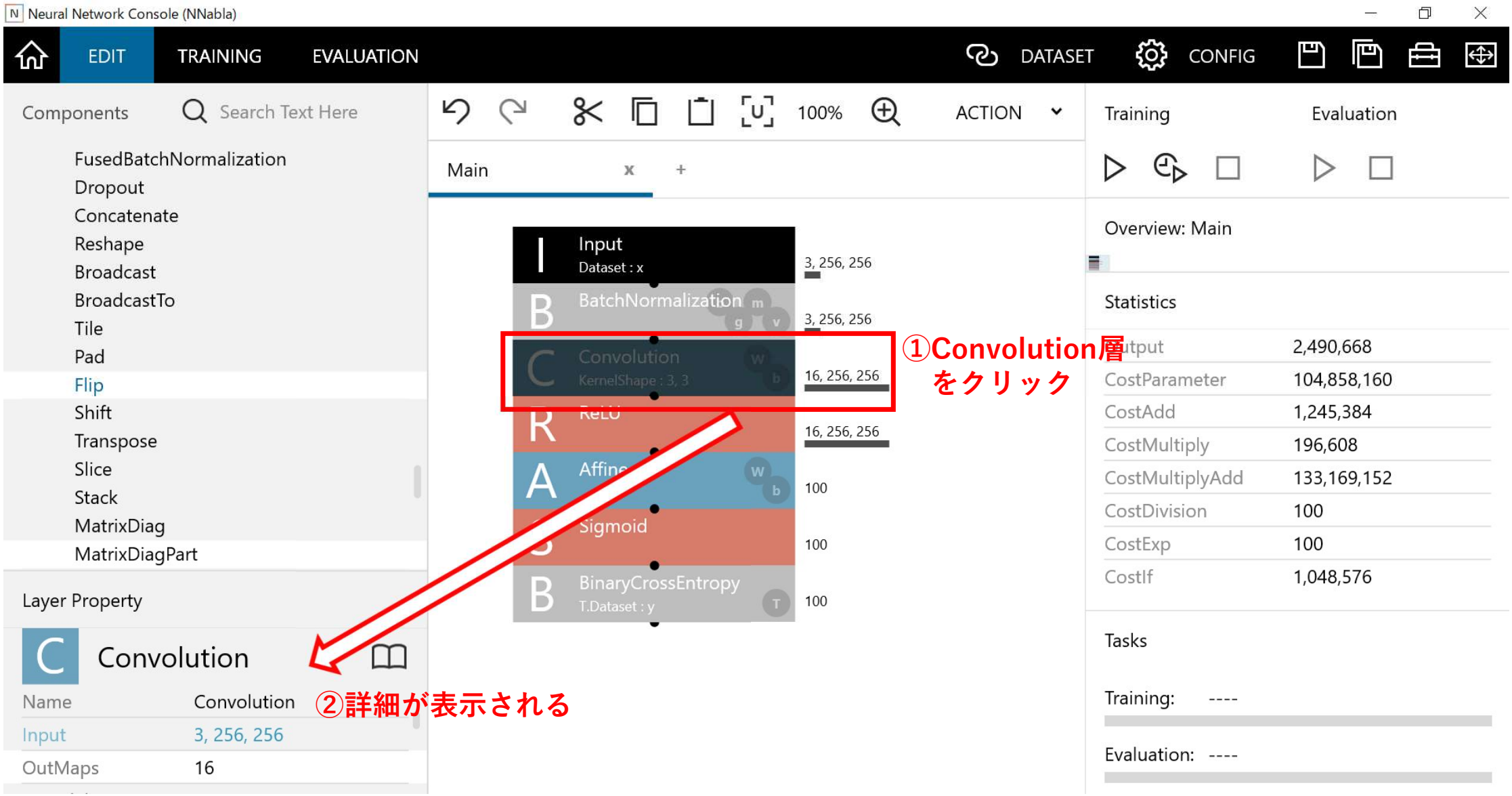
各層の詳細設定方法

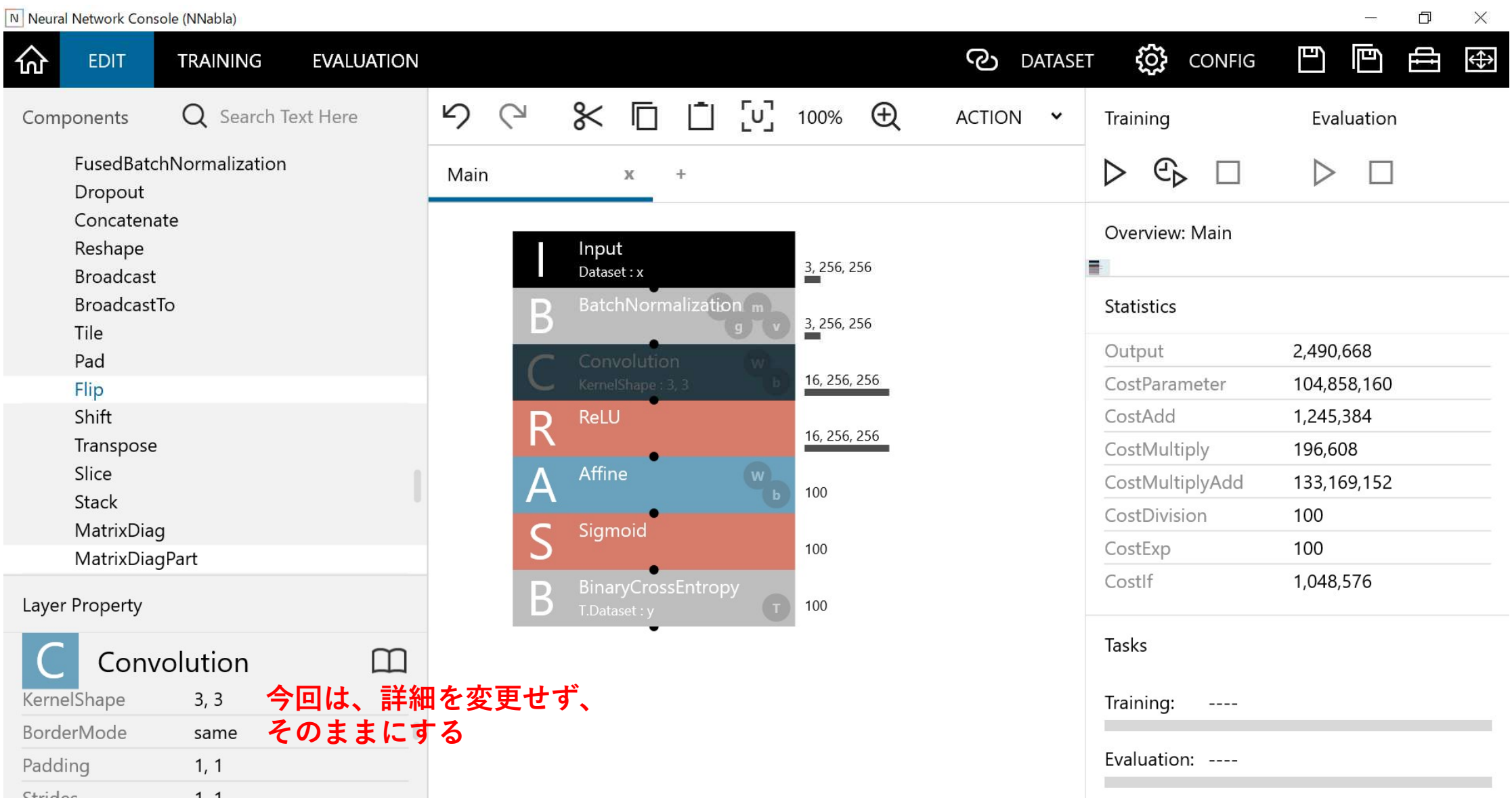

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Components
Search Text Here
FusedBatchNormalization
Dropout
Concatenate
Reshape
Broadcast
BroadcastTo
Tile
Pad
Flip
Shift
Transpose
Slice
Stack
MatrixDiag
MatrixDiagPart
Layer Property
Input
Name Input
Size 1, 28, 28
Dataset x
100%
ACTION
Main
Input
Dataset : x
1, 28, 28
BatchNormalization
Convolution
KernelShape : 3, 3
16, 28, 28
ReLU
16, 28, 28
Sigmoid
100
BinaryCrossEntropy
T.Dataset : y
100
Input層をクリック
詳細が表示される
⇒詳細を変更
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: ----

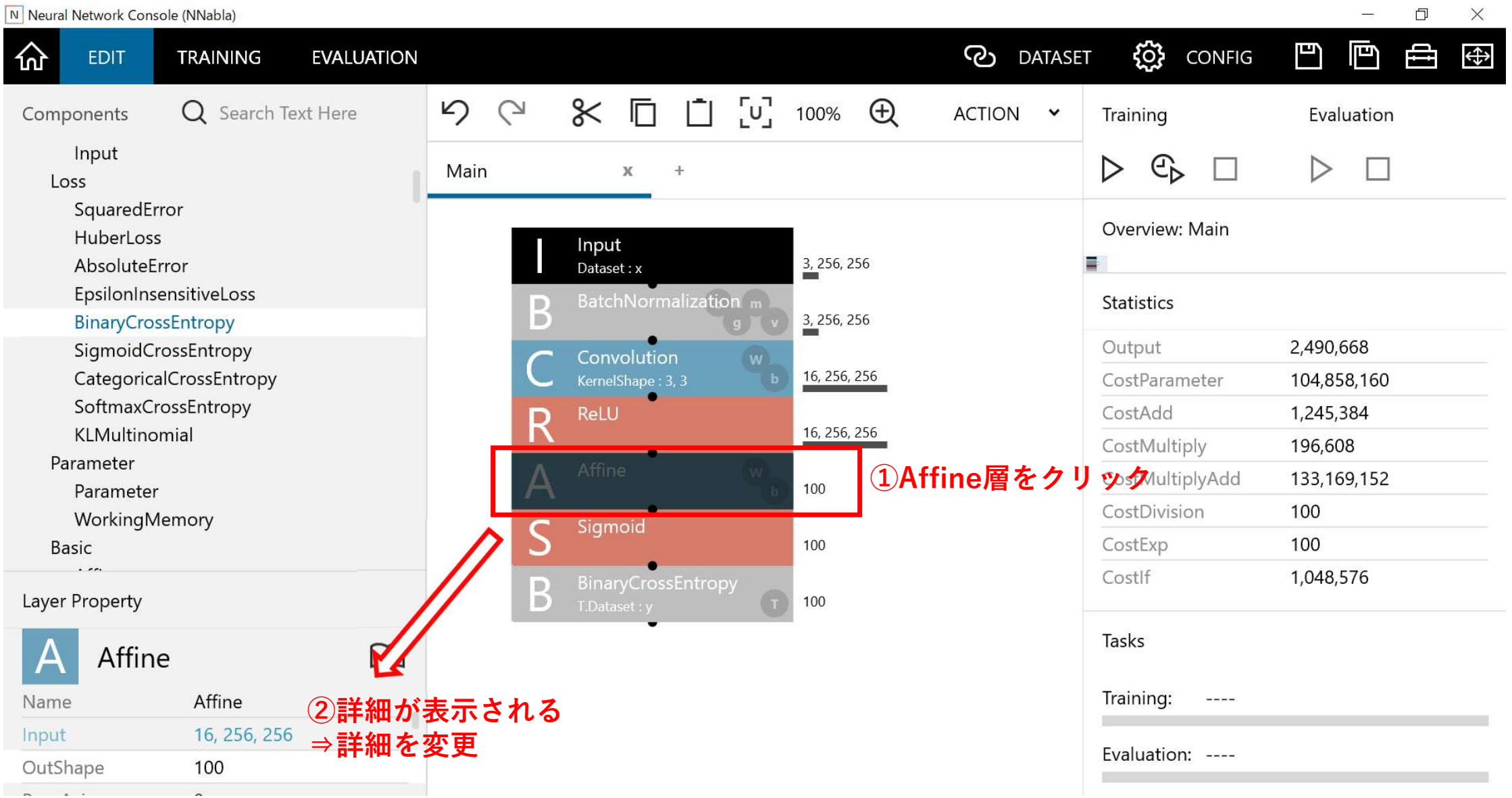

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Components
Search Text Here
FusedBatchNormalization
Dropout
Concatenate
Reshape
Broadcast
BroadcastTo
Tile
Pad
Flip
Shift
Transpose
Slice
Stack
MatrixDiag
MatrixDiagPart
Layer Property
Input
Name
Input
Size
3,256,256
①詳細を変更
Dataset
x
100%
ACTION
Main
Input
Dataset : x
BatchNormalization
Convolution
ReLU
Affine
Sigmoid
BinaryCrossEntropy
T.Dataset : y
3, 256, 256
3, 256, 256
16, 256, 256
16, 256, 256
100
100
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: ----

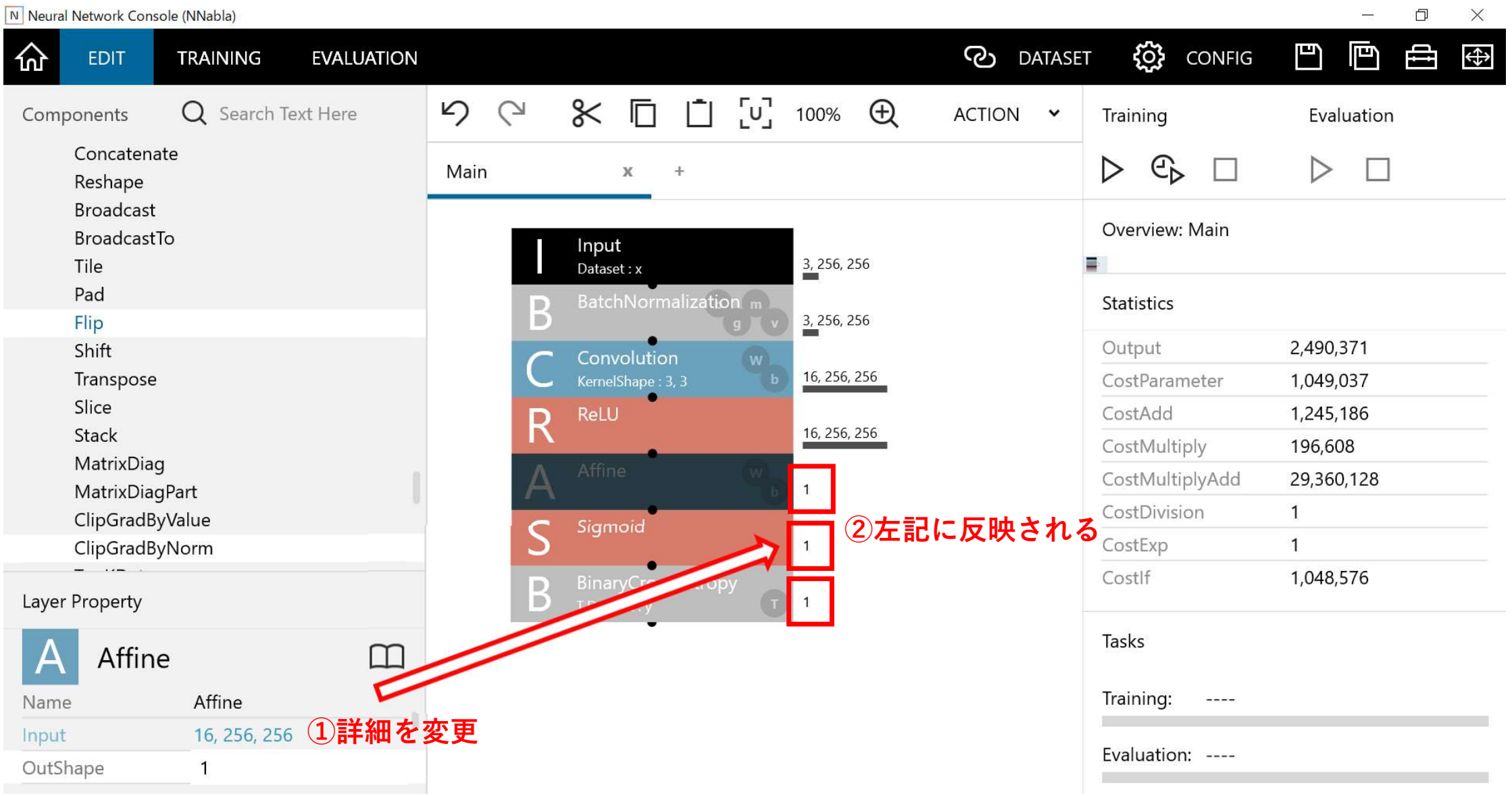


Outputが変更されている

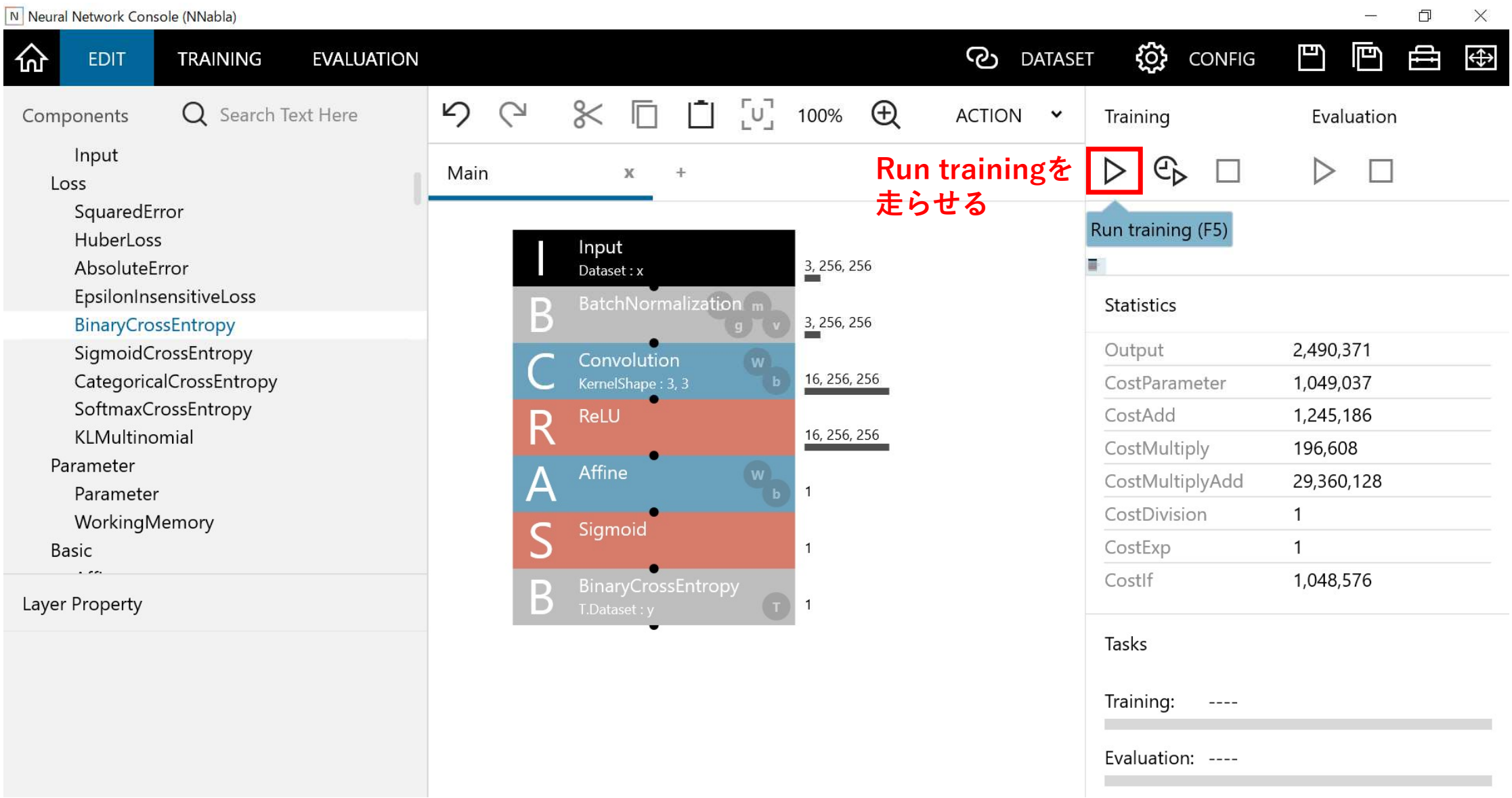

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Components
Search Text Here
FusedBatchNormalization
Dropout
Concatenate
Reshape
Broadcast
BroadcastTo
Tile
Pad
Flip
Shift
Transpose
Slice
Stack
MatrixDiag
MatrixDiagPart
100%
ACTION
Main
Training
Evaluation
Input
Dataset : x
3, 256, 256
BatchNormalization
3, 256, 256
Convolution
KernelShape : 3, 3
16, 256, 256
16, 256, 256
100
Sigmoid
100
BinaryCrossEntropy
T.Dataset : y
100
①Convolution層
をクリック
Overview: Main
Statistics
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: ----
Layer Property
Convolution
Name Convolution
Input 3, 256, 256
OutMaps 16
②詳細が表示される

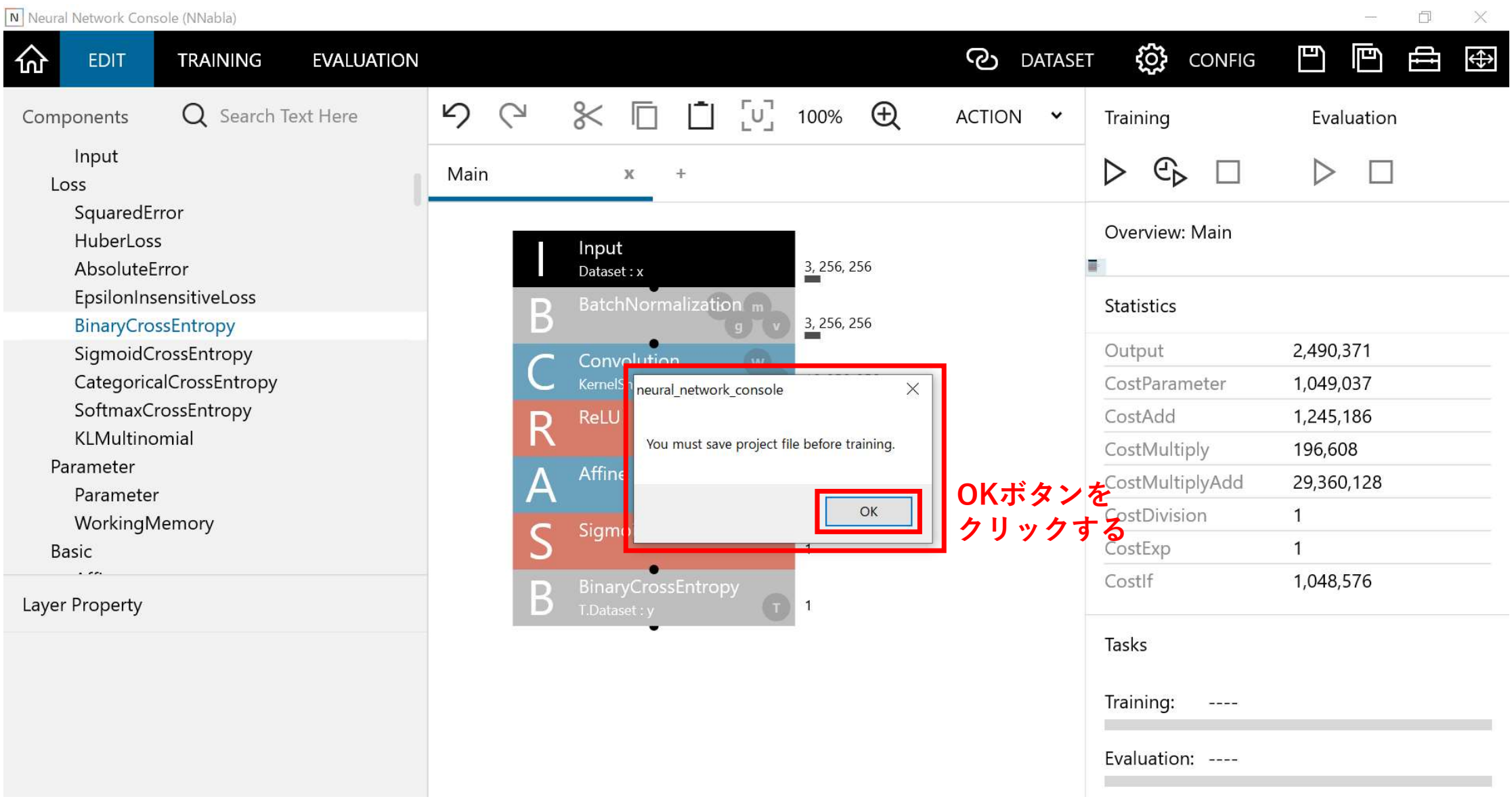

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Components
Search Text Here
FusedBatchNormalization
Dropout
Concatenate
Reshape
Broadcast
BroadcastTo
Tile
Pad
Flip
Shift
Transpose
Slice
Stack
MatrixDiag
MatrixDiagPart
Layer Property
Convolution
KernelShape 3, 3
BorderMode same
Padding 1, 1
100%
ACTION
Main
Input
Dataset : x
3, 256, 256
BatchNormalization
3, 256, 256
Convolution
KernelShape : 3, 3
16, 256, 256
ReLU
16, 256, 256
Affine
100
Sigmoid
100
BinaryCrossEntropy
T.Dataset : y
100
今回は、詳細を変更せず、
そのままにする
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: ----

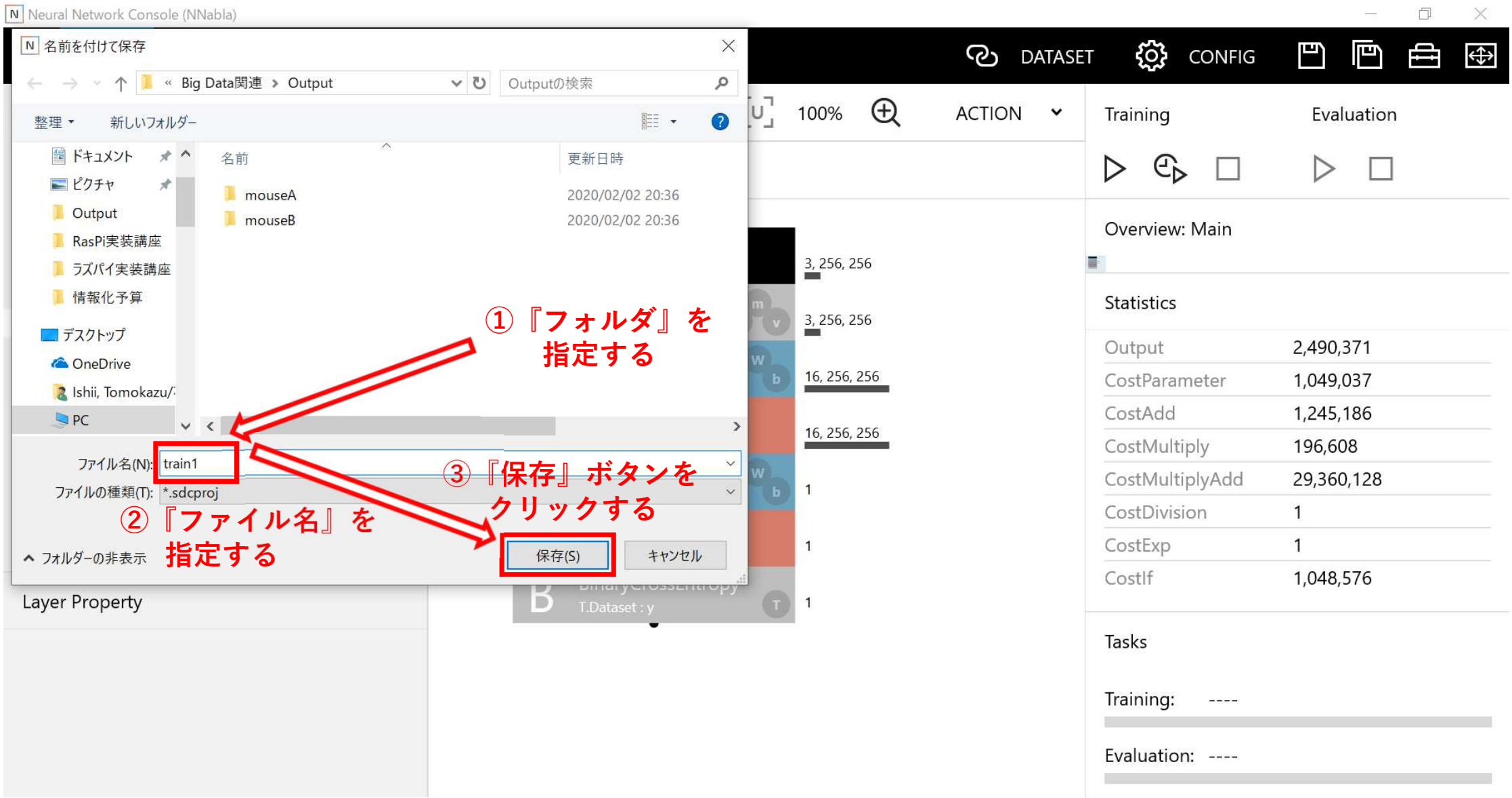

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Components
Search Text Here
Input
Loss
SquaredError
HuberLoss
AbsoluteError
EpsilonInsensitiveLoss
BinaryCrossEntropy
SigmoidCrossEntropy
CategoricalCrossEntropy
SoftmaxCrossEntropy
KLMultinomial
Parameter
Parameter
WorkingMemory
Basic
100%
ACTION
Main
Input
Dataset : x
3, 256, 256
BatchNormalization
3, 256, 256
Convolution
KernelShape : 3, 3
16, 256, 256
ReLU
16, 256, 256
Affine
100
Sigmoid
100
BinaryCrossEntropy
T.Dataset : y
100
①Affine層をクリック
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: ----
Layer Property
Affine
Name Affine
Input 16, 256, 256
OutShape 100
②詳細が表示される
⇒詳細を変更

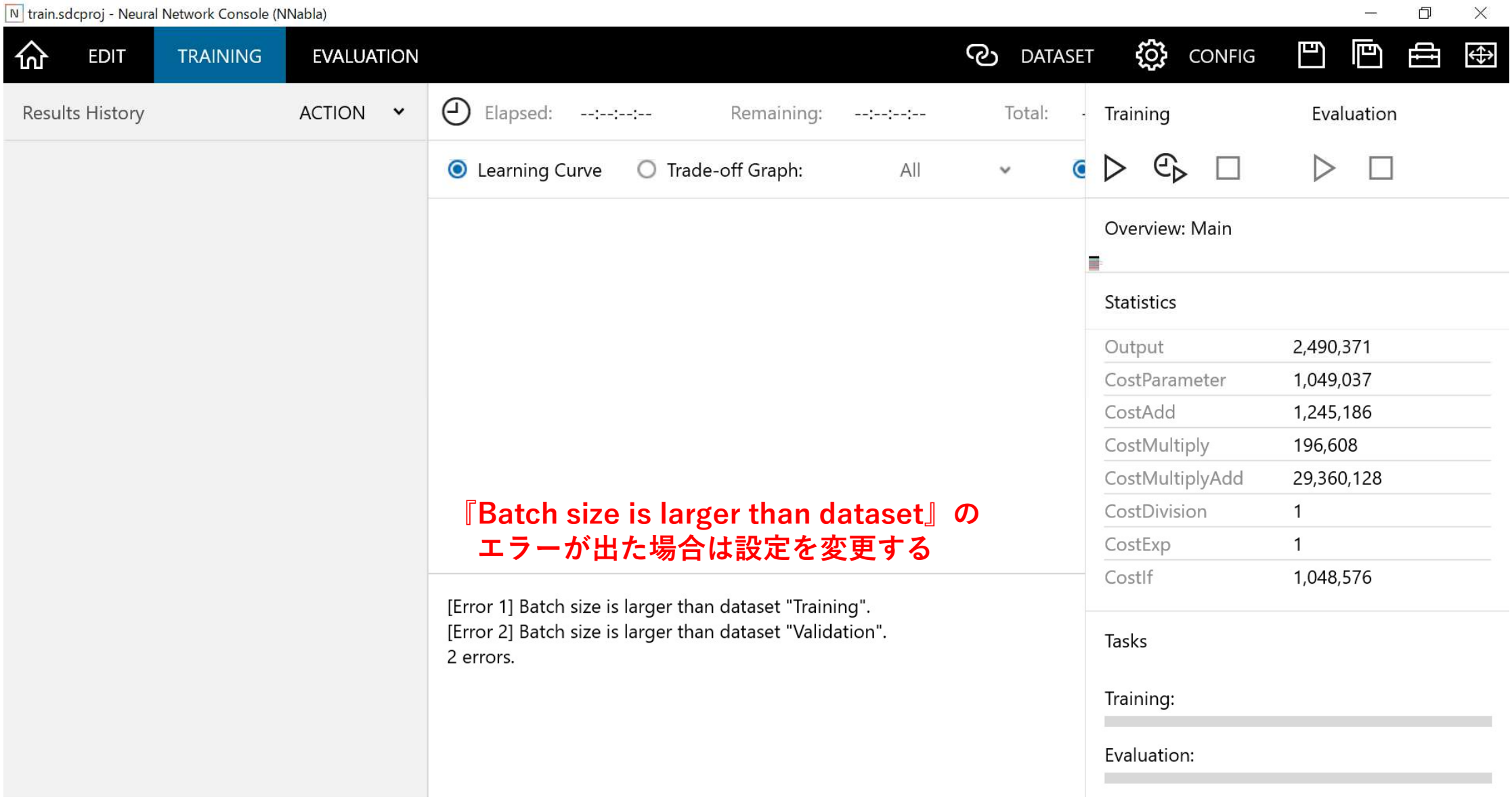

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Components
Search Text Here
Concatenate
Reshape
Broadcast
BroadcastTo
Tile
Pad
Flip
Shift
Transpose
Slice
Stack
MatrixDiag
MatrixDiagPart
ClipGradByValue
ClipGradByNorm
100%
ACTION
Main
Training
Evaluation
Overview: Main
Input
Dataset : x
3, 256, 256
BatchNormalization
3, 256, 256
Convolution
KernelShape : 3, 3
16, 256, 256
ReLU
16, 256, 256
Affine
1
Sigmoid
1
1
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: ----
Layer Property
Affine
Name Affine
Input 16, 256, 256
OutShape 1
①詳細を変更
②左記に反映される

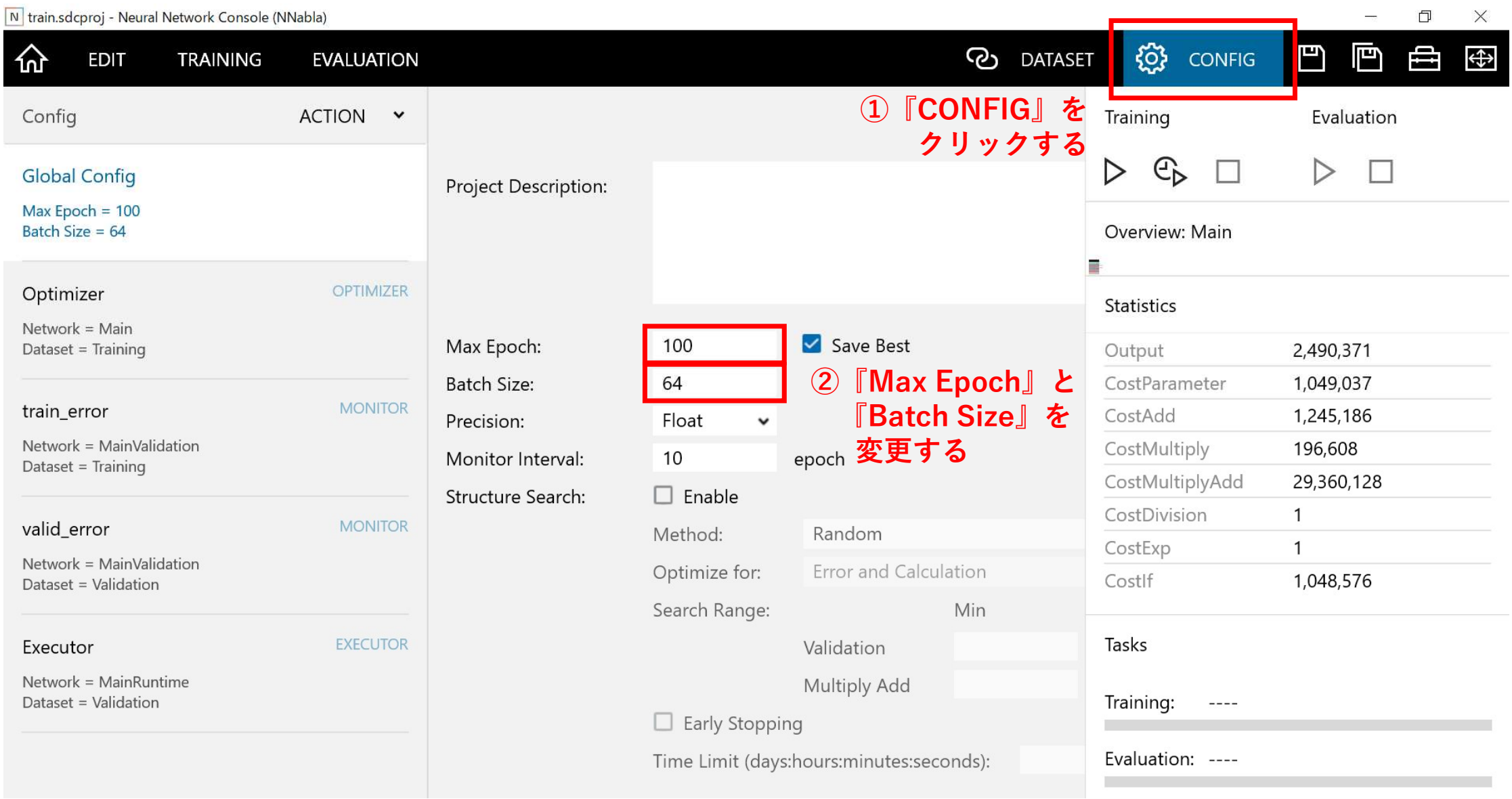
学習方法

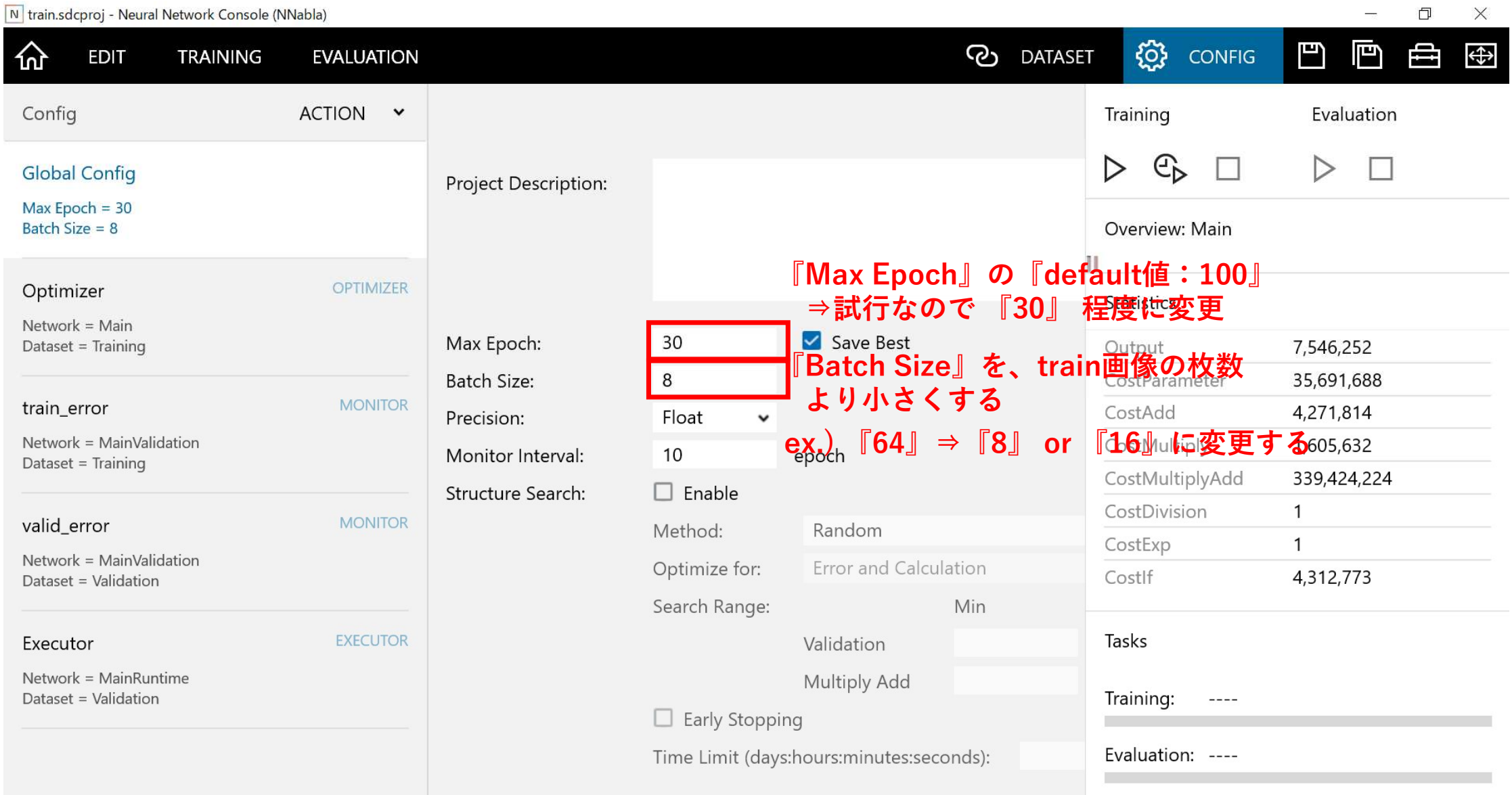

Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Components
Search Text Here
Input
Loss
SquaredError
HuberLoss
AbsoluteError
EpsilonInsensitiveLoss
BinaryCrossEntropy
SigmoidCrossEntropy
CategoricalCrossEntropy
SoftmaxCrossEntropy
KLMultinomial
Parameter
Parameter
WorkingMemory
Basic
Layer Property
100%
ACTION
Main
Run trainingを走らせる
Input
Dataset : x
3, 256, 256
BatchNormalization
3, 256, 256
Convolution
KernelShape : 3, 3
16, 256, 256
ReLU
16, 256, 256
Affine
1
Sigmoid
1
BinaryCrossEntropy
T.Dataset : y
1
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: ----


Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Components
Search Text Here
Input
Loss
SquaredError
HuberLoss
AbsoluteError
EpsilonInsensitiveLoss
BinaryCrossEntropy
SigmoidCrossEntropy
CategoricalCrossEntropy
SoftmaxCrossEntropy
KLMultinomial
Parameter
Parameter
WorkingMemory
Basic
Layer Property
100%
ACTION
Main
Input
Dataset : x
3, 256, 256
BatchNormalization
3, 256, 256
ReLU
BinaryCrossEntropy
T.Dataset : y
1
neural_network_console
You must save project file before training.
OK
OKボタンを
クリックする
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: ----


Neural Network Console (NNabla)
名前を付けて保存
Big Data関連 › Output
Outputの検索
整理
新しいフォルダー
ドキュメント
ピクチャ
Output
RasPi実装講座
ラズパイ実装講座
情報化予算
デスクトップ
OneDrive
Ishii, Tomokazu/
PC
名前
更新日時
mouseA
2020/02/02 20:36
mouseB
2020/02/02 20:36
①『フォルダ』を指定する
ファイル名(N): train1
ファイルの種類(T): *.sdcproj
②『ファイル名』を指定する
③『保存』ボタンをクリックする
フォルダーの非表示
保存(S)
キャンセル
DATASET
CONFIG
100%
ACTION
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: ----
Layer Property
3, 256, 256
3, 256, 256
16, 256, 256
16, 256, 256
1
1
1
T.Dataset : y


train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Results History
ACTION
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:

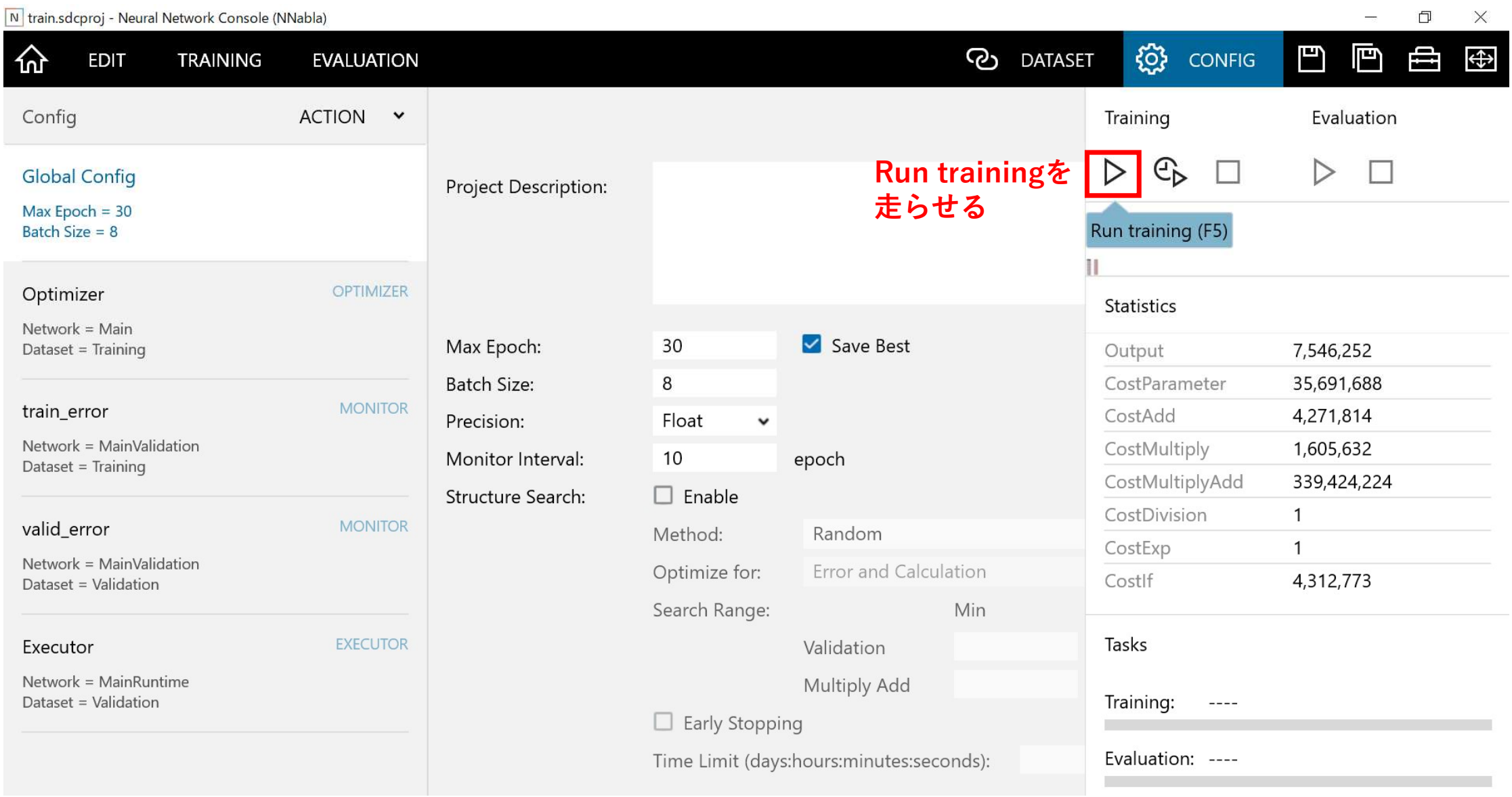

train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Config
ACTION
Global Config
Max Epoch = 100
Batch Size = 64
Optimizer
OPTIMIZER
Network = Main
Dataset = Training
train_error
MONITOR
Network = MainValidation
Dataset = Training
valid_error
MONITOR
Network = MainValidation
Dataset = Validation
Executor
EXECUTOR
Network = MainRuntime
Dataset = Validation
①『CONFIG』をクリックする
Project Description:
Max Epoch:
100
Save Best
Batch Size:
64
②『Max Epoch』と『Batch Size』を変更する
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):
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: ----

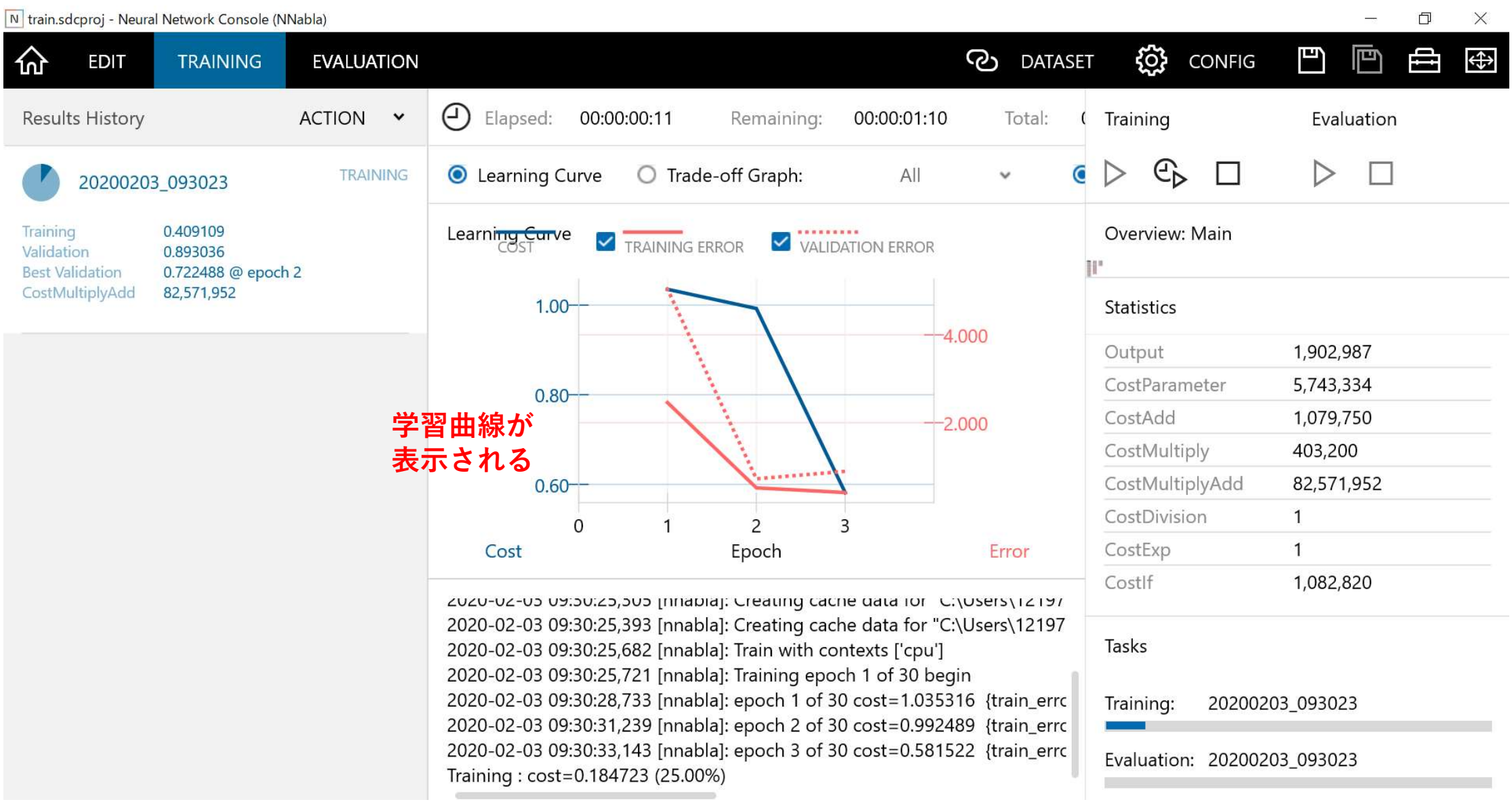


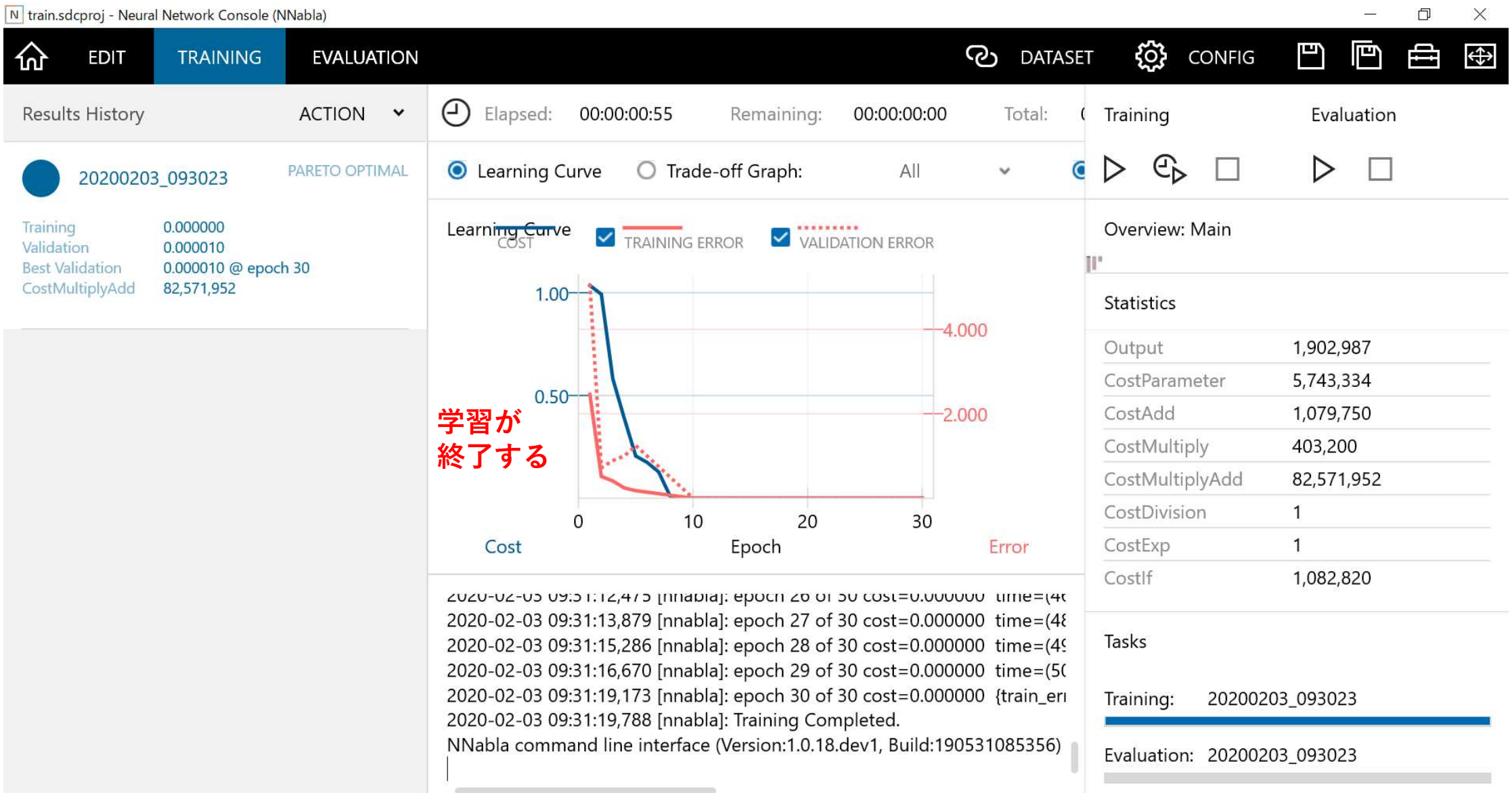
『Max Epoch』の『default値：100』
⇒試行なので 『30』 程度に変更

『Batch Size』を、train画像の枚数
より小さくする

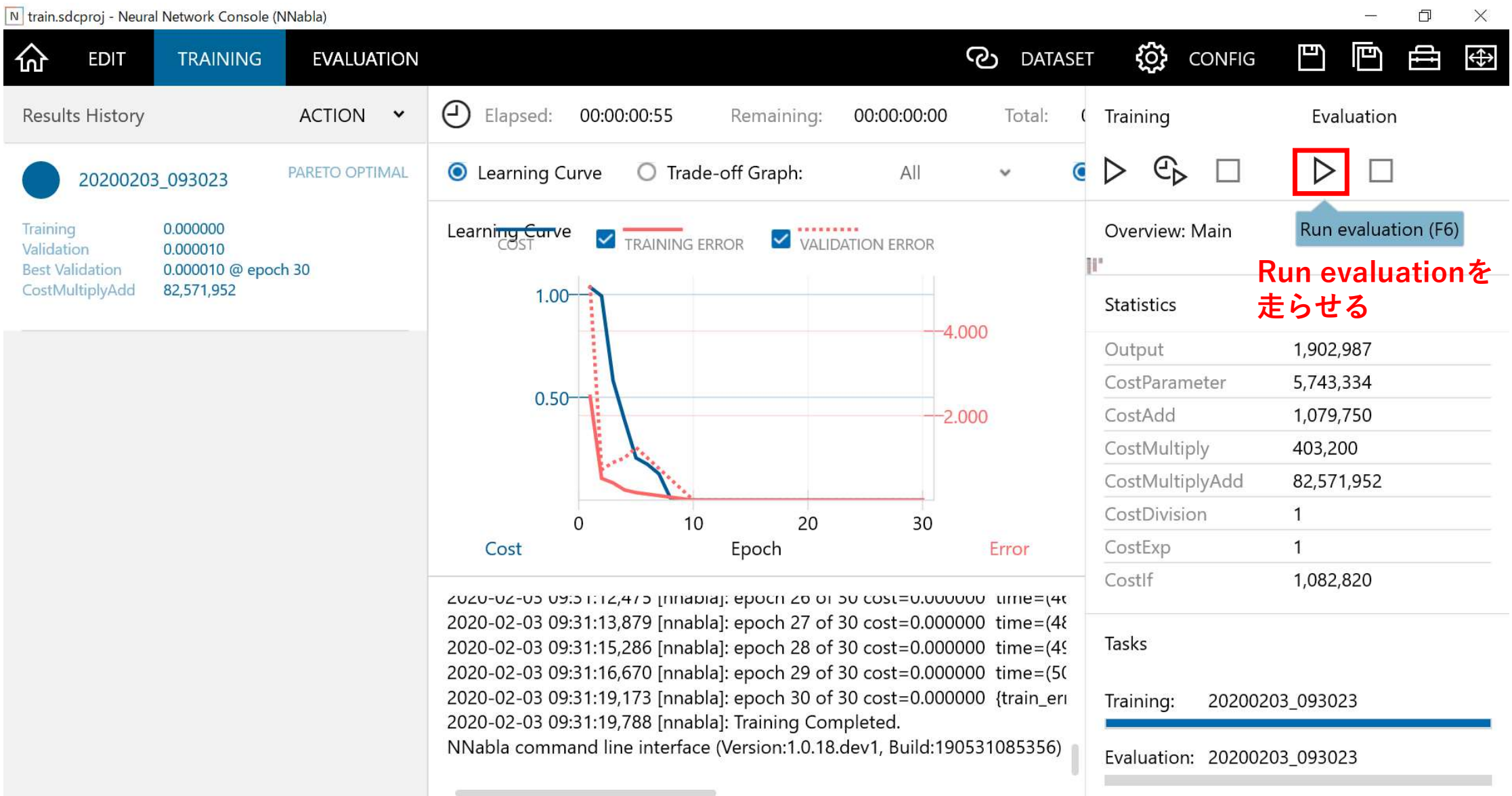
ex.）『64』⇒『8』 or 『16』に変更する


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
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):
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: ----


train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Results History
ACTION
Elapsed: 00:00:00:11
Remaining: 00:00:01:10
Total:
Training
Evaluation
20200203_093023
TRAINING
Training 0.409109
Validation 0.893036
Best Validation 0.722488 @ epoch 2
CostMultiplyAdd 82,571,952
Learning Curve
Trade-off Graph:
All
Learning Curve
COST
TRAINING ERROR
VALIDATION ERROR
1.00
0.80
0.60
4.000
2.000
0
1
2
3
Cost
Epoch
Error
学習曲線が
表示される
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_erro
2020-02-03 09:30:31,239 [nnabla]: epoch 2 of 30 cost=0.992489 {train_erro
2020-02-03 09:30:33,143 [nnabla]: epoch 3 of 30 cost=0.581522 {train_erro
Training : cost=0.184723 (25.00%)
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


train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Results History
ACTION
Elapsed: 00:00:00:55
Remaining: 00:00:00:00
Total:
Training
Evaluation
20200203_093023
PARETO OPTIMAL
Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ epoch 30
CostMultiplyAdd 82,571,952
Learning Curve
Trade-off Graph:
All
Learning Curve
COST
TRAINING ERROR
VALIDATION ERROR
1.00
0.50
4.000
2.000
0
10
20
30
Cost
Epoch
Error
学習が
終了する
2020-02-03 09:31:13,879 [nnabla]: epoch 27 of 30 cost=0.000000 time=(48
2020-02-03 09:31:15,286 [nnabla]: epoch 28 of 30 cost=0.000000 time=(49
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_err
2020-02-03 09:31:19,788 [nnabla]: Training 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

推論方法


train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Results History
ACTION
Elapsed: 00:00:00:55
Remaining: 00:00:00:00
Total:
Training
Evaluation
20200203_093023
PARETO OPTIMAL
Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ epoch 30
CostMultiplyAdd 82,571,952
Learning Curve
Trade-off Graph:
All
Learning Curve
COST
TRAINING ERROR
VALIDATION ERROR
1.00
0.50
4.000
2.000
0
10
20
30
Cost
Epoch
Error
2020-02-03 09:31:13,879 [nnabla]: epoch 27 of 30 cost=0.000000 time=(48
2020-02-03 09:31:15,286 [nnabla]: epoch 28 of 30 cost=0.000000 time=(49
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_err
2020-02-03 09:31:19,788 [nnabla]: Training Completed.
NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)
Overview: Main
Run evaluation (F6)
Run evaluationを走らせる
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

train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION DATASET CONFIG

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:

Output Result Confusion Matrix: y - y'

Index	x:image	y:label
1	C:\Users\1219722\Documents\[c, 128, 128 	0
2	C:\Users\1219722\Documents\[c, 128, 128 	1

推論が完了する

--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)

Training Evaluation

Overview: Main

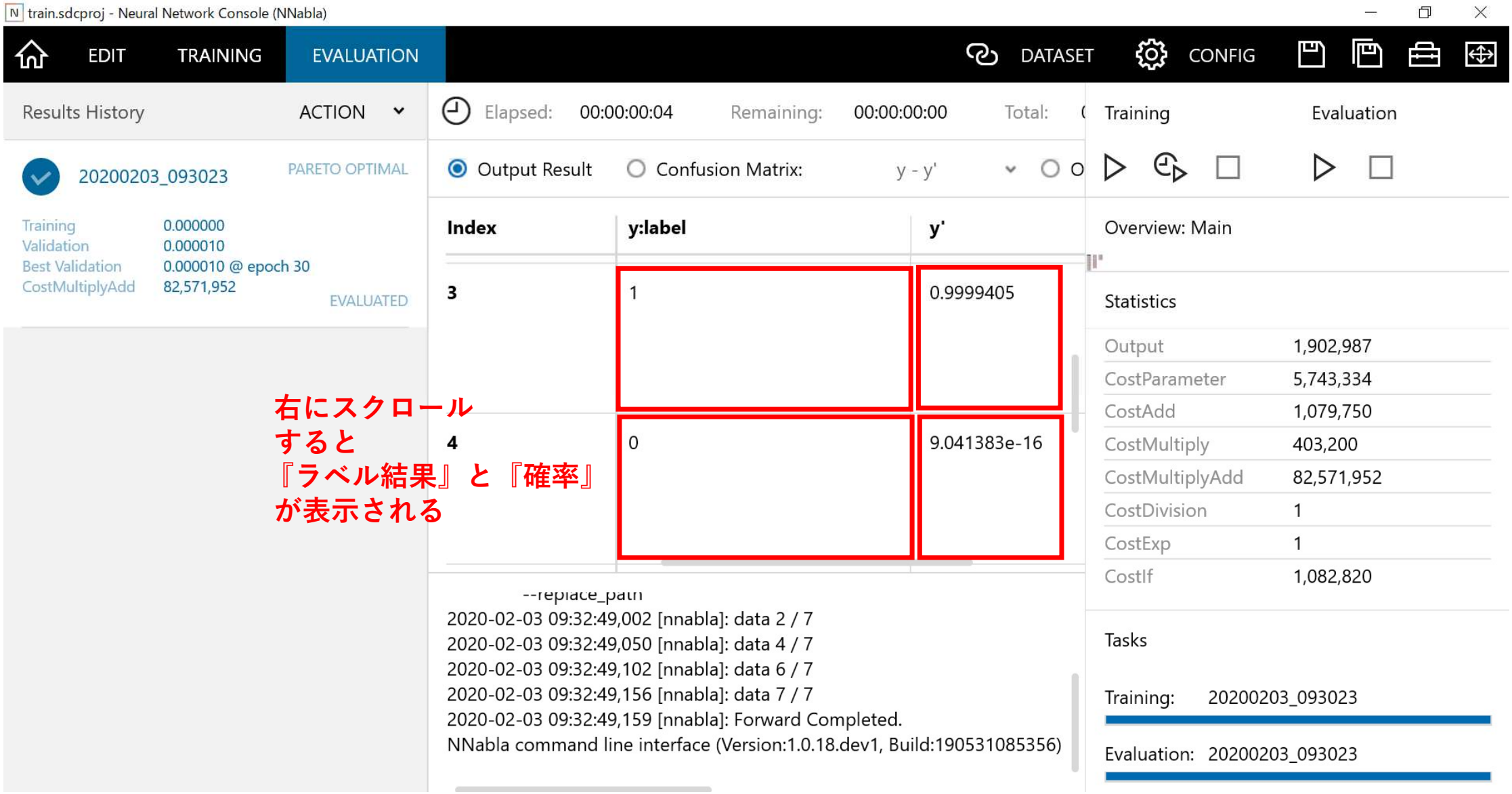
Statistics

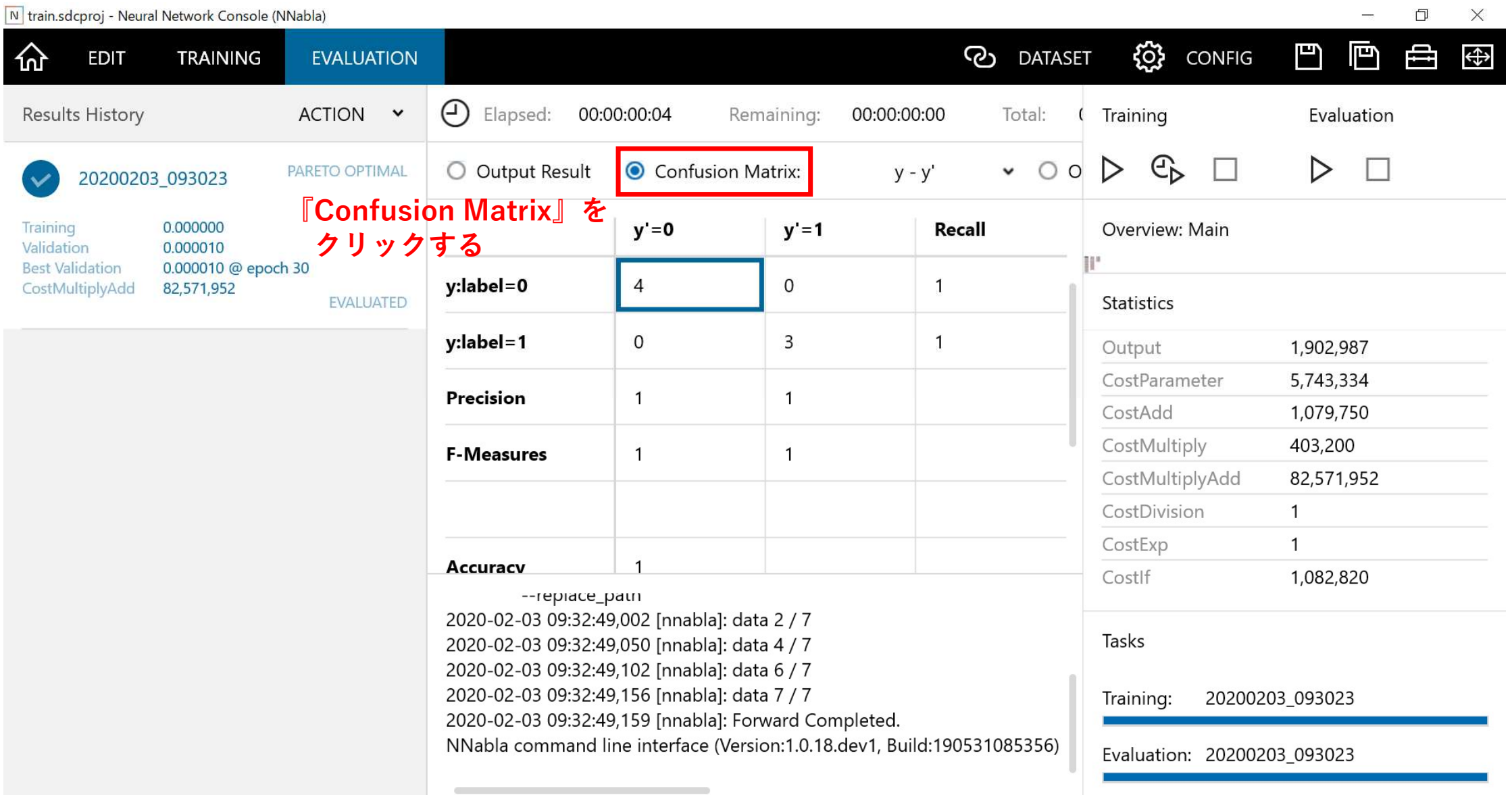
Output	1,902,987
CostParameter	5,743,334
CostAdd	1,079,750
CostMultiply	403,200
CostMultiplyAdd	82,571,952
CostDivision	1
CostExp	1
CostIf	1,082,820

Tasks

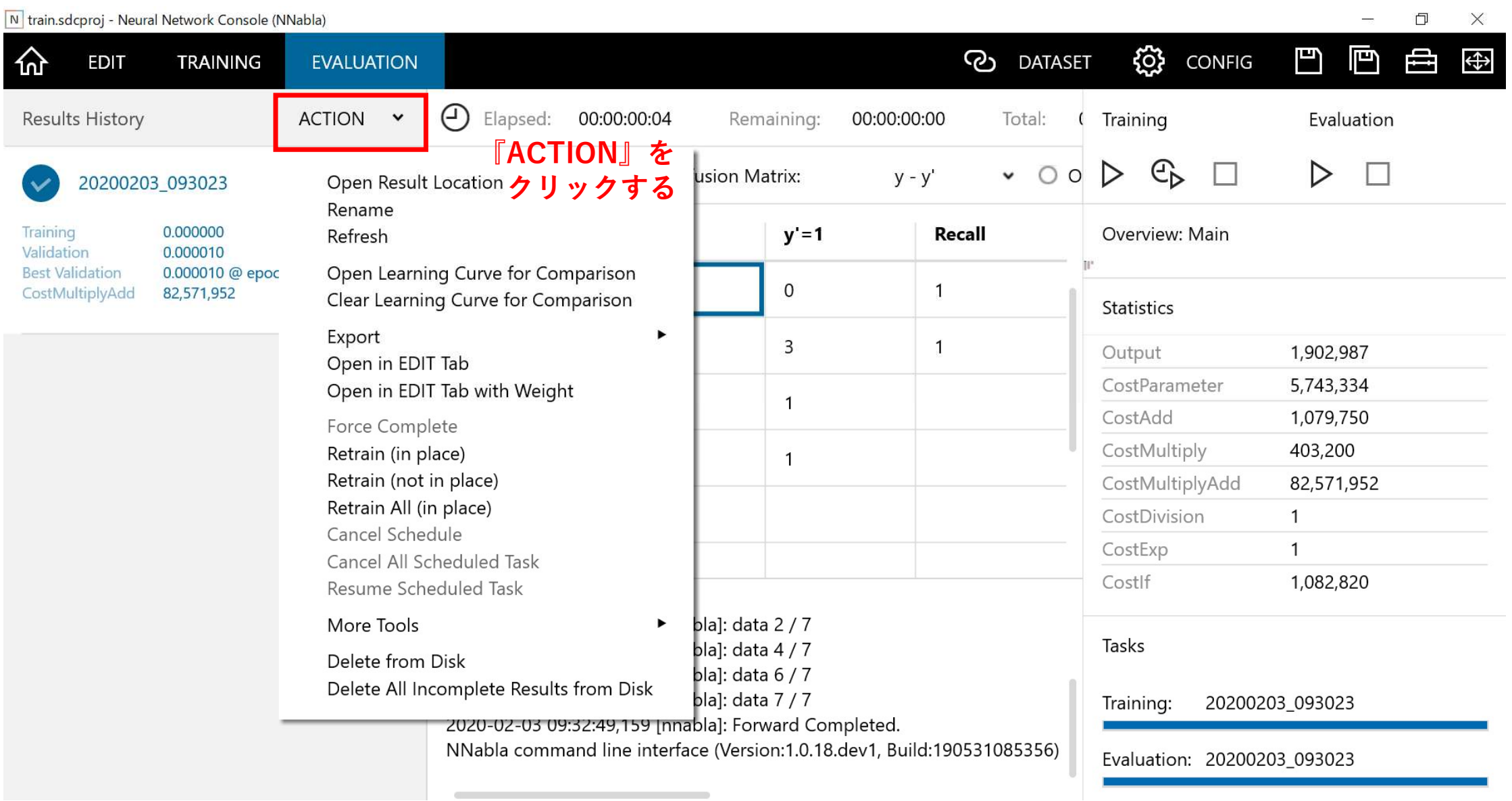
Training: 20200203_093023

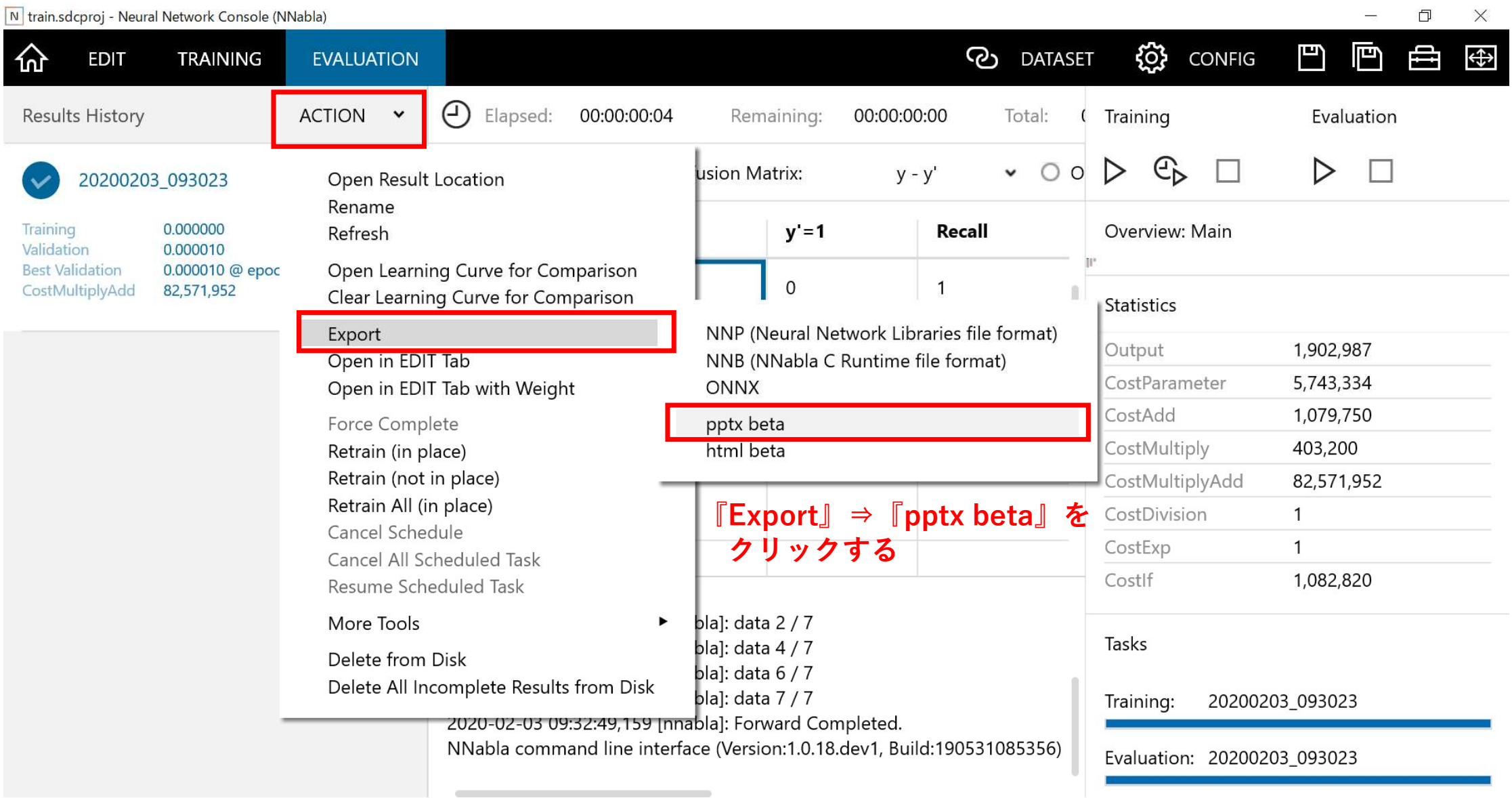
Evaluation: 20200203_093023

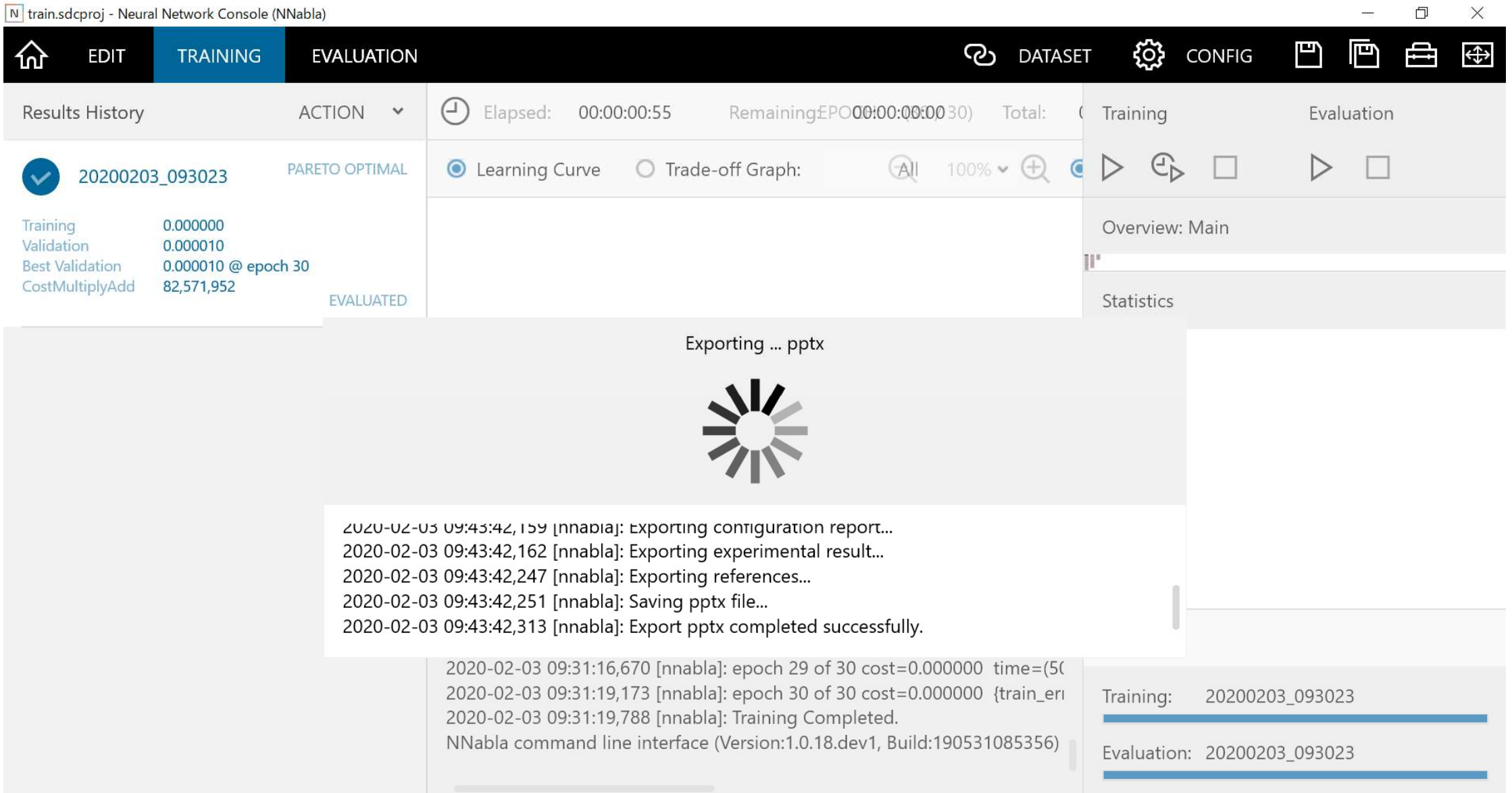

train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Results History
ACTION
Elapsed: 00:00:00:04
Remaining: 00:00:00:00
Total:
Training
Evaluation
20200203_093023
PARETO OPTIMAL
Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ epoch 30
CostMultiplyAdd 82,571,952
EVALUATED
Output Result
Confusion Matrix:
y - y'
Index
y:label
y'
3
1
0.9999405
4
0
9.041383e-16
右にスクロール
すると
『ラベル結果』と『確率』
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)
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

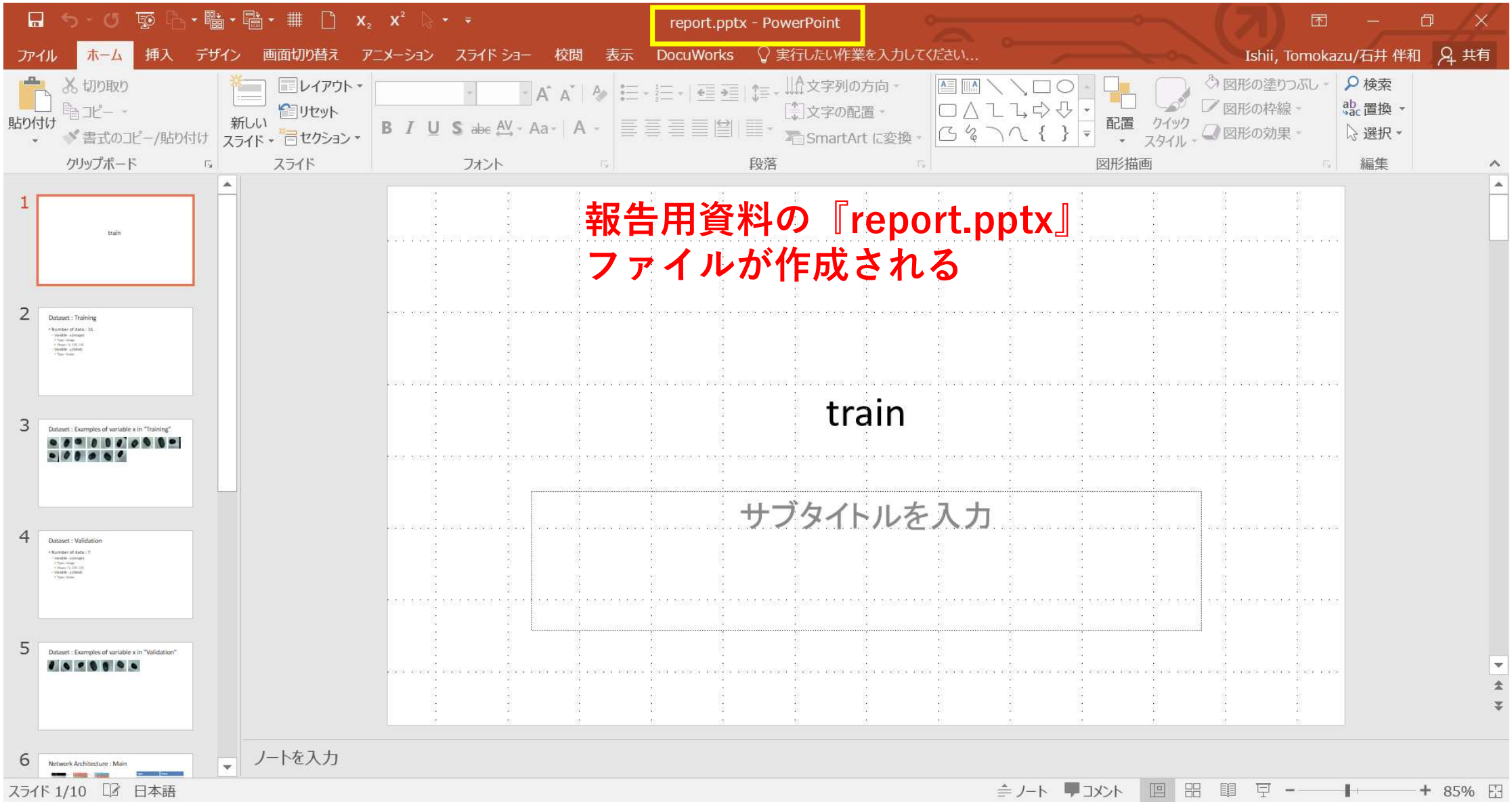

train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Results History
ACTION
20200203_093023
PARETO OPTIMAL
Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ epoch 30
CostMultiplyAdd 82,571,952
EVALUATED
『Confusion Matrix』をクリックする
Elapsed: 00:00:00:04
Remaining: 00:00:00:00
Total:
Output Result
Confusion Matrix:
y - y'
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_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)
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

報告資料の
自動書き出し方法

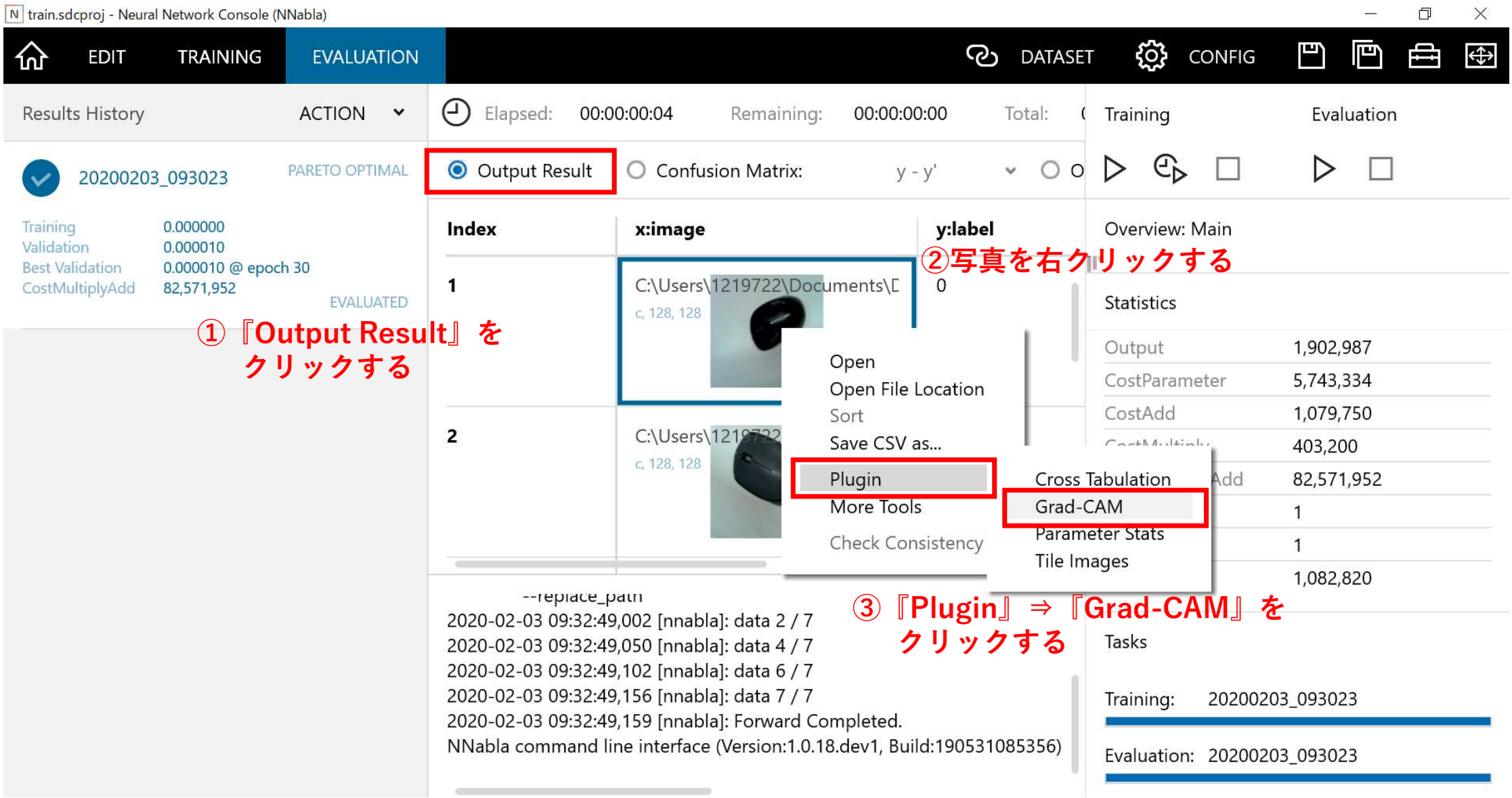

train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Results History
ACTION
Elapsed: 00:00:00:04
Remaining: 00:00:00:00
Total:
『ACTION』をクリックする
20200203_093023
Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ epoc
CostMultiplyAdd 82,571,952
Open Result 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
usion Matrix:
y - y'
y'=1
Recall
0
1
3
1
1
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)
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

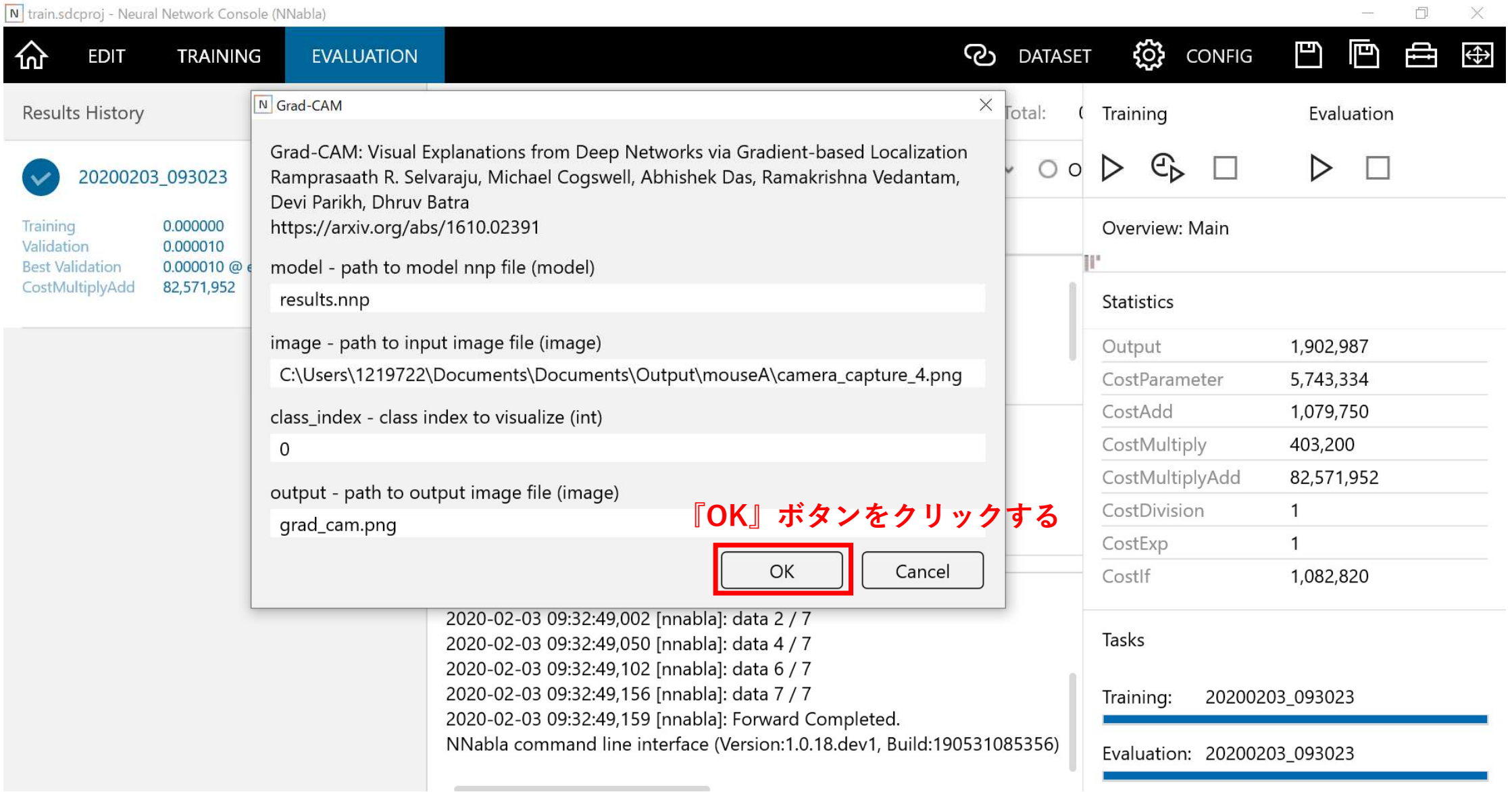

train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Results History
ACTION
Elapsed: 00:00:00:04
Remaining: 00:00:00:00
Total:
Training
Evaluation
20200203_093023
Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ epoc
CostMultiplyAdd 82,571,952
Open Result 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
NNP (Neural Network Libraries file format)
NNB (NNabla C Runtime file format)
ONNX
pptx beta
html beta
y'=1
Recall
0
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)
『Export』⇒『pptx beta』をクリックする

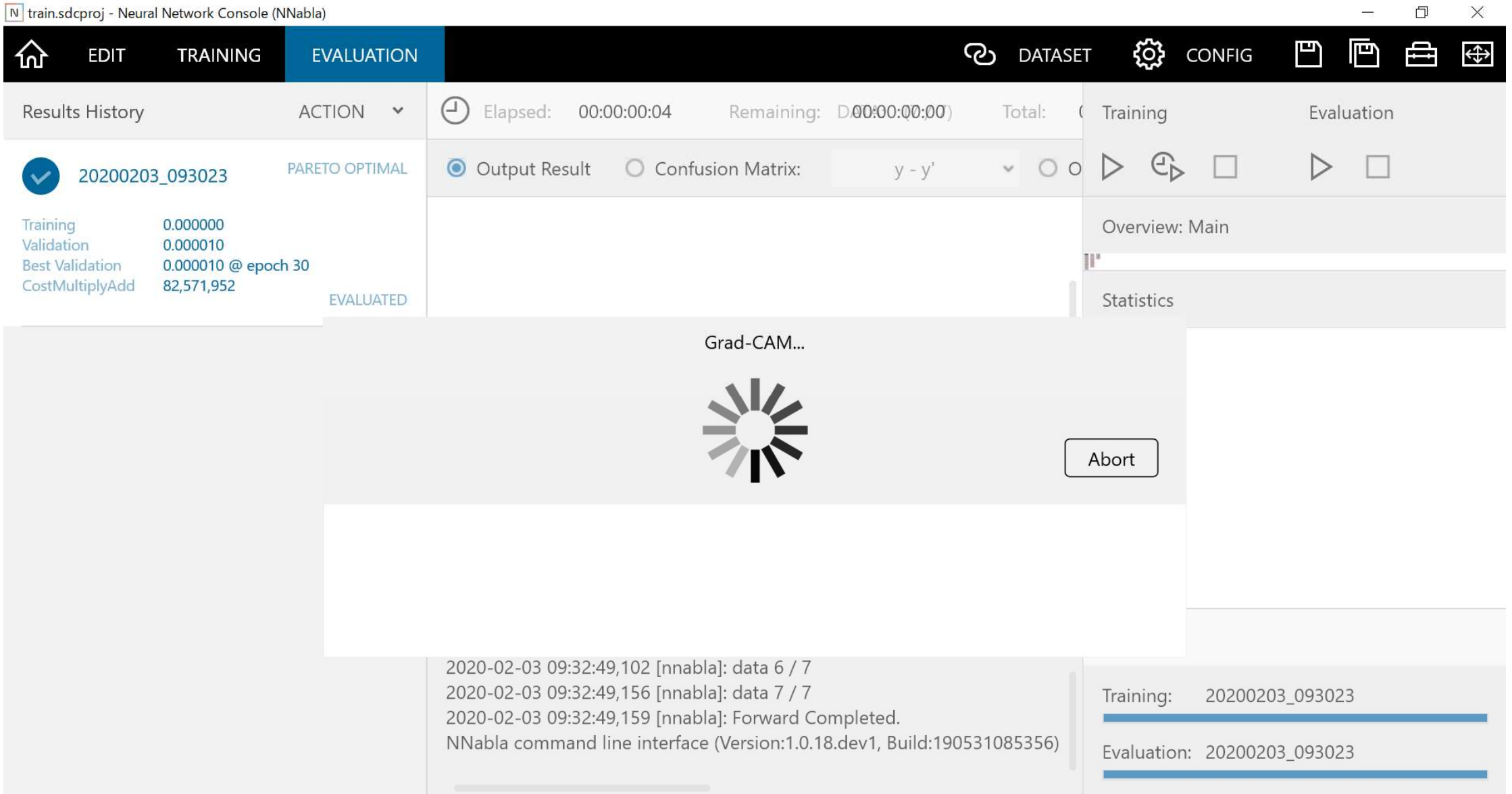

train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Results History
ACTION
Elapsed: 00:00:00:55
Training
Evaluation
20200203_093023
PARETO OPTIMAL
Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ epoch 30
CostMultiplyAdd 82,571,952
EVALUATED
Learning Curve
Trade-off Graph:
All
100%
Overview: Main
Statistics
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=(5(
2020-02-03 09:31:19,173 [nnabla]: epoch 30 of 30 cost=0.000000 {train_eri
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
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...
Ishii, Tomokazu/石井 伴和
共有
貼り付け
切り取り
コピー
書式のコピー/貼り付け
新しいスライド
レイアウト
リセット
セクション
文字列の方向
文字の配置
SmartArt に変換
配置
クイックスタイル
図形の塗りつぶし
図形の枠線
図形の効果
検索
置換
選択
クリップボード
スライド
フォント
段落
図形描画
編集
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
85%

Grad-CAM
(画像識別判断根拠)
の表示方法


train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Results History
ACTION
Elapsed: 00:00:00:04
Remaining: 00:00:00:00
Total:
Training
Evaluation
20200203_093023
PARETO OPTIMAL
Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ epoch 30
CostMultiplyAdd 82,571,952
EVALUATED
Output Result
Confusion Matrix:
y - y'
Index
x:image
y:label
1
C:\Users\1219722\Documents\[
c, 128, 128
0
2
C:\Users\1219722
c, 128, 128
①『Output Result』をクリックする
②写真を右クリックする
Open
Open File Location
Sort
Save CSV as...
Plugin
More Tools
Check Consistency
Cross Tabulation
Grad-CAM
Parameter Stats
Tile Images
③『Plugin』⇒『Grad-CAM』をクリックする
Overview: Main
Statistics
Output 1,902,987
CostParameter 5,743,334
CostAdd 1,079,750
403,200
Add 82,571,952
1
1
1,082,820
--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)
Tasks
Training: 20200203_093023
Evaluation: 20200203_093023


train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Results History
20200203_093023
Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ e
CostMultiplyAdd 82,571,952
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
Total:
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


train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Results History
ACTION
Elapsed: 00:00:00:04
Remaining:
Total:
Training
Evaluation
20200203_093023
PARETO OPTIMAL
Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ epoch 30
CostMultiplyAdd 82,571,952
EVALUATED
Output Result
Confusion Matrix:
y - y'
Overview: Main
Statistics
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

train.sdcproj - Neural Network Console (NNabla)

EDIT TRAINING EVALUATION DATASET CONFIG

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:

Output Result Confusion Matrix: y - y'

Index	Result
1	C:\Users\1219722\Documents\[c, 128, 128 

『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)

Training Evaluation

Overview: Main

Statistics

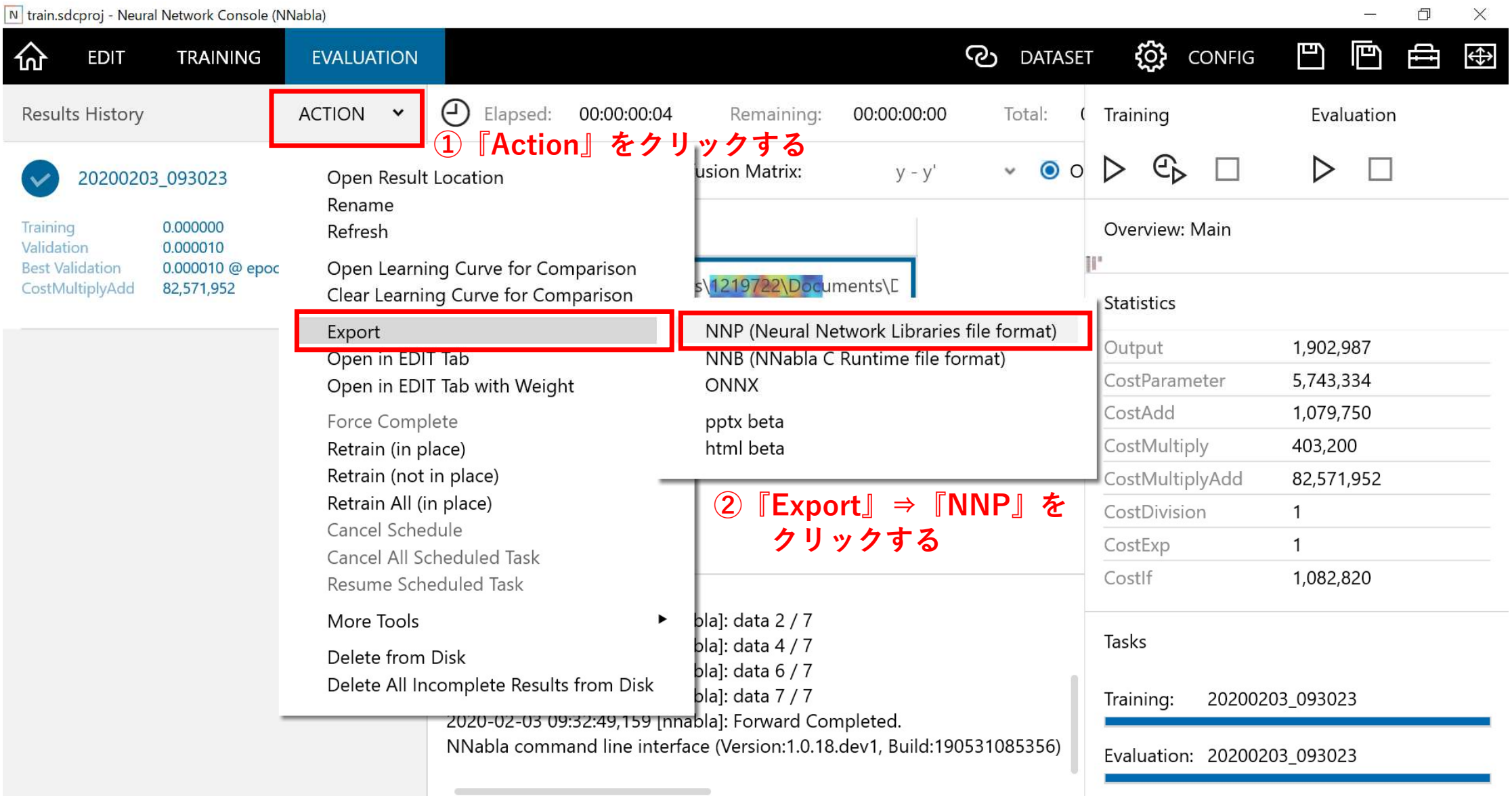
Output	1,902,987
CostParameter	5,743,334
CostAdd	1,079,750
CostMultiply	403,200
CostMultiplyAdd	82,571,952
CostDivision	1
CostExp	1
CostIf	1,082,820

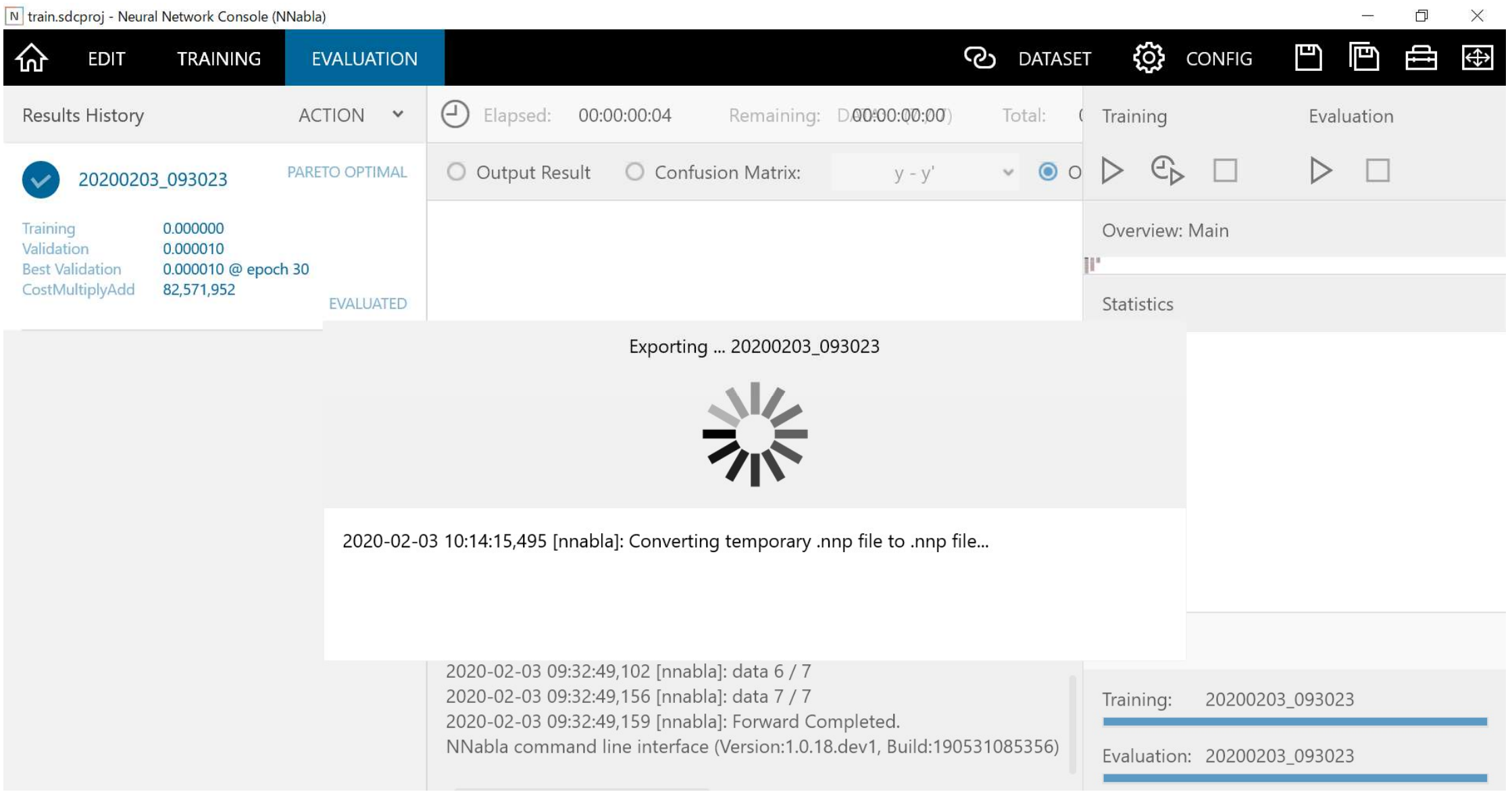
Tasks

Training: 20200203_093023

Evaluation: 20200203_093023

【ご参考】
Neural Network ConsoleのPythonへの書き出し方法


train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Results History
ACTION
Elapsed: 00:00:00:04
Remaining: 00:00:00:00
Total:
①『Action』をクリックする
Training
Evaluation
20200203_093023
Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ epoc
CostMultiplyAdd 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
NNP (Neural Network Libraries file format)
NNB (NNabla C Runtime file format)
ONNX
pptx beta
html beta
②『Export』⇒『NNP』をクリックする
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
2020-02-03 09:32:49,159 [nnabla]: Forward Completed.
NNabla command line interface (Version:1.0.18.dev1, Build:190531085356)


train.sdcproj - Neural Network Console (NNabla)
EDIT
TRAINING
EVALUATION
DATASET
CONFIG
Results History
ACTION
Elapsed: 00:00:00:04
Remaining: 00:00:00:00
Total:
Training
Evaluation
20200203_093023
PARETO OPTIMAL
Training 0.000000
Validation 0.000010
Best Validation 0.000010 @ epoch 30
CostMultiplyAdd 82,571,952
EVALUATED
Output Result
Confusion Matrix:
y - y'
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