Experiment Report

Dataset Details

Name: MNIST

Size: 60,000 images

Classes: 10

Image Size: 28x28 pixels

Histogram of Dataset

Sample Images from Dataset

Metrics Table

('Dataset', '')	('Calculation', '')	('KeyMetricValue', 'all')	('KeyMetricValue', 'none')
Acevedo	Isomap	55.58512721061707	19.61745080947876
Acevedo	L1_distance	5415.771435546875	1943.88779296875
Acevedo	PCA	16.358016395568846	5.835096979141236
Acevedo	PHATE	0.9952206826041579	0.9491088541316979
Acevedo	TSNE	4.574322891235352	15.500765025615692
Acevedo	UMAP	1.21295012421906	0.5878486014902592

Acevedo	cubical_complex_distance	3.375784230232239	1.0846580028533936
Acevedo	euclidean_distance	11.063674831390381	2.3060916900634765
CIFAR10	Isomap	5.878061380386352	5.384853029251099
CIFAR10	L1_distance	80.4351791381836	90.01768524169921
CIFAR10	PCA	3.2381938552856444	3.140352420806885
CIFAR10	PHATE	1.0009997088856806	1.0015580637499761
CIFAR10	TSNE	29.26001603126526	12.401485328674317
CIFAR10	UMAP	1.2170576173067094	1.009108123779297
CIFAR10	cubical_complex_distance	3.9274512910842896	1.2190980911254883
CIFAR10	euclidean_distance	2.463899669647217	2.4569657039642334
FashionMNIST	Isomap	11.12016206741333	2.517298336029053
FashionMNIST	L1_distance	54.77811828613281	17.37172592163086
FashionMNIST	PCA	3.4211727142333985	1.0237107729911805
FashionMNIST	PHATE	1.0180363735109401	0.926104573076308
FashionMNIST	TSNE	14.077292003631591	9.998853607177734
FashionMNIST	UMAP	1.2092856398224832	0.5894204124808311
FashionMNIST	cubical_complex_distance	1.3758431565761566	1.917960720062256
FashionMNIST	euclidean_distance	2.1619872283935546	1.0718915939331055
MNIST	Isomap	19.365094566345213	2.912585525512695
MNIST	L1_distance	102.97888885498047	10.916846313476562
MNIST	PCA	5.3661038684844975	1.1406464672088623
MNIST	PHATE	1.009436298133045	0.927351065568011
MNIST	TSNE	12.892757816314697	12.822274503707886
MNIST	UMAP	1.2656202349066734	0.46844666659832
MNIST	cubical_complex_distance	1.1217364537715913	1.1749843966960907

MNIST	euclidean_distance	5.591174354553223	1.0004781913757324
SCEMILA/image_data	Isomap	14.514503555297852	6.829514675140381
SCEMILA/image_data	L1_distance	1131.289013671875	427.0380322265625
SCEMILA/image_data	PCA	7.204770221710205	3.70095178604126
SCEMILA/image_data	PHATE	1.0137421634383608	0.9459894040666263
SCEMILA/image_data	TSNE	3.315695285797119	3.4966658782958984
SCEMILA/image_data	UMAP	1.0823194789886474	0.620373013317585
SCEMILA/image_data	cubical_complex_distance	6.020829114913941	1.7747484016418458
SCEMILA/image_data	euclidean_distance	4.200828170776367	2.0689888763427735

Confusion Matrix

FashionMNIST Dataset Experiment Overview

Name: FashionMNIST

Output Dimension: [(1, 28, 28), (1, 28, 28)]

Augmentation Scheme: [,]

Classes: ['Ankle boot', 'T-shirt/top', 'Dress', 'Pullover', 'Sneaker', 'Sandal', 'Trouser', 'Shirt', 'Coat', 'Bag']

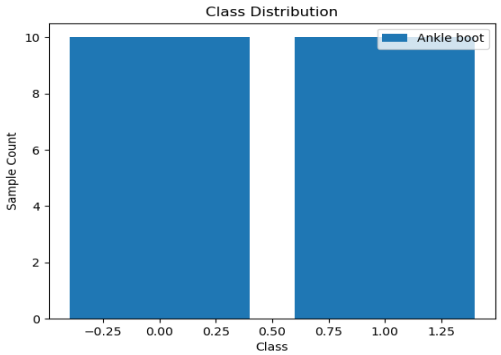
Uses DinoBloom Encoding: [(False,), (False,)]

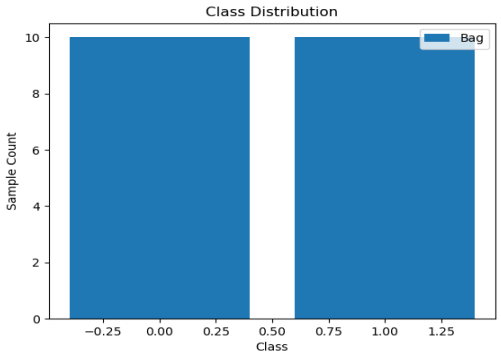
Number of Output Channels: [1, 1]

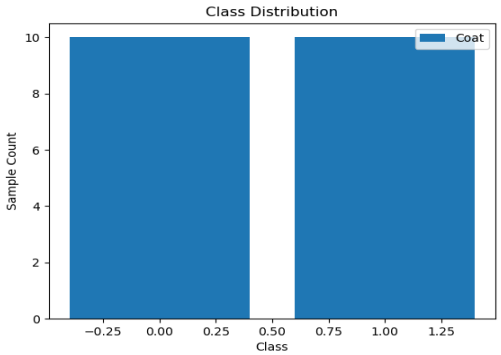
Is Multiple Instance Dataset: [False, False]

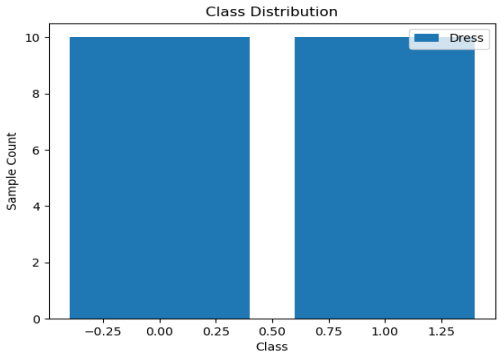
Bag Sizes: [,]

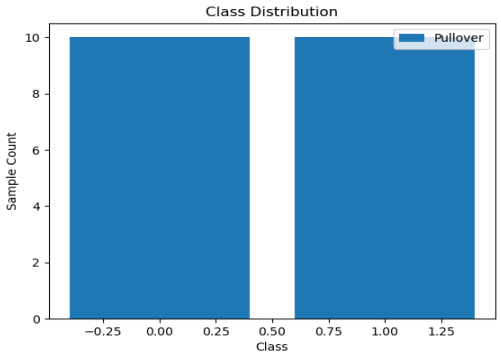
Class Distribution:

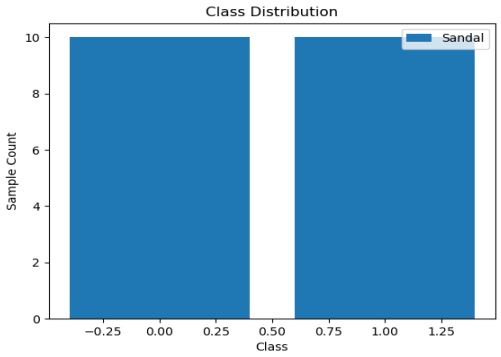


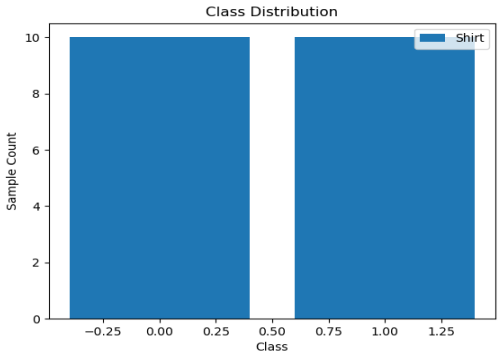


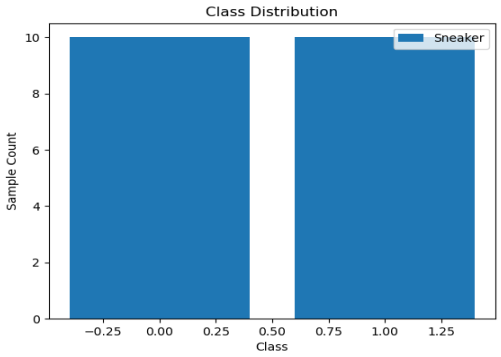


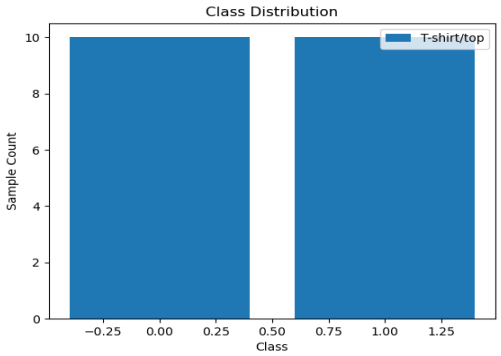


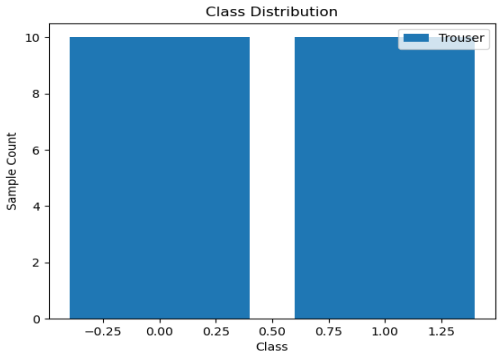

Class Distribution
Pullover
Sample Count
Class


Class Distribution
Sandal
Sample Count
Class


Class Distribution
Shirt
Sample Count
Class

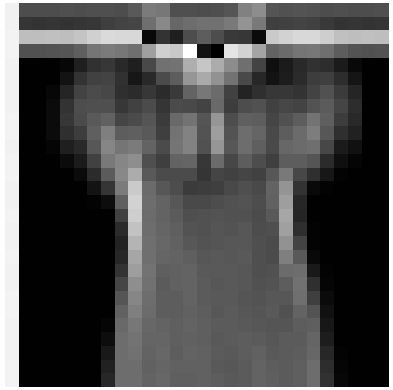

Class Distribution
Sneaker
Sample Count
Class


Class Distribution
T-shirt/top
Sample Count
Class

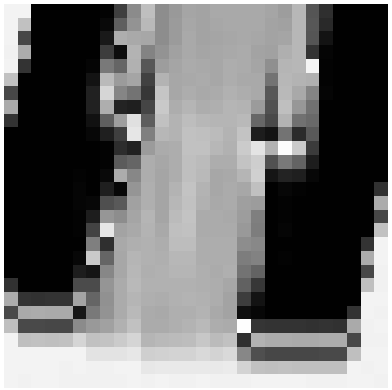

Class Distribution
Trouser
Sample Count
Class

Sample Images:

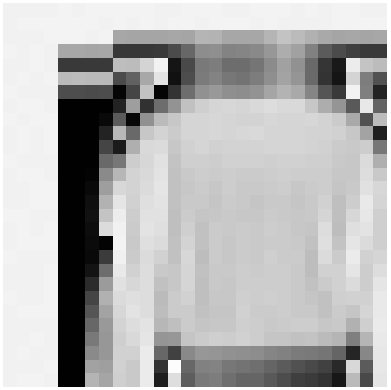
Ankle boot



T-shirt/top



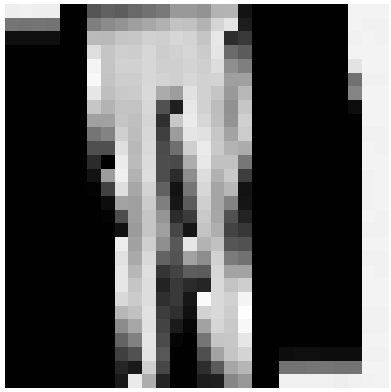
Dress



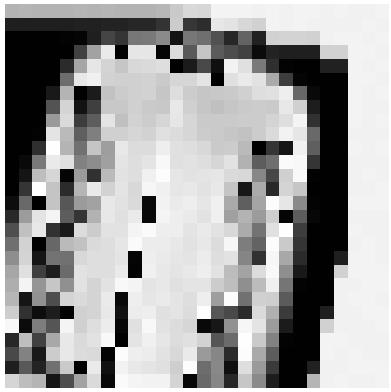
Pullover

Sneaker

Sandal

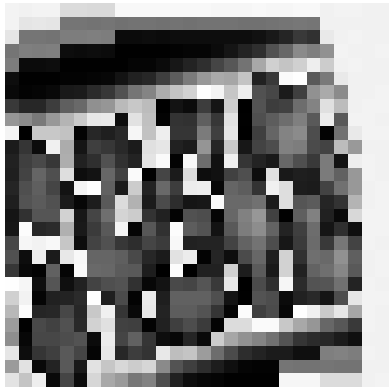


Trouser

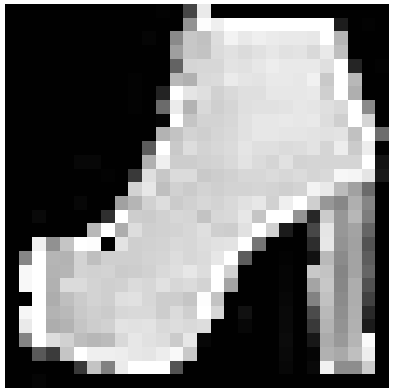


Shirt

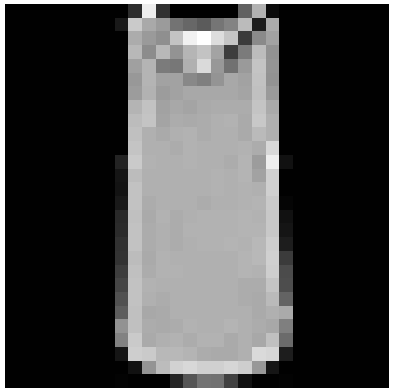
Coat



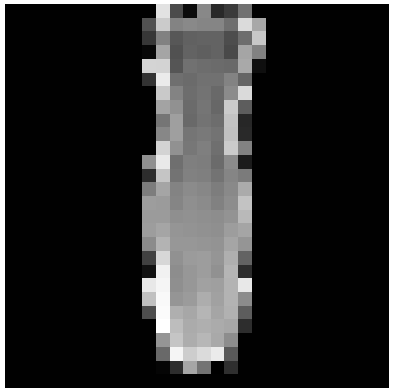
Bag



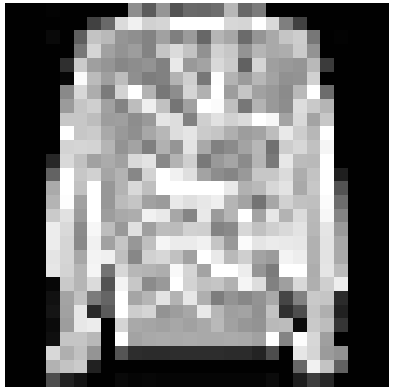
Ankle boot



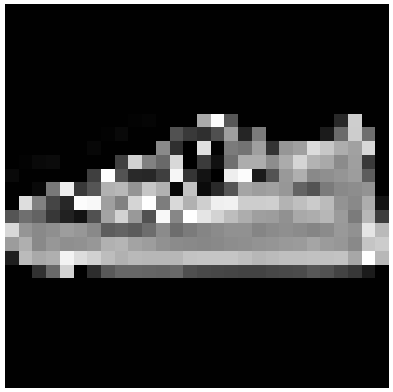
T-shirt/top



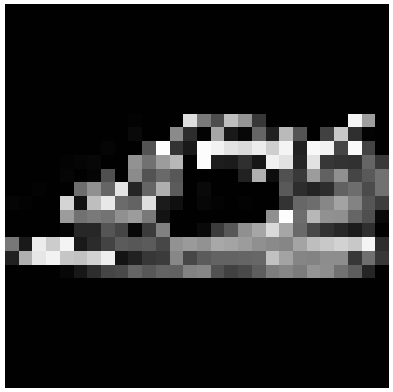
Dress



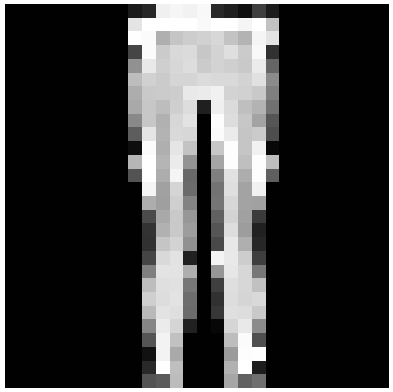
Pullover



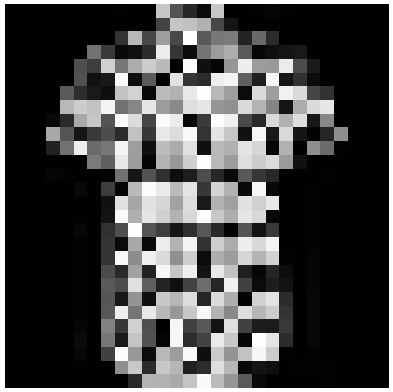
Sneaker



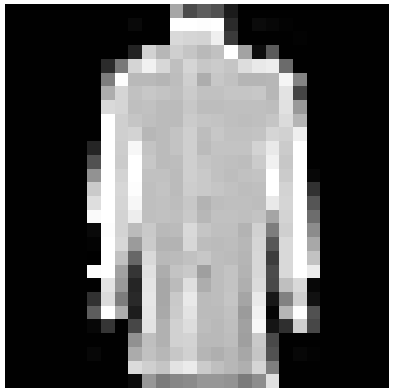
Sandal



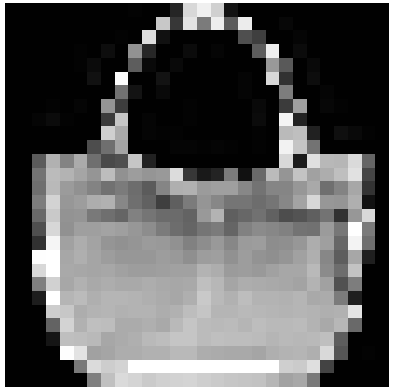
Trouser



Shirt



Coat



Bag

SCEMILA/image_data Dataset Experiment Overview

Name: SCEMILA/image_data

Output Dimension: [(62208,), (62208,)]

Augmentation Scheme: [,]

Classes: ['myeloblast', 'monocyte', 'typical lymphocyte', 'neutrophil granulocyte (segmented)', 'atypical promyelocyte', 'reactive lymphocyte', 'large granulated lymphocyte', 'neutrophil granulocyte (band)', 'normo', 'promonocyte']

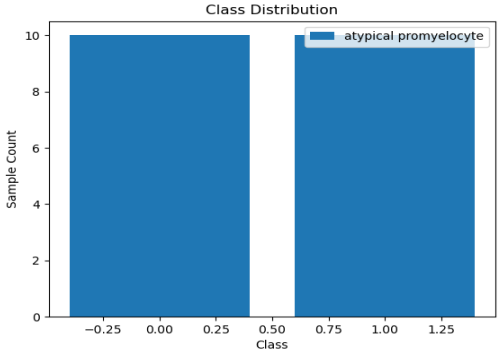
Uses DinoBloom Encoding: [(False,), (False,)]

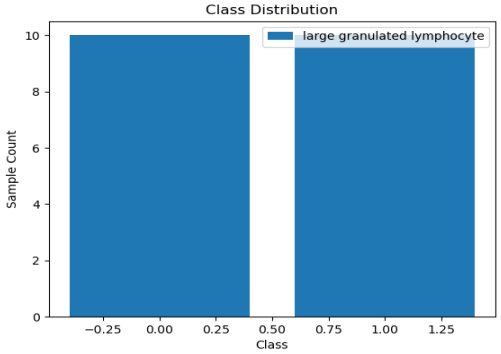
Number of Output Channels: [62208, 62208]

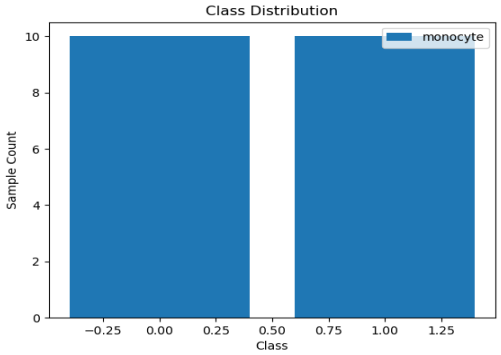
Is Multiple Instance Dataset: [False, False]

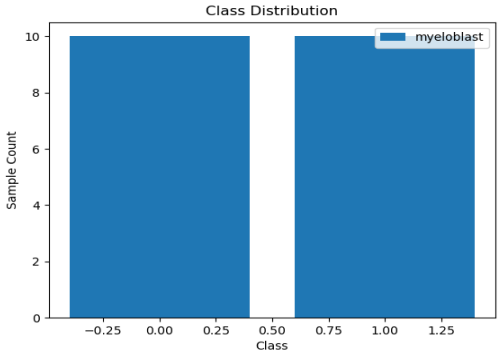
Bag Sizes: [,]

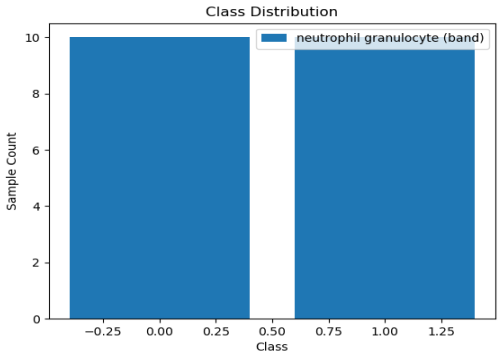
Class Distribution:

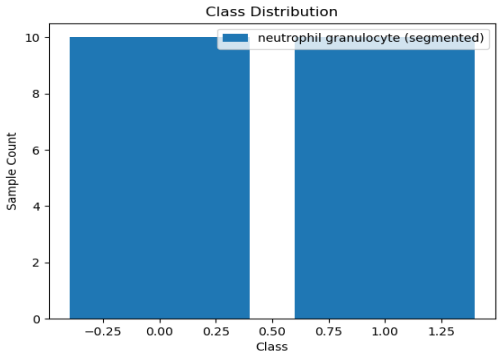


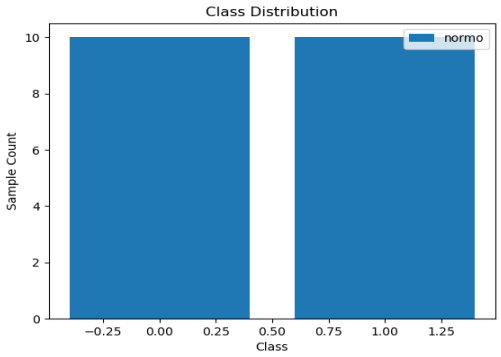


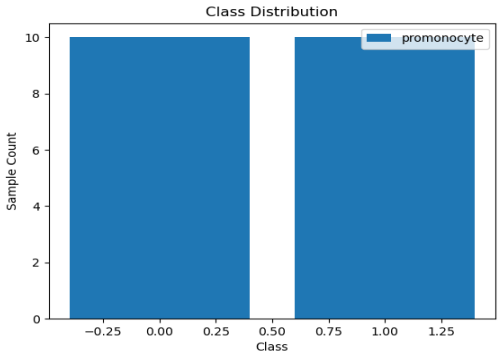


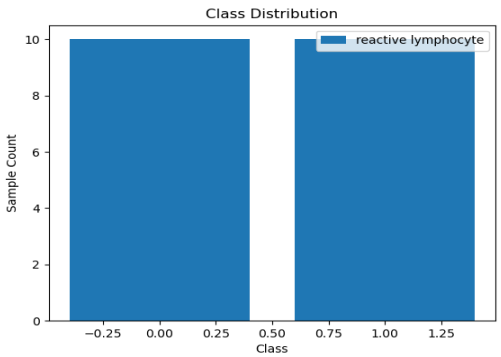


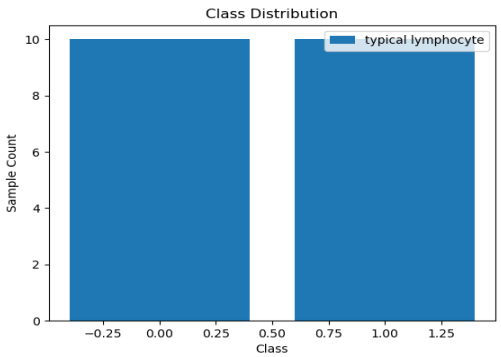

Class Distribution
neutrophil granulocyte (band)
Sample Count
Class


Class Distribution
neutrophil granulocyte (segmented)
Sample Count
Class

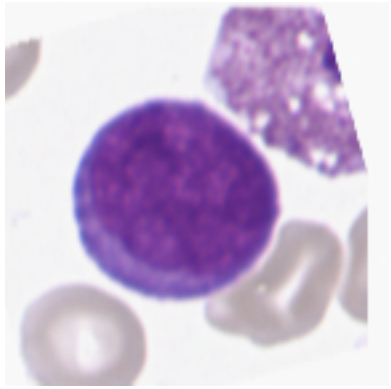

Class Distribution
normo
Sample Count
Class


Class Distribution
promonocyte
Sample Count
Class

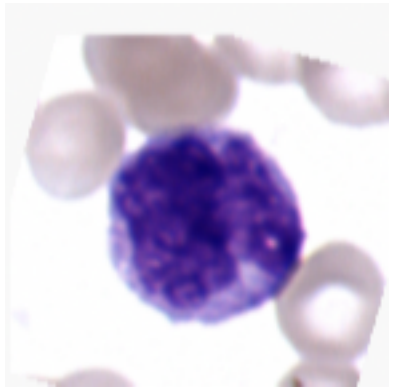

Class Distribution
reactive lymphocyte
Sample Count
Class


Class Distribution
typical lymphocyte
Sample Count
Class

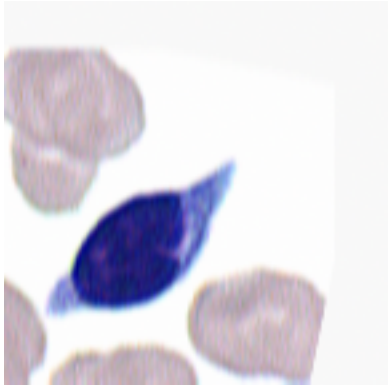
Sample Images:



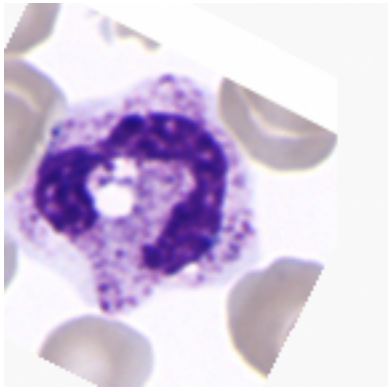
myeloblast



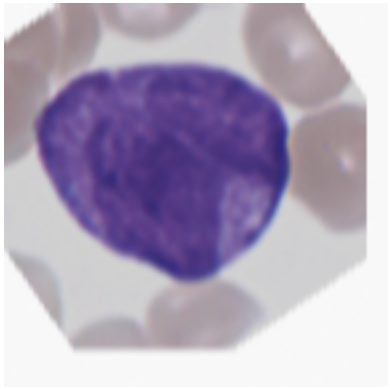
monocyte



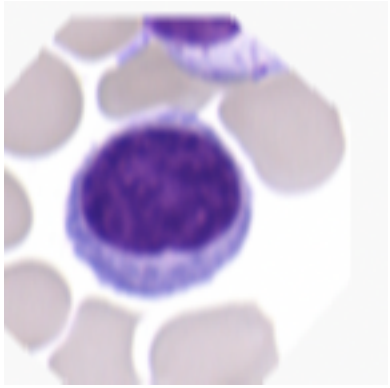
typical lymphocyte



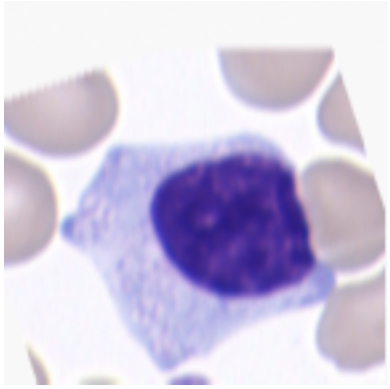
neutrophil granulocyte (segmented)



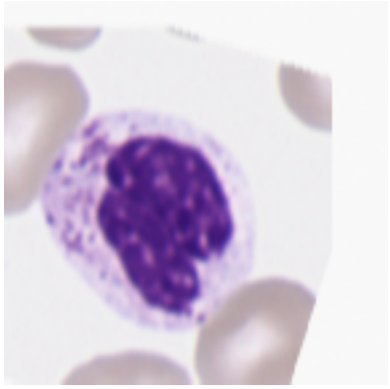
atypical promyelocyte



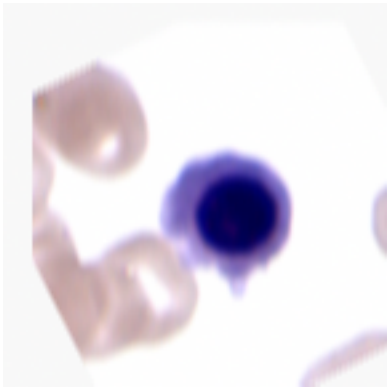
reactive lymphocyte



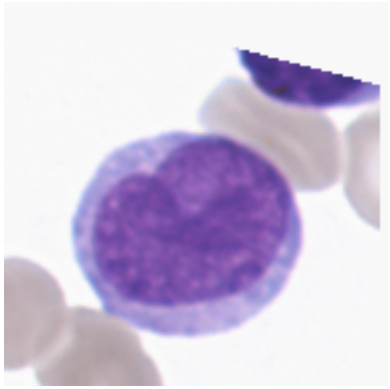
large granulated lymphocyte



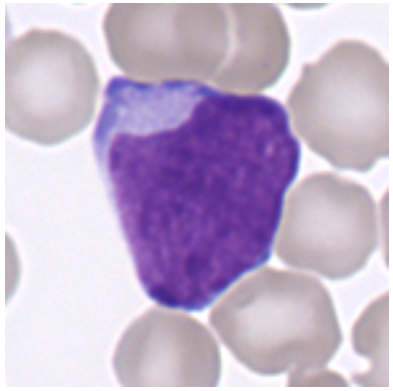
neutrophil granulocyte (band)



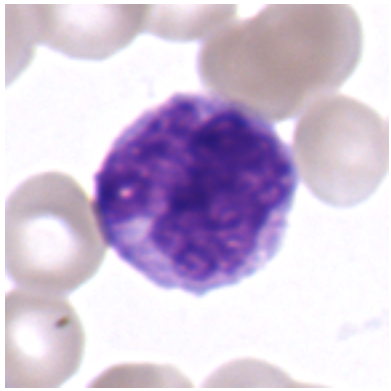
normo



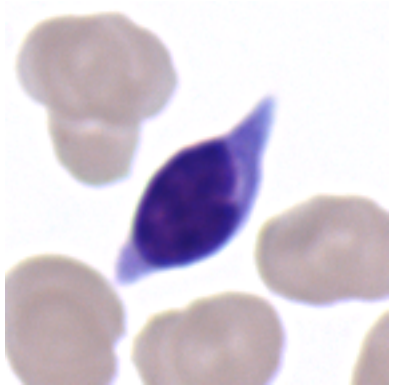
promonocyte



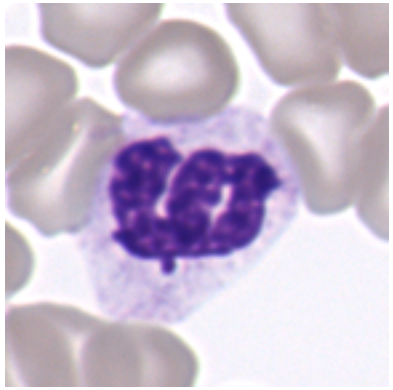
myeloblast



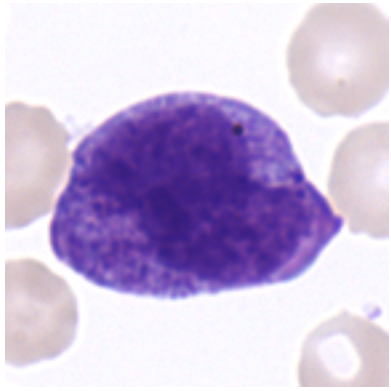
monocyte



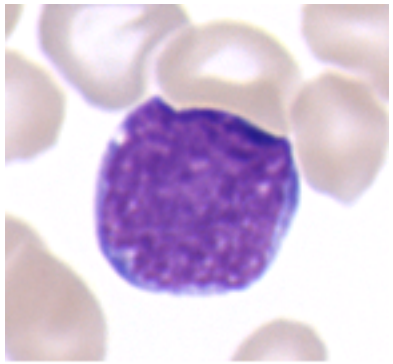
typical lymphocyte



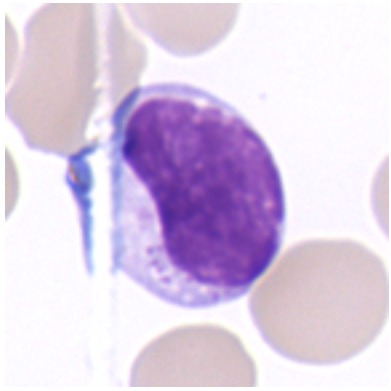
neutrophil granulocyte (segmented)



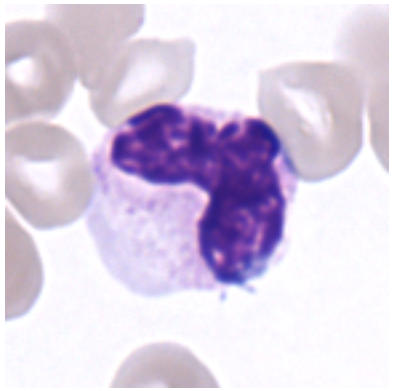
atypical promyelocyte



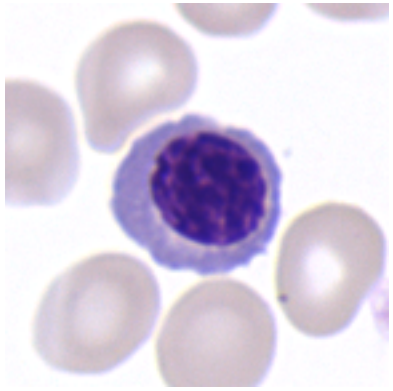
reactive lymphocyte



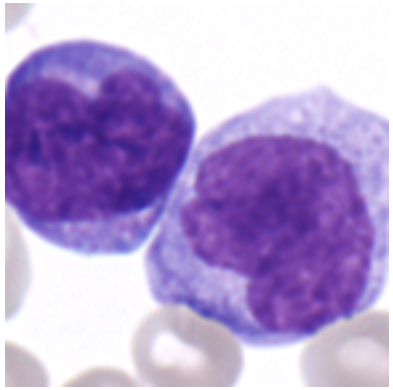
large granulated lymphocyte



neutrophil granulocyte (band)



normo



promonocyte

Acevedo Dataset Experiment Overview

Name: Acevedo

Output Dimension: [(388800,), (388800,)]

Augmentation Scheme: [,]

Classes: ['platelet', 'monocyte', 'ig', 'lymphocyte', 'eosinophil', 'basophil', 'neutrophil', 'erythroblast']

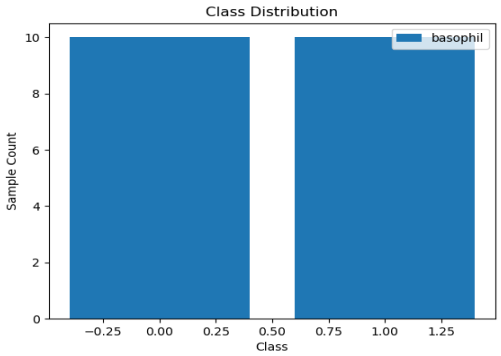
Uses DinoBloom Encoding: [(False,), (False,)]

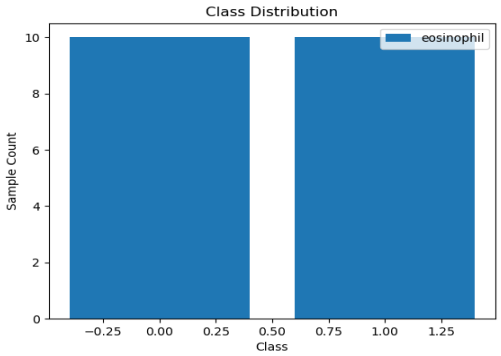
Number of Output Channels: [388800, 388800]

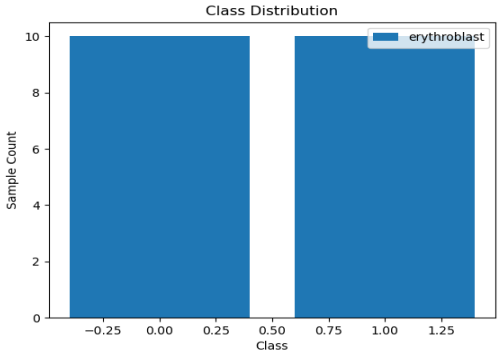
Is Multiple Instance Dataset: [False, False]

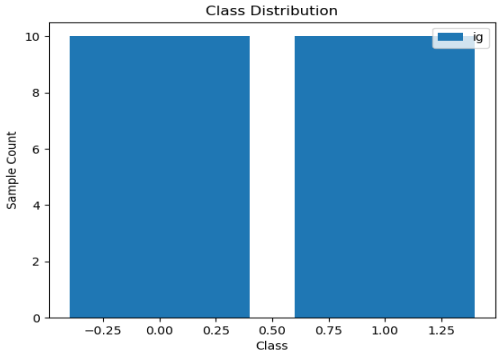
Bag Sizes: [,]

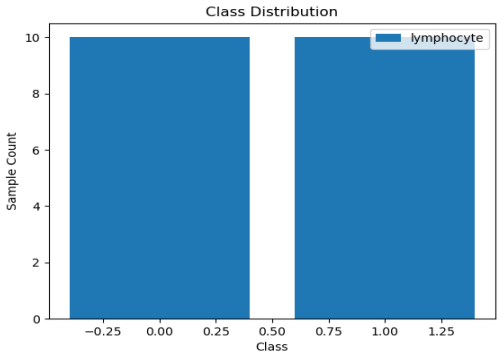
Class Distribution:

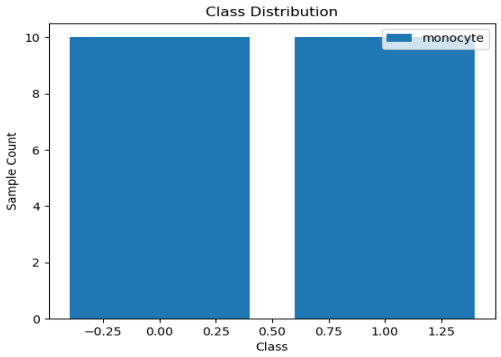


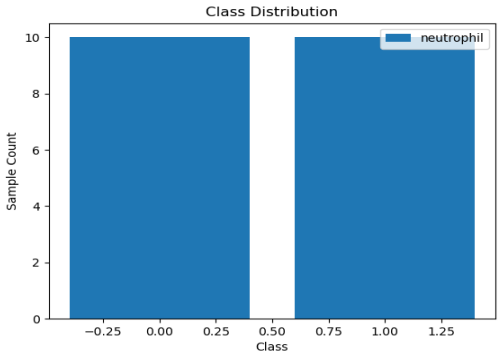


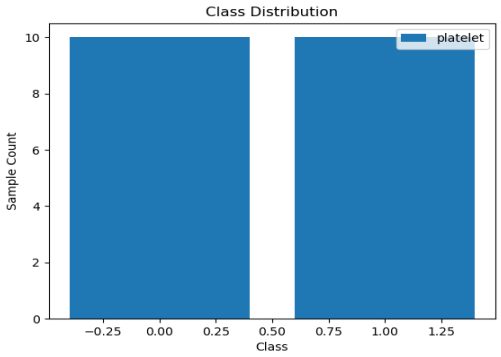




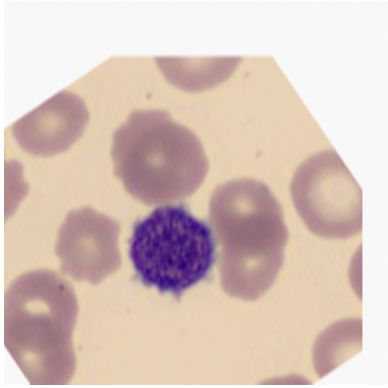




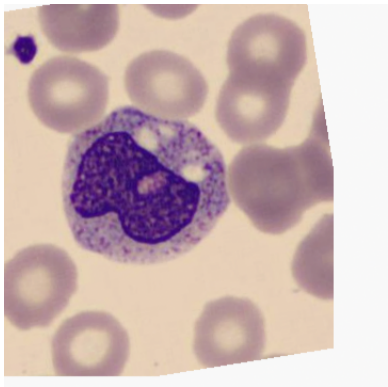




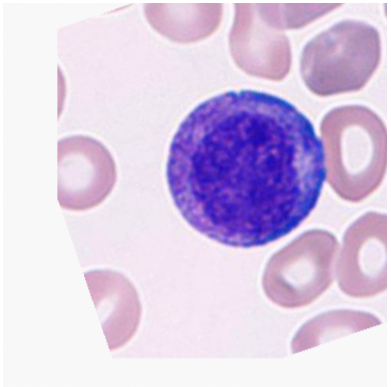
Sample Images:



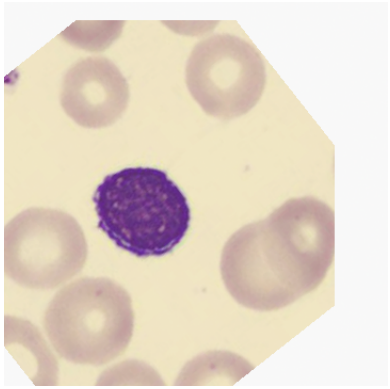
platelet



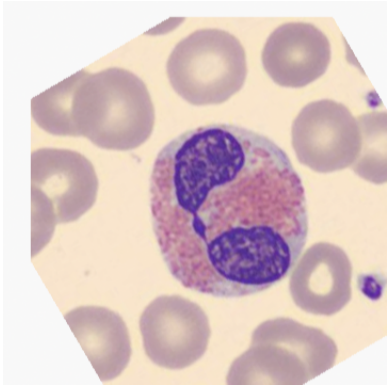
monocyte



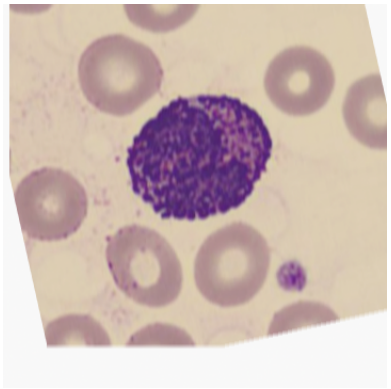
ig



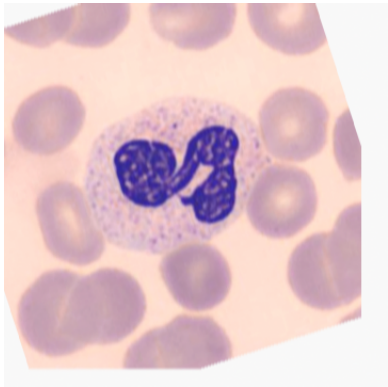
lymphocyte



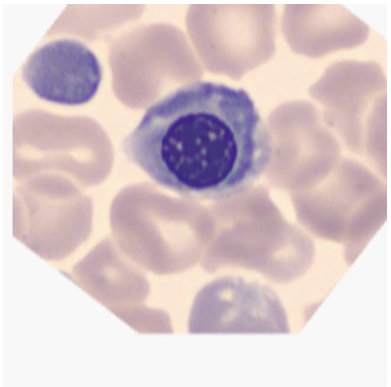
eosinophil



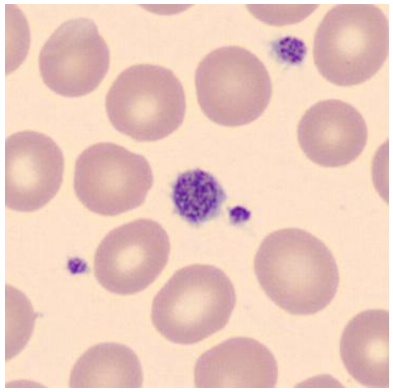
basophil



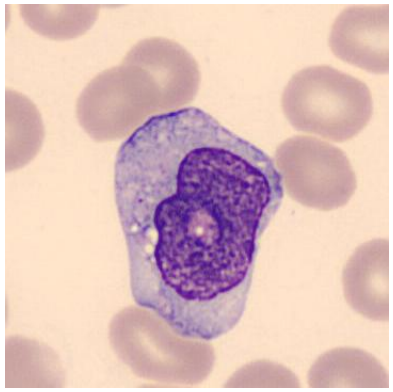
neutrophil



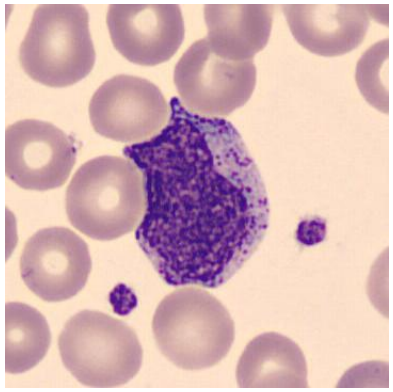
erythroblast



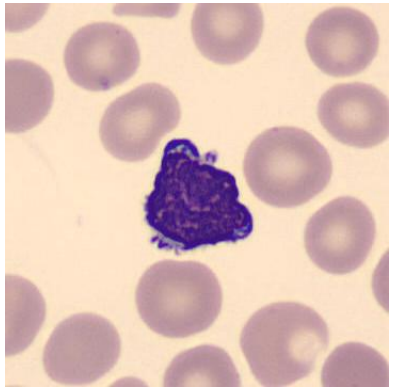
platelet



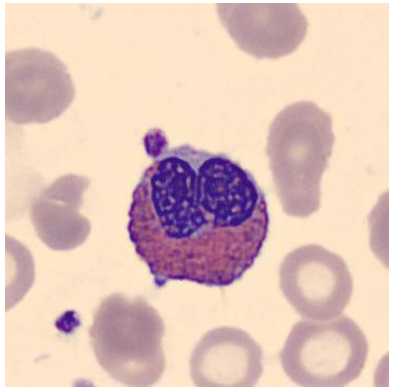
monocyte



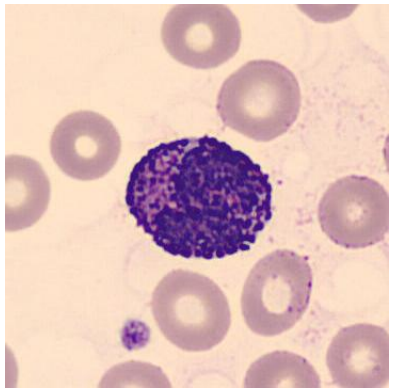
ig



lymphocyte

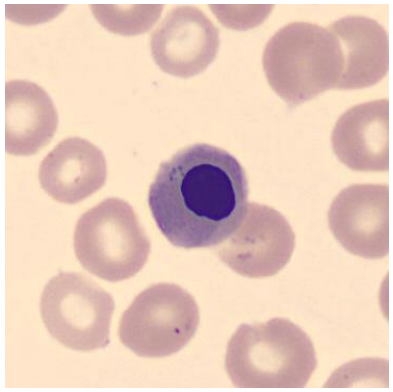


eosinophil



basophil

neutrophil



erythroblast

CIFAR10 Dataset Experiment Overview

Name: CIFAR10

Output Dimension: [(3, 32, 32), (3, 32, 32)]

Augmentation Scheme: [,]

Classes: ['frog', 'truck', 'deer', 'car', 'bird', 'horse', 'ship', 'cat', 'dog', 'plane']

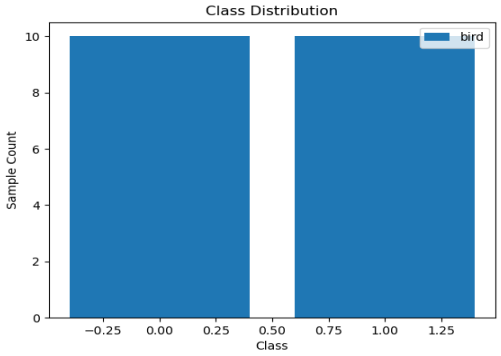
Uses DinoBloom Encoding: [(False,), (False,)]

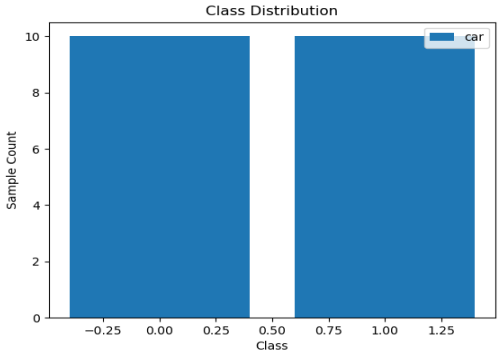
Number of Output Channels: [3, 3]

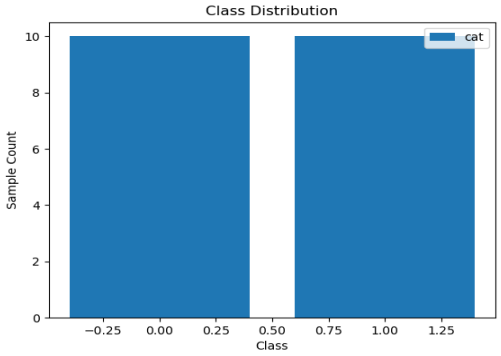
Is Multiple Instance Dataset: [False, False]

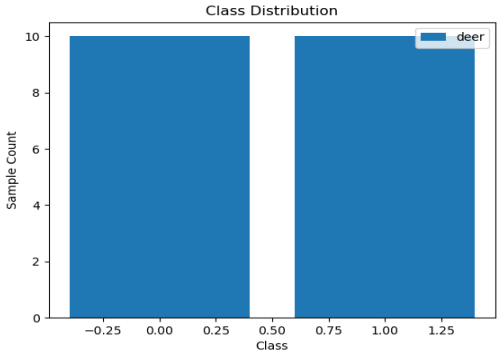
Bag Sizes: [,]

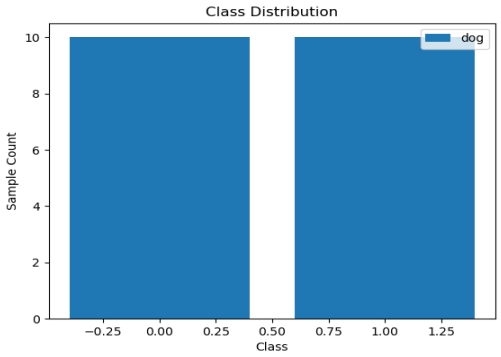
Class Distribution:

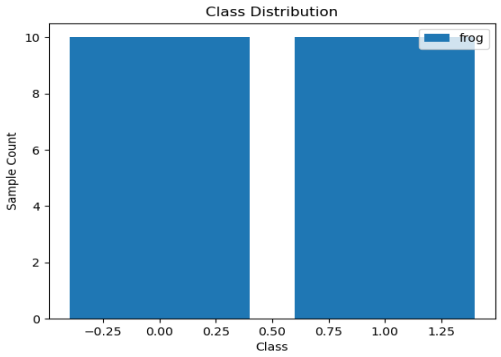


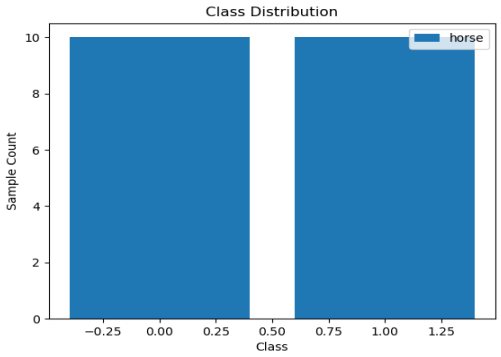


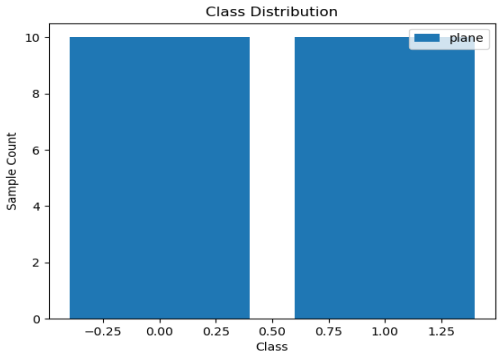


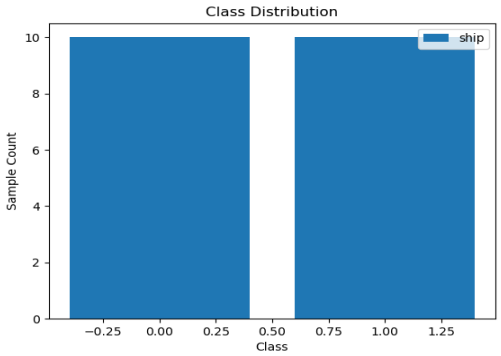


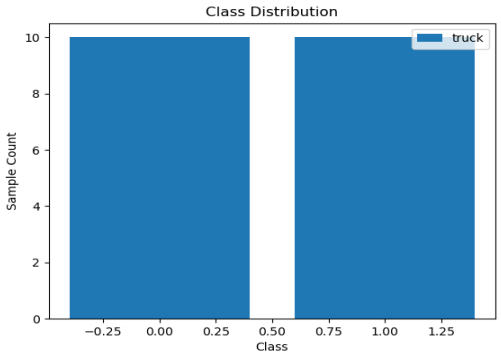

Class Distribution
dog
Sample Count
Class
0
2
4
6
8
10
−0.25
0.00
0.25
0.50
0.75
1.00
1.25


Class Distribution
frog
Sample Count
Class
0
2
4
6
8
10
−0.25
0.00
0.25
0.50
0.75
1.00
1.25

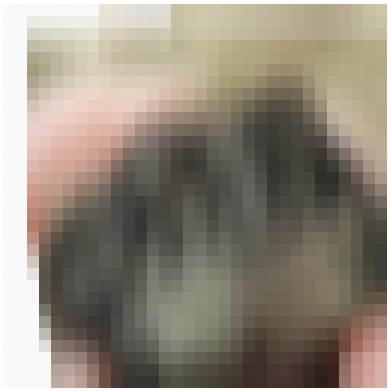

Class Distribution
horse
Sample Count
Class
0
2
4
6
8
10
−0.25
0.00
0.25
0.50
0.75
1.00
1.25


Class Distribution
plane
Sample Count
Class
0
2
4
6
8
10
−0.25
0.00
0.25
0.50
0.75
1.00
1.25


Class Distribution
ship
Sample Count
Class
0
2
4
6
8
10
−0.25
0.00
0.25
0.50
0.75
1.00
1.25


Class Distribution
truck
Sample Count
Class
0
2
4
6
8
10
−0.25
0.00
0.25
0.50
0.75
1.00
1.25

Sample Images:



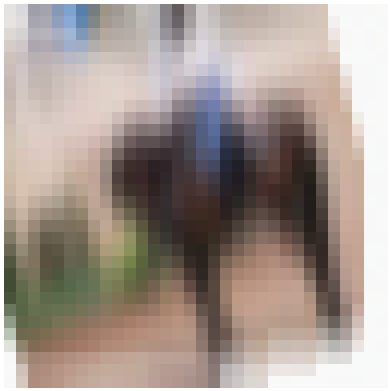
frog

truck

deer

car

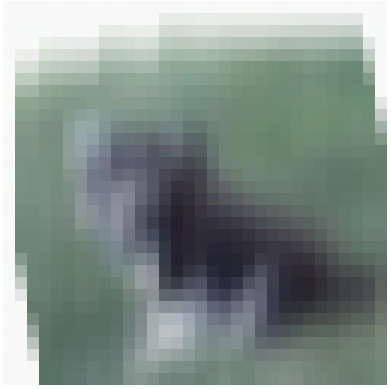
bird



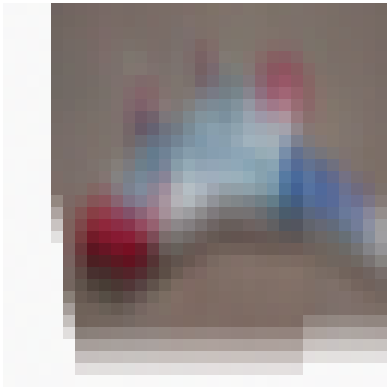
horse

ship

cat



dog



plane

frog

truck

deer

car

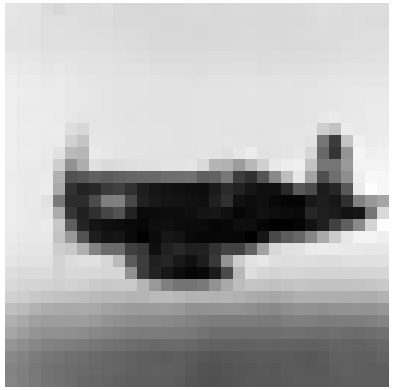
bird

horse

ship

cat

dog



plane

MNIST Dataset Experiment Overview

Name: MNIST

Output Dimension: [(784,), (784,)]

Augmentation Scheme: [,]

Classes: [5, 0, 4, 1, 9, 2, 3, 6, 7, 8]

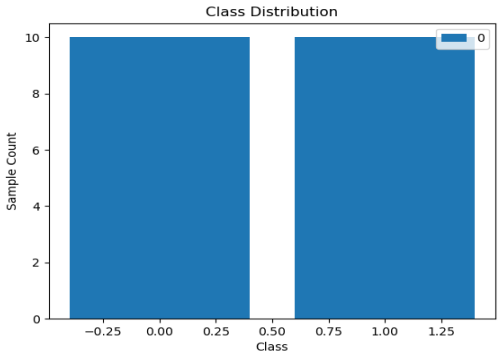
Uses DinoBloom Encoding: [(False,), (False,)]

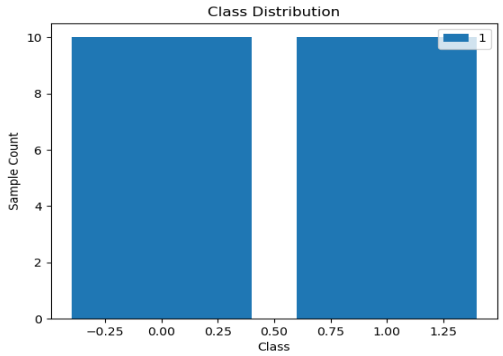
Number of Output Channels: [784, 784]

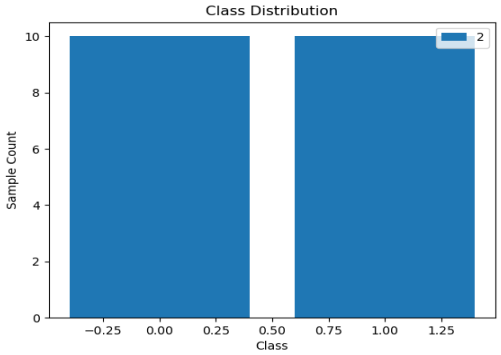
Is Multiple Instance Dataset: [False, False]

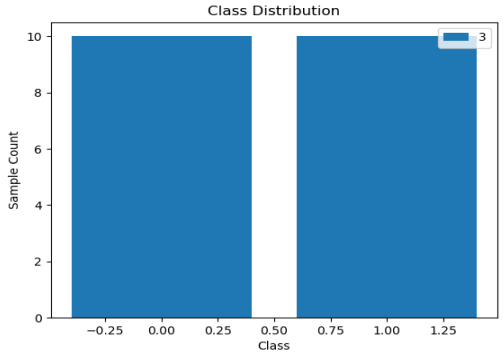
Bag Sizes: [,]

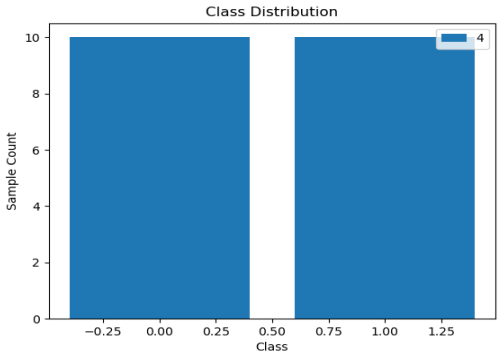
Class Distribution:

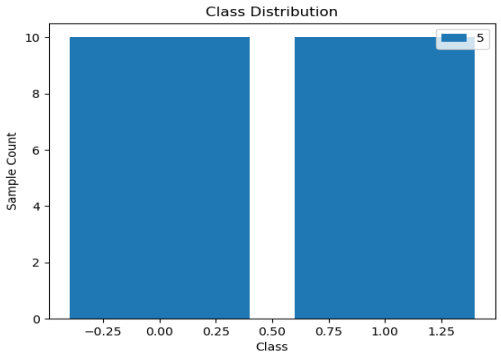


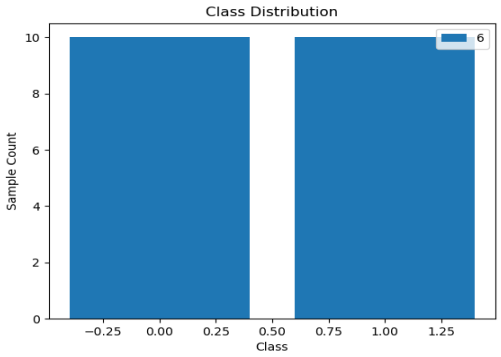







Class Distribution
4
Sample Count
Class
0
2
4
6
8
10
−0.25
0.00
0.25
0.50
0.75
1.00
1.25


Class Distribution
5
Sample Count
Class
0
2
4
6
8
10
−0.25
0.00
0.25
0.50
0.75
1.00
1.25


Class Distribution
6
Sample Count
Class
0
2
4
6
8
10
−0.25
0.00
0.25
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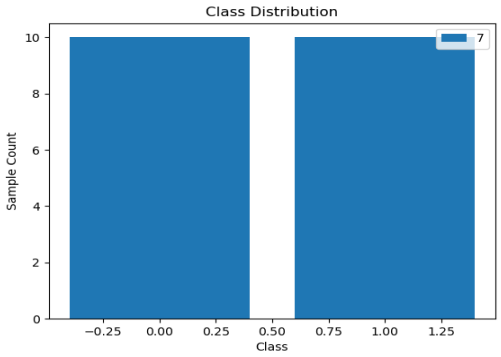
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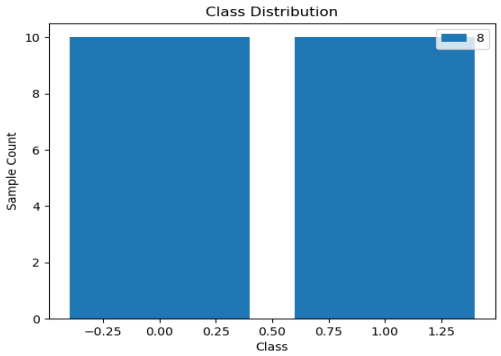
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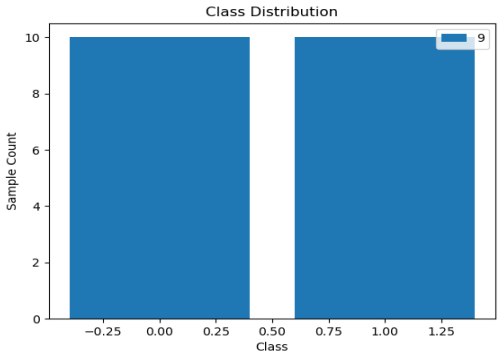
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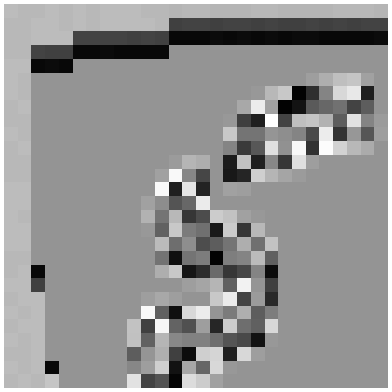

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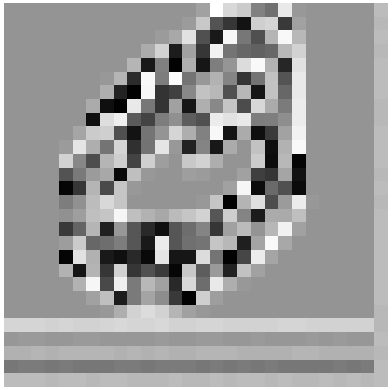

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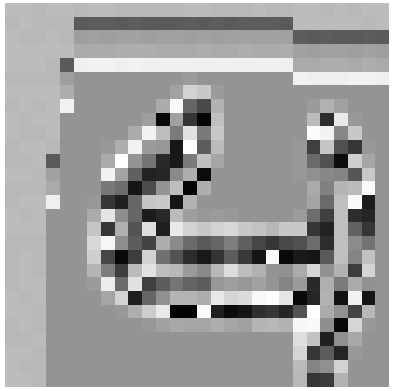

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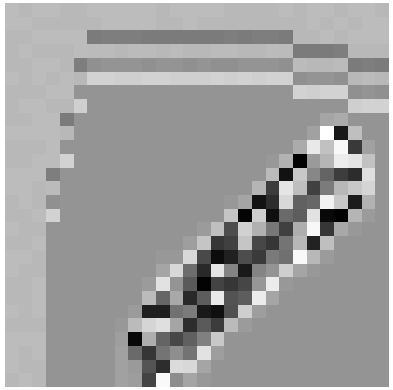

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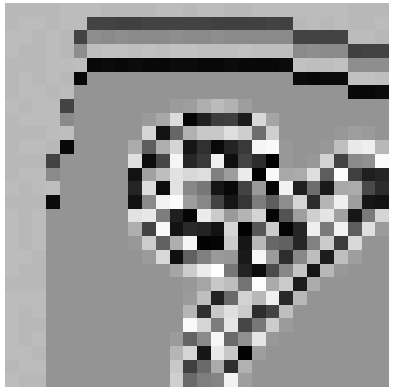

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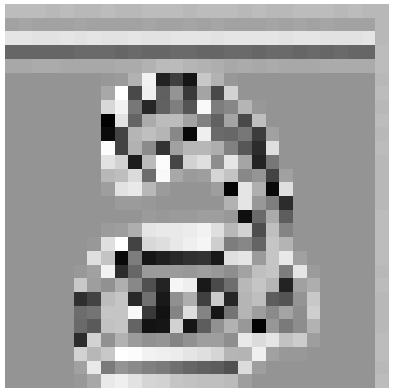

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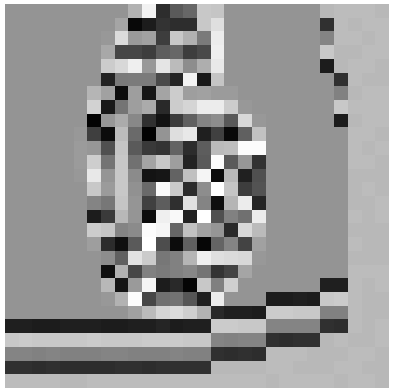

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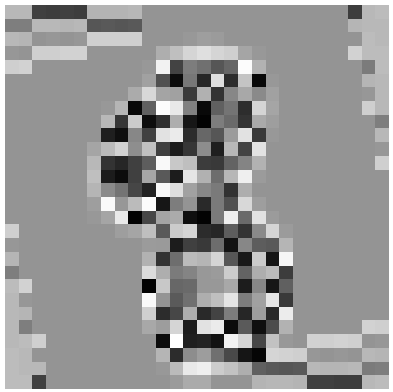

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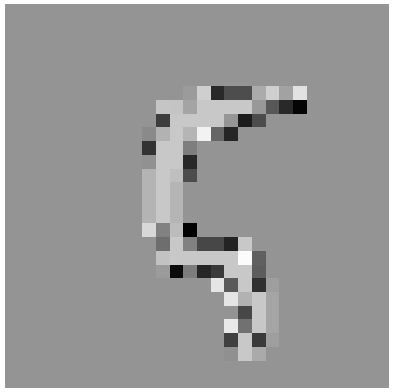

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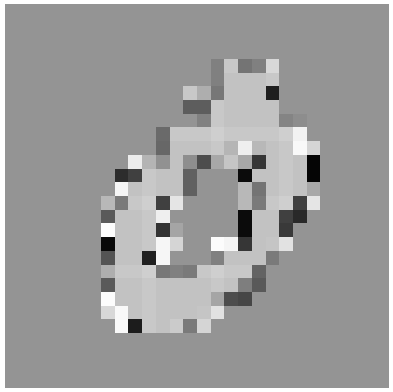

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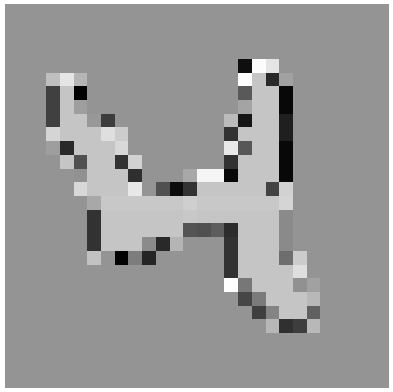

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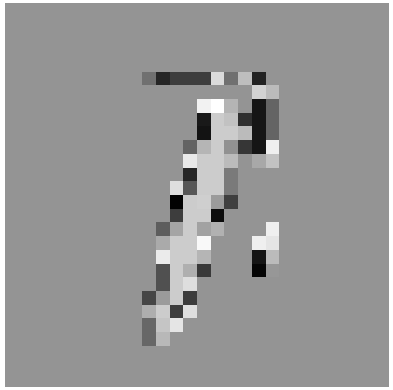

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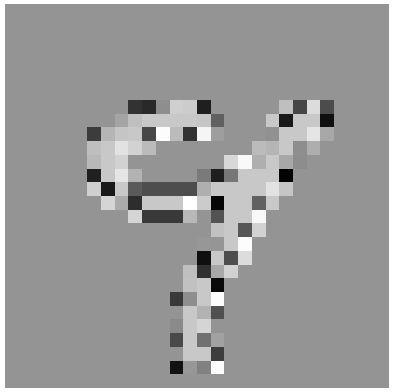

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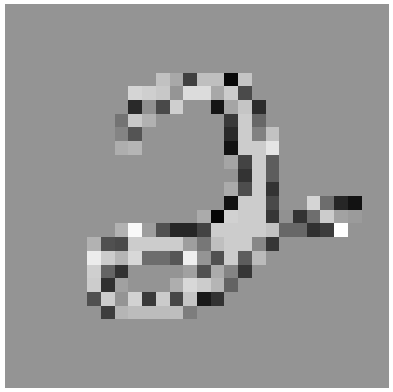

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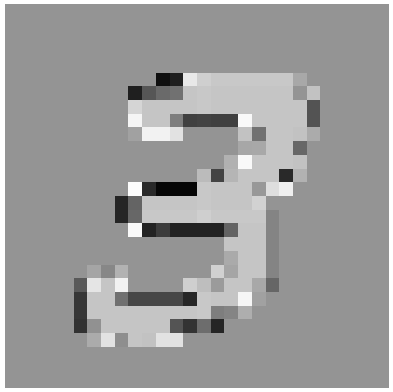

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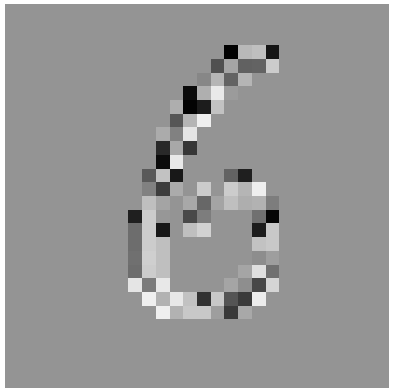

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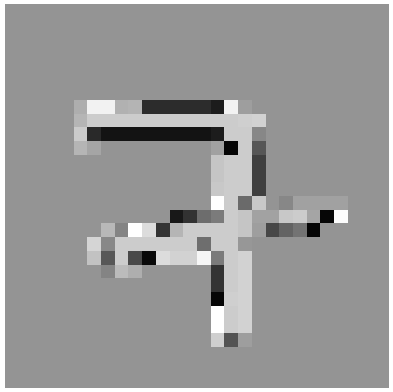

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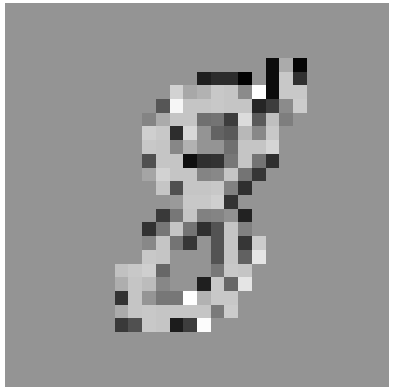

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