

Experiment Report

Dataset Details

SCEMILA/image_data Dataset Experiment Overview

Name: SCEMILA/image_data

Output Dimension: [(3, 144, 144), (3, 144, 144), (3, 144, 144), (3, 144, 144), (3, 144, 144), (384,), (384,), (384,), (384,), (384,)]

Dataset Size: [100, 200, 500, 1000, 4000, 100, 200, 500, 1000, 4000]

```
augmentation applied\n+/-180 degree rotation augmentation applied\n+/-180 degree rotation augmentation applied\n',
'AugmentationSettings(dataset_name=SCEMILA/image_data, color_jitter=True, sharpness_aug=True, horizontal_flip_aug=True,
vertical_flip_aug=True, rotation_aug=True, translation_aug=True, gaussian_blur_aug=True, gaussian_noise_aug=True,
auto_generated_notes=+/-180 degree rotation augmentation applied\n+/-180 degree rotation augmentation applied\n+/-180 degree rotation
augmentation applied\n+/-180 degree rotation augmentation applied\n+/-180 degree rotation augmentation applied\n'),
'AugmentationSettings(dataset_name=SCEMILA/image_data, color_jitter=True, sharpness_aug=True, horizontal_flip_aug=True,
vertical_flip_aug=True, rotation_aug=True, translation_aug=True, gaussian_blur_aug=True, gaussian_noise_aug=True,
auto_generated_notes=+/-180 degree rotation augmentation applied\n+/-180 degree rotation augmentation applied\n+/-180 degree rotation
augmentation applied\n+/-180 degree rotation augmentation applied\n+/-180 degree rotation augmentation applied\n)']
```

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

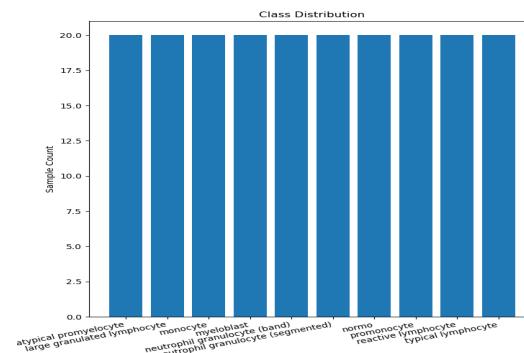
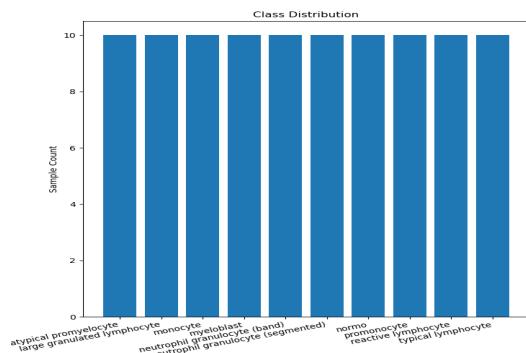
Uses DinoBloom Encoding: [False, False, False, False, False, True, True, True, True, True]

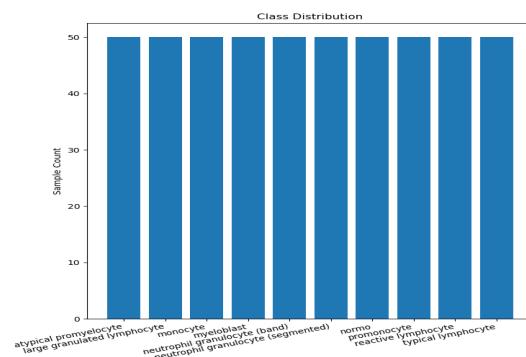
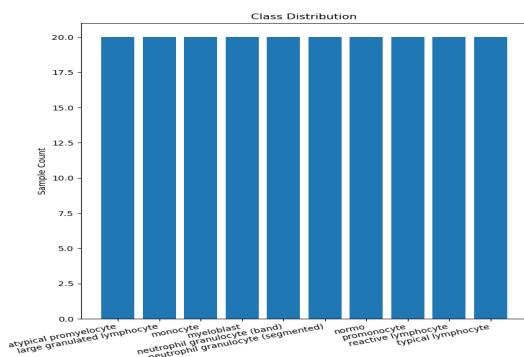
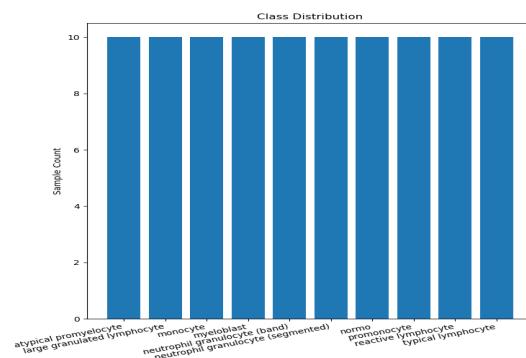
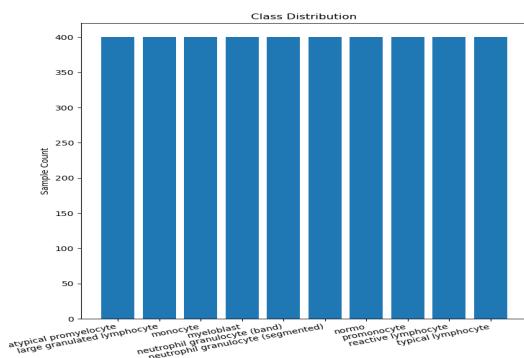
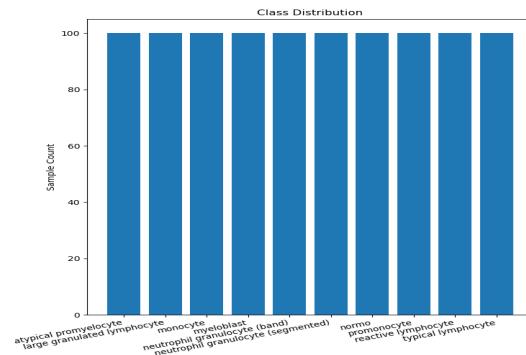
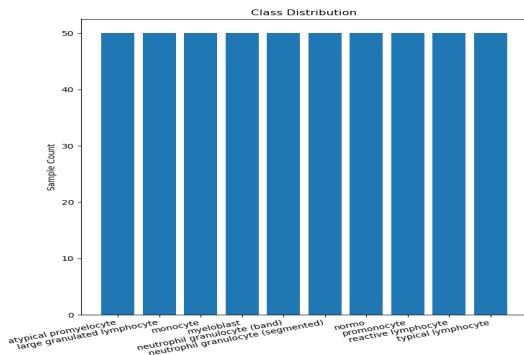
Number of Output Channels: [3, 3, 3, 3, 3, 384, 384, 384, 384, 384]

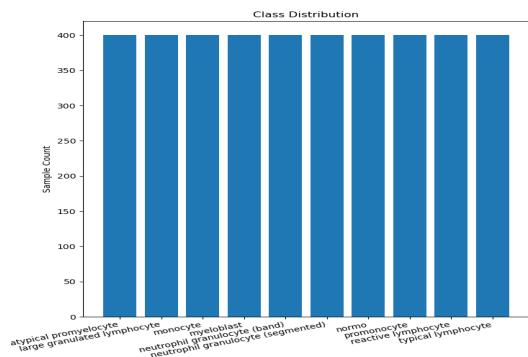
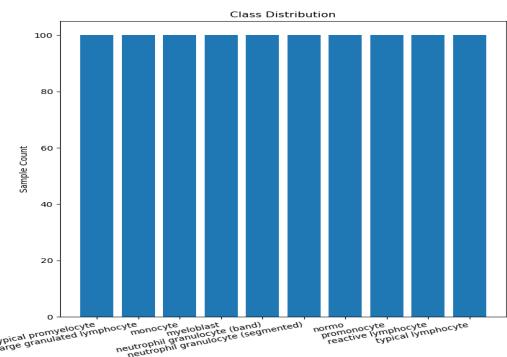
Is Multiple Instance Dataset: [False, False, False, False, False, False, False, False, False, False]

Bag Sizes: [, , , , , , ,]

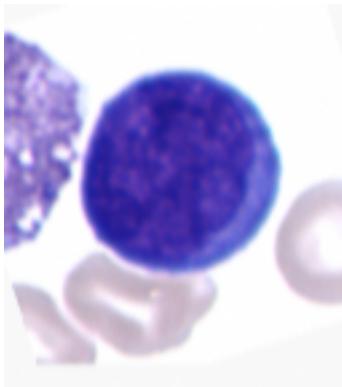
Class Distribution:



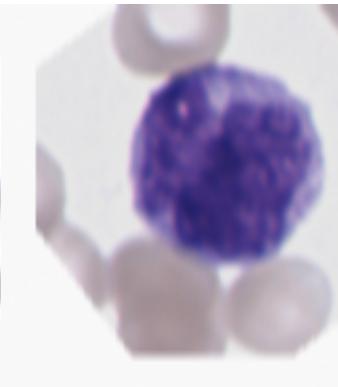




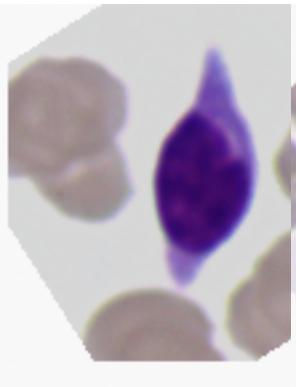
Sample Images:



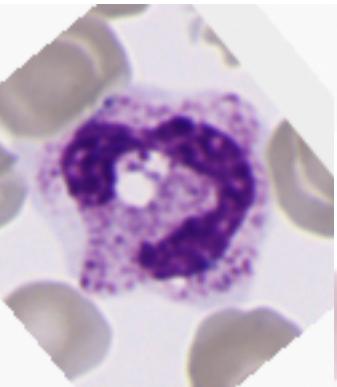
myeloblast



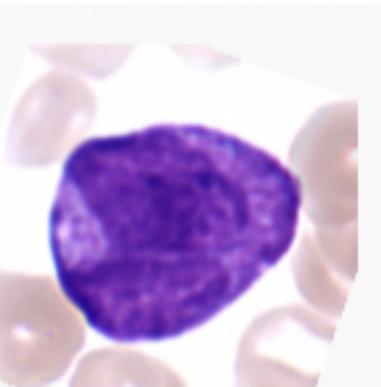
monocyte



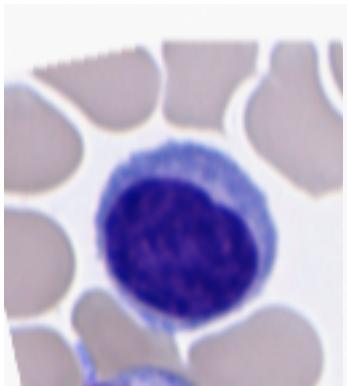
typical lymphocyte



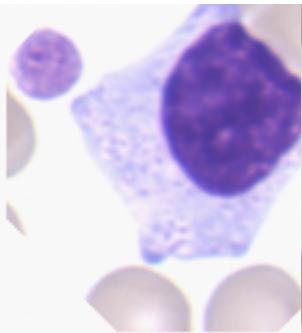
neutrophil granulocyte
(segmented)



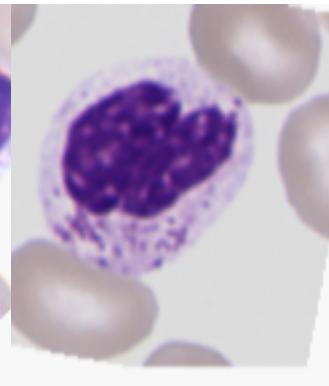
atypical promyelocyte



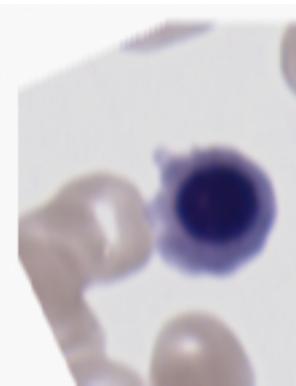
reactive lymphocyte



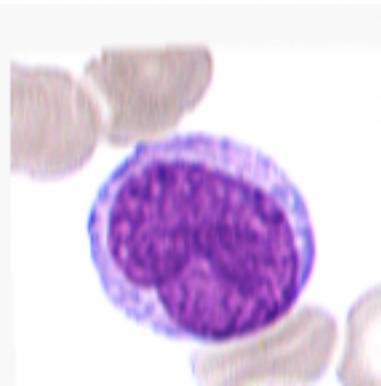
large granulated
lymphocyte



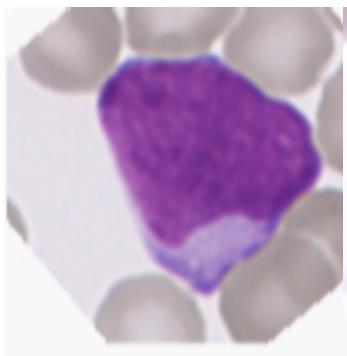
neutrophil granulocyte
(band)



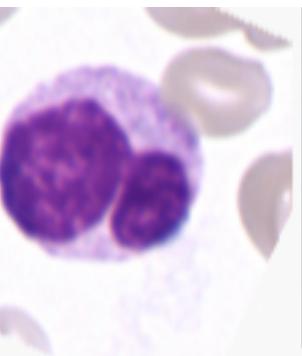
normo



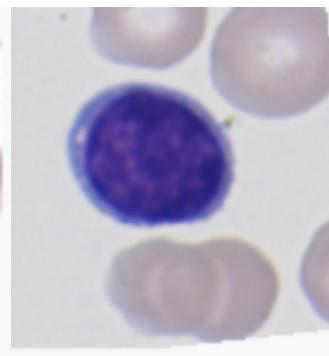
promonocyte



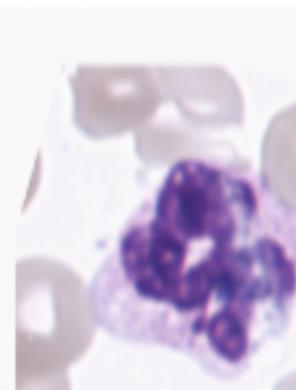
myeloblast



monocyte



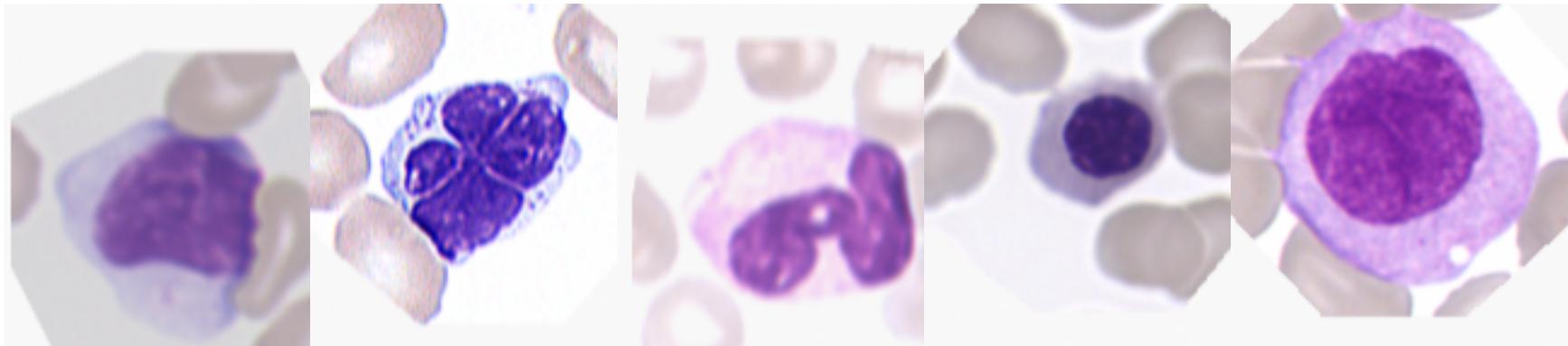
typical lymphocyte



neutrophil granulocyte
(segmented)



atypical promyelocyte



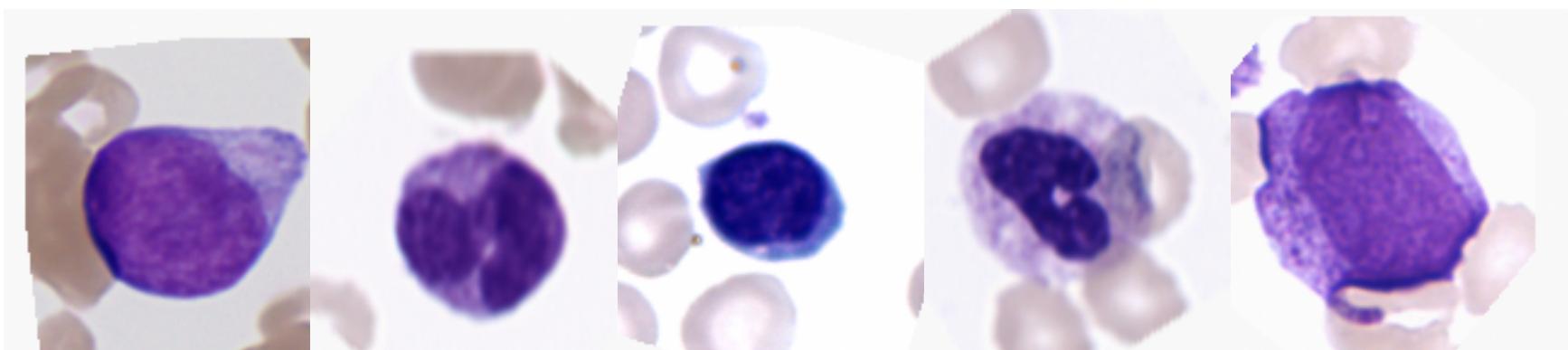
reactive lymphocyte

large granulated
lymphocyte

neutrophil granulocyte
(band)

normo

promonocyte



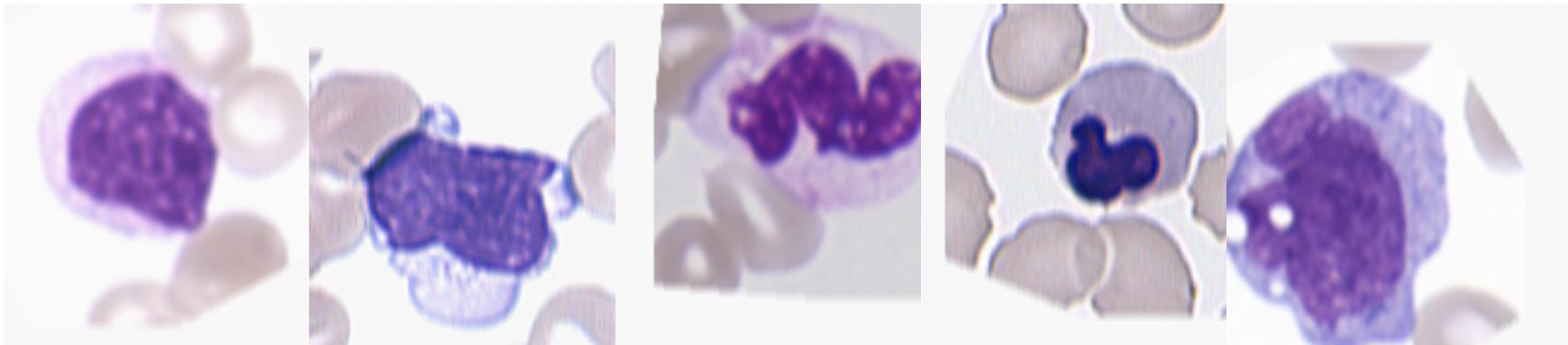
myeloblast

monocyte

typical lymphocyte

neutrophil granulocyte
(segmented)

atypical promyelocyte



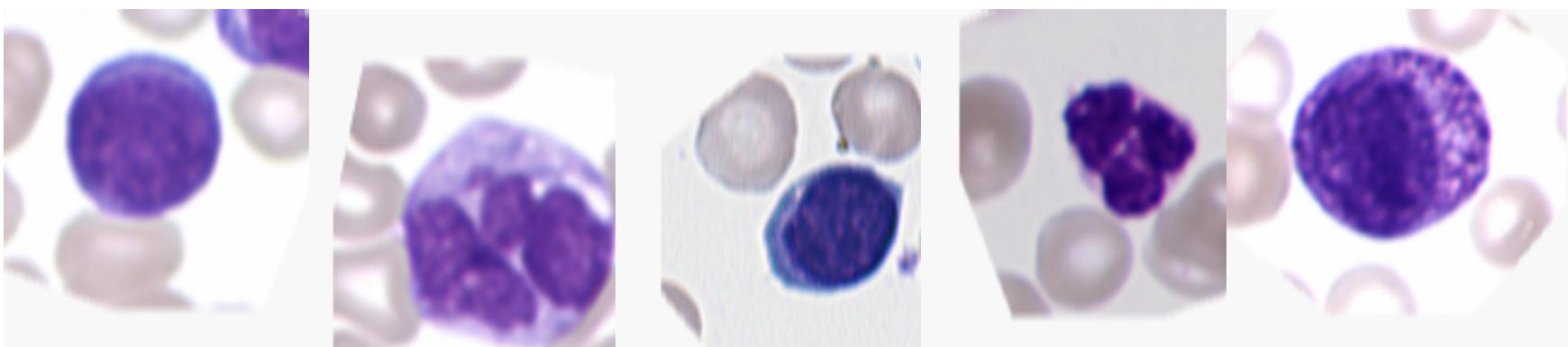
reactive lymphocyte

large granulated
lymphocyte

neutrophil granulocyte
(band)

normo

promonocyte



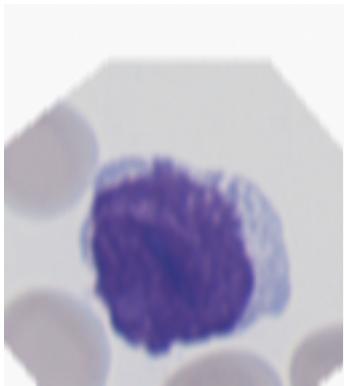
myeloblast

monocyte

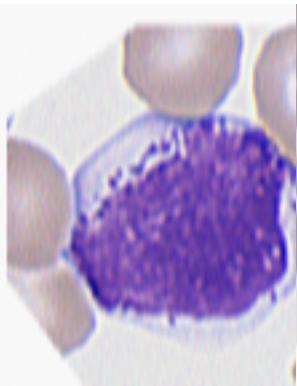
typical lymphocyte

neutrophil granulocyte
(segmented)

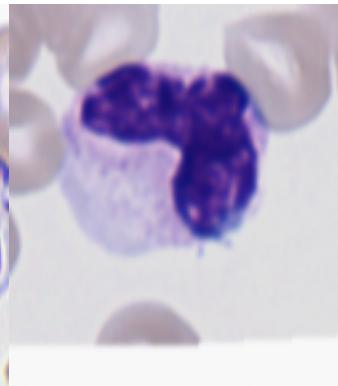
atypical promyelocyte



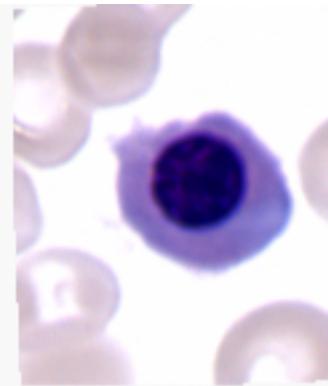
reactive lymphocyte



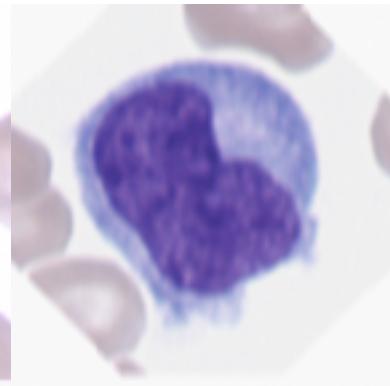
large granulated
lymphocyte



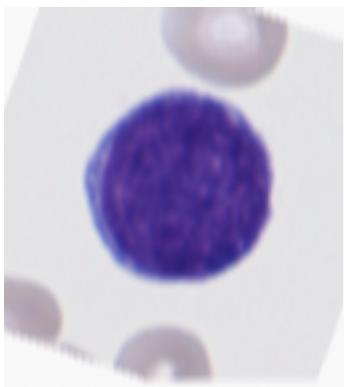
neutrophil granulocyte
(band)



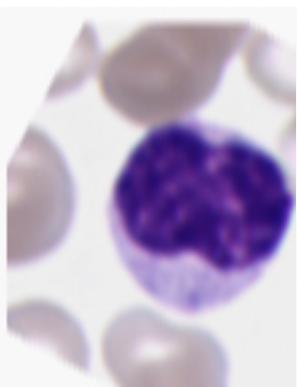
normo



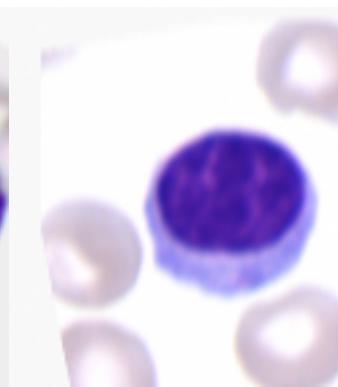
promonocyte



myeloblast



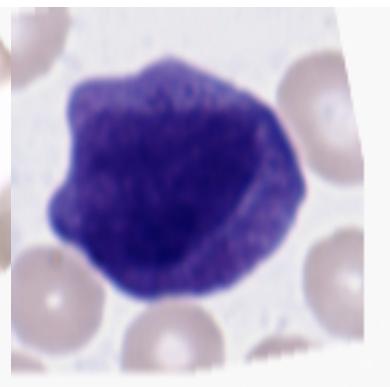
monocyte



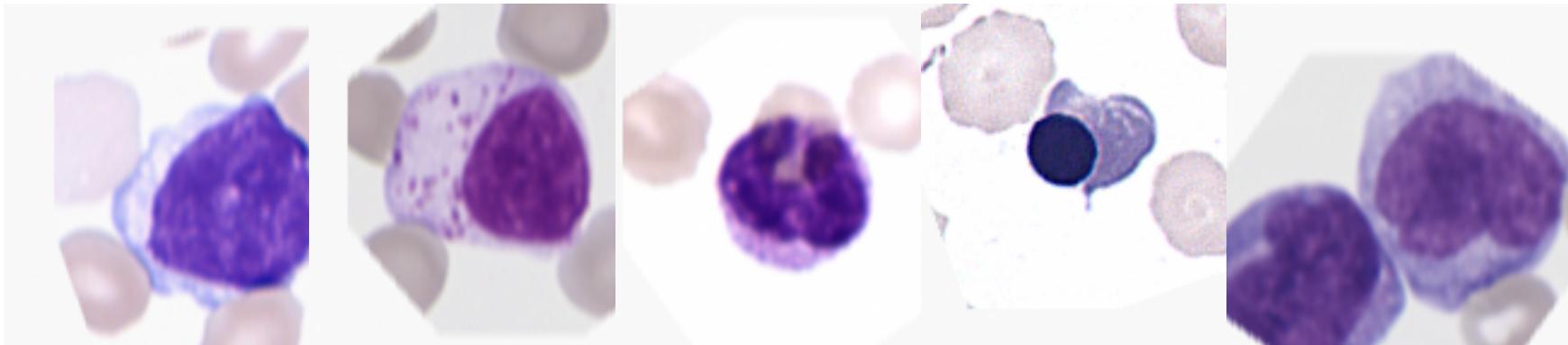
typical lymphocyte



neutrophil granulocyte
(segmented)



atypical promyelocyte



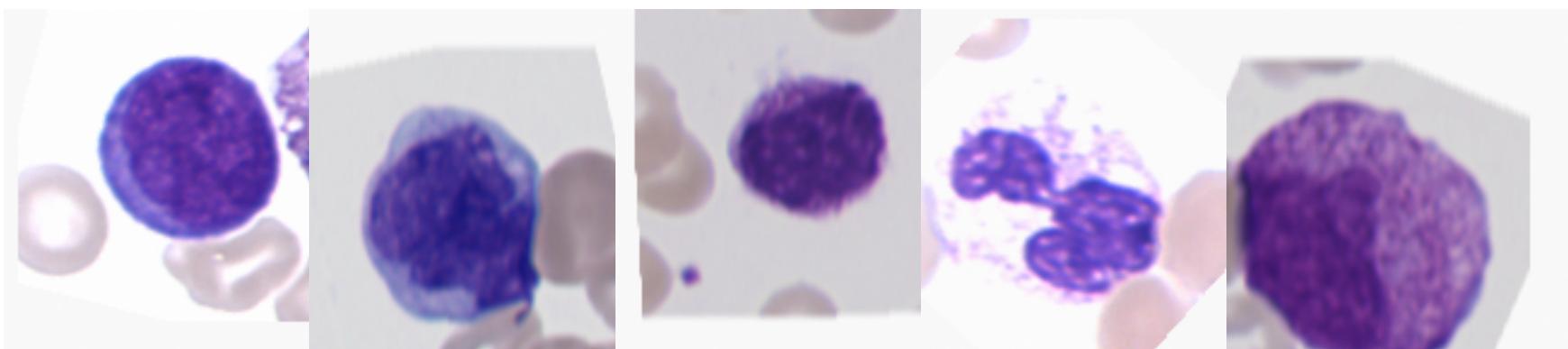
reactive lymphocyte

large granulated
lymphocyte

neutrophil granulocyte
(band)

normo

promonocyte



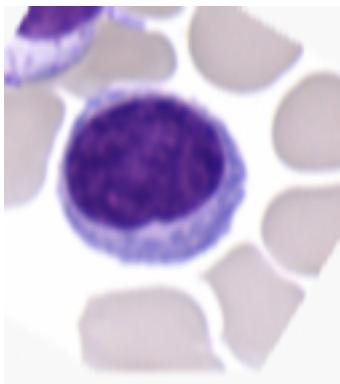
myeloblast

monocyte

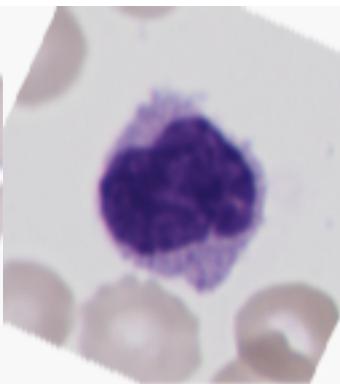
typical lymphocyte

neutrophil granulocyte
(segmented)

atypical promyelocyte



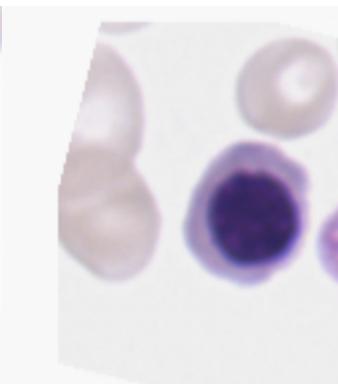
reactive lymphocyte



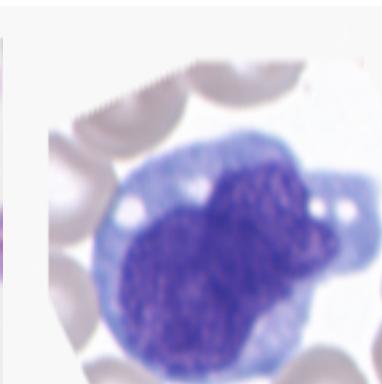
large granulated
lymphocyte



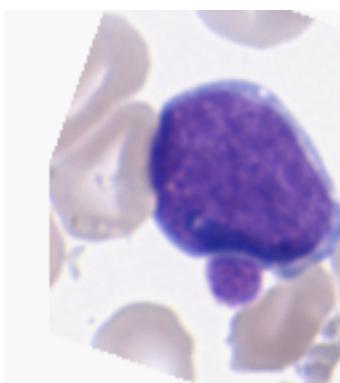
neutrophil granulocyte
(band)



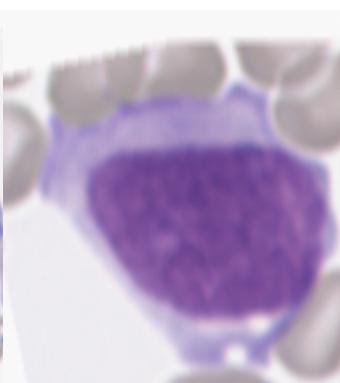
normo



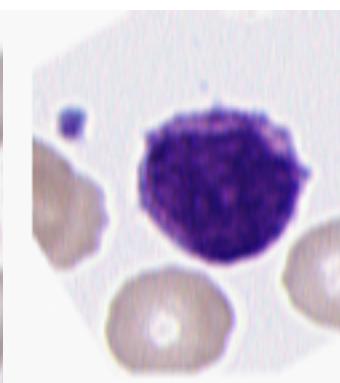
promonocyte



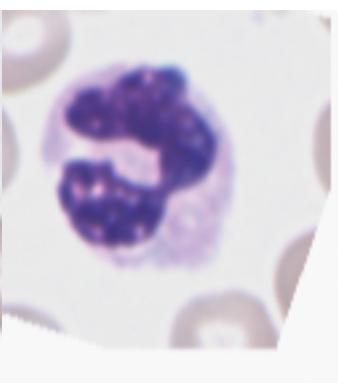
myeloblast



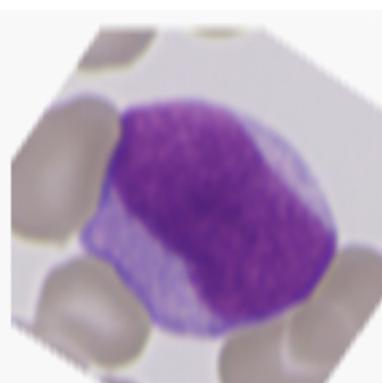
monocyte



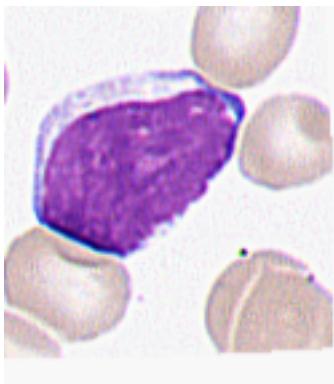
typical lymphocyte



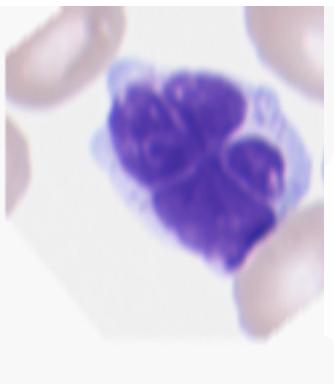
neutrophil granulocyte
(segmented)



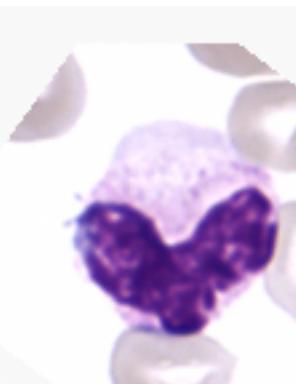
atypical promyelocyte



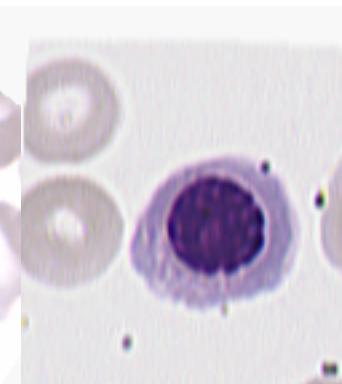
reactive lymphocyte



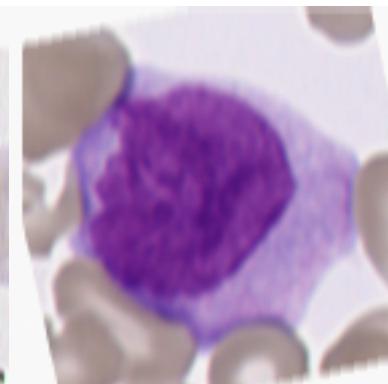
large granulated
lymphocyte



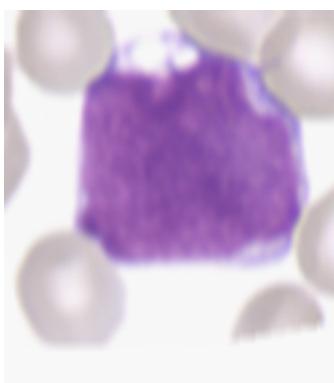
neutrophil granulocyte
(band)



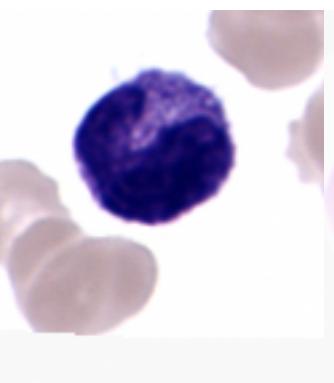
normo



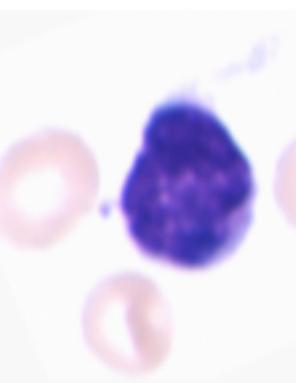
promonocyte



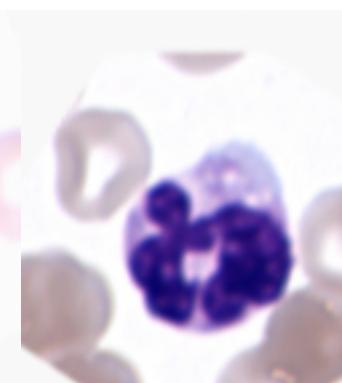
myeloblast



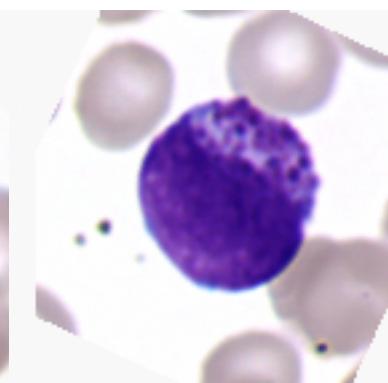
monocyte



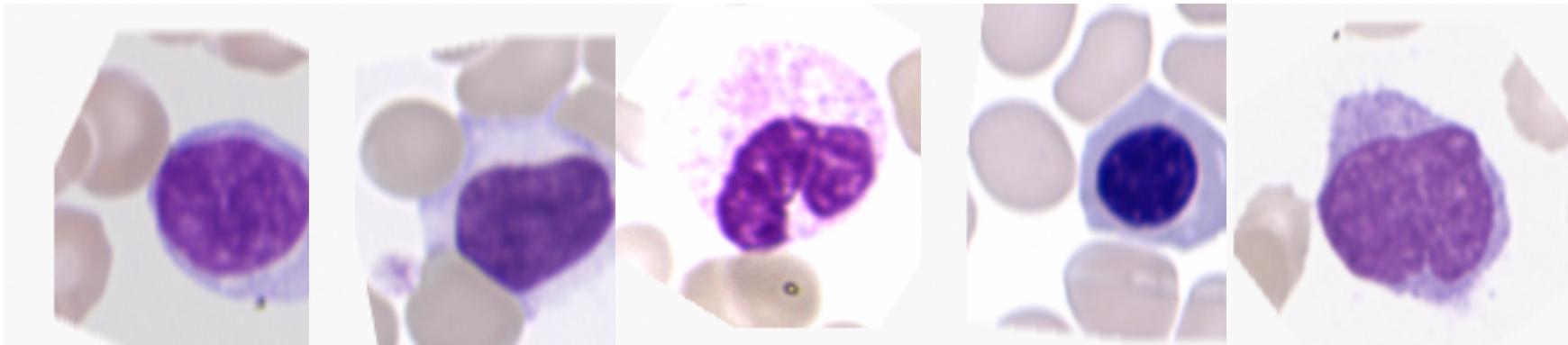
typical lymphocyte



neutrophil granulocyte
(segmented)



atypical promyelocyte



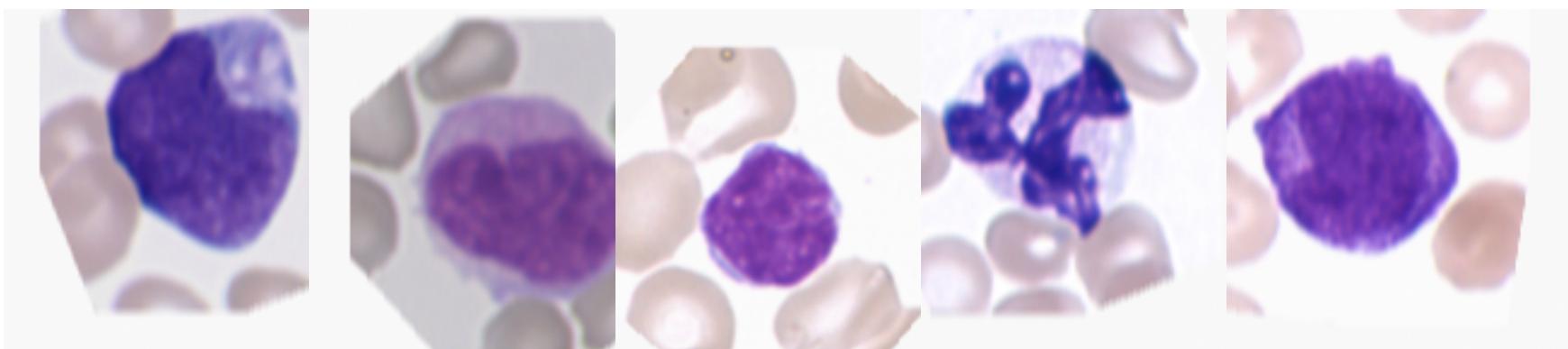
reactive lymphocyte

large granulated
lymphocyte

neutrophil granulocyte
(band)

normo

promonocyte



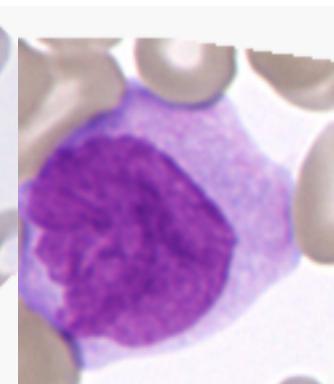
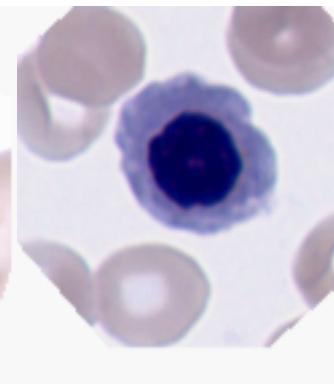
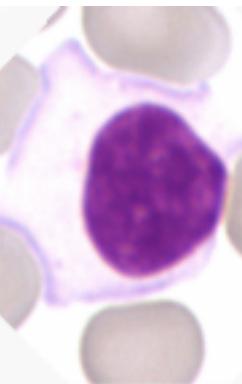
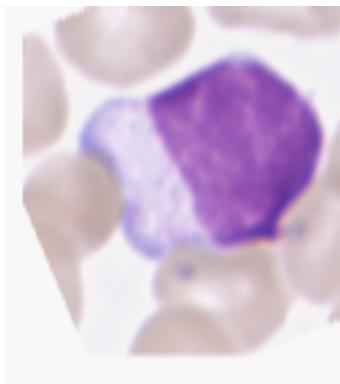
myeloblast

monocyte

typical lymphocyte

neutrophil granulocyte
(segmented)

atypical promyelocyte



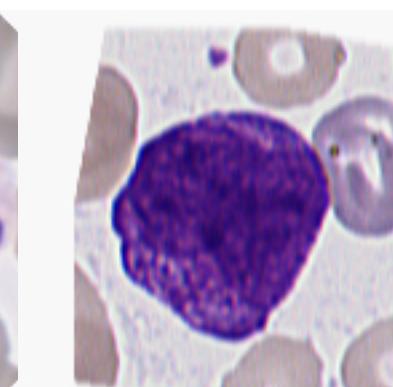
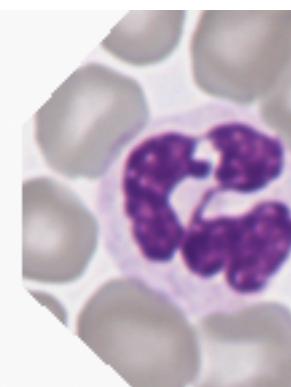
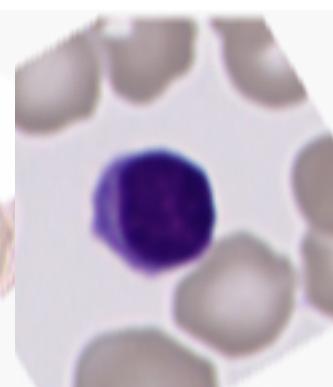
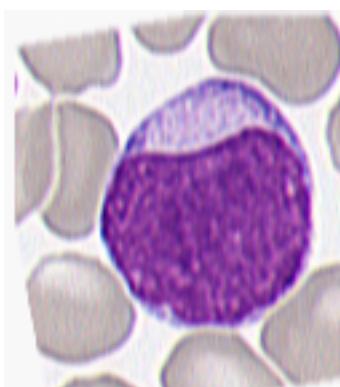
reactive lymphocyte

large granulated
lymphocyte

neutrophil granulocyte
(band)

normo

promonocyte



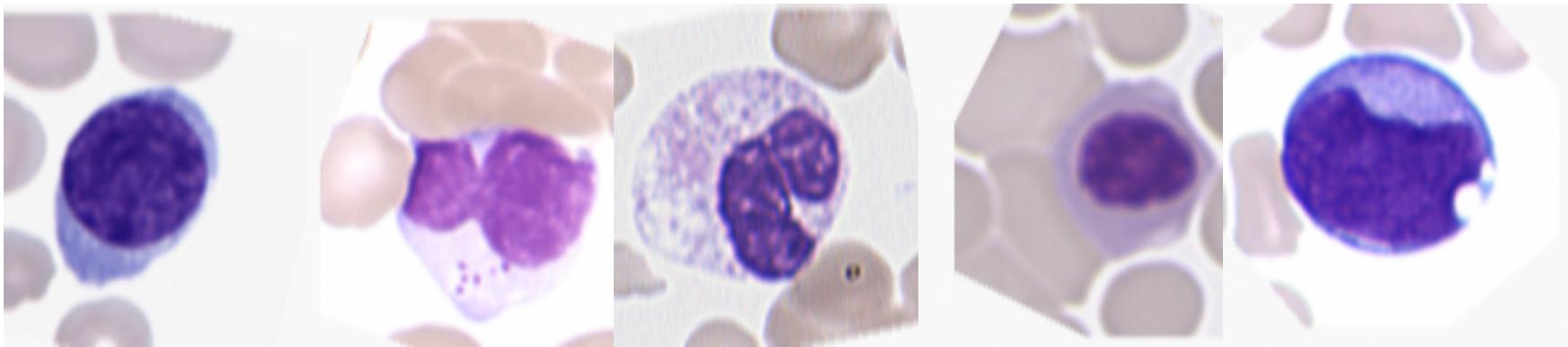
myeloblast

monocyte

typical lymphocyte

neutrophil granulocyte
(segmented)

atypical promyelocyte



reactive lymphocyte

large granulated
lymphocyteneutrophil granulocyte
(band)

normo

promonocyte

		('di no blo om ' , "")			('intra_to_inter _class_distanc e_overall_ratio' , 10)			('intra_to_inter _class_distanc e_overall_ratio' , 20)			('intra_to_inter _class_distanc e_overall_ratio' , 50)			('intra_to_inter _class_distanc e_overall_ratio' , 100)			('intra_to_inter _class_distanc e_overall_ratio' , 400)			('loo cv_k nn_ acc', 10)		('loo cv_k nn_ acc', 20)		('loo cv_k nn_ acc', 50)		('loo cv_k nn_ acc', 100)		('loo cv_k nn_ acc', 400)	
din o	Isom ap	0.725		0.653		0.595		0.617		0.591		0.45		0.44		0.60		0.60		0.48		0		0		0		0	
din o	PCA	0.781		0.736		0.701		0.746		0.710		0.41		0.54		0.56		0.55		0.58		0		0		0		0	
din o	PHA TE	0.380		0.391		0.375		0.393		0.433		0.46		0.51		0.61		0.53		0.50		0		0		0		0	
din o	TSN E	0.985		0.800		0.740		0.753		0.758		0.23		0.53		0.54		0.46		0.57		0		0		0		0	
din o	UMA P	0.559		0.498		0.283		0.322		0.432		0.56		0.51		0.66		0.57		0.58		0		0		0		0	

	eucli	dean											
din	_dist	o	ance	0.931	0.928	0.924	0.921	0.933	0.57	0.57	0.61	0.62	0.54
no	Isom	rm	ap	0.971	0.942	0.983	0.954	0.910	0.10	0.18	0.09	0.11	0.25
no	PCA	rm		0.948	0.973	0.945	0.954	0.941	0.12	0.15	0.14	0.17	0.13
no	PHA	rm	TE	0.838	0.995	0.957	0.948	1.006	0.22	0.10	0.17	0.17	0.07
no	TSN	rm	E	0.995	0.960	0.941	0.939	0.899	0.12	0.14	0.10	0.17	0.14
no	UMA	rm	P	0.976	0.978	0.979	0.913	0.963	0.14	0.13	0.17	0.18	0.12
no	eucli	dean											
no	_dist	rm	ance	0.978	0.972	0.985	0.983	0.969	0.13	0.20	0.13	0.19	0.10

FashionMNIST Dataset Experiment Overview

Name: FashionMNIST

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

Dataset Size: [100, 200, 500, 1000, 4000]

Augmentation Scheme: ['WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT']

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

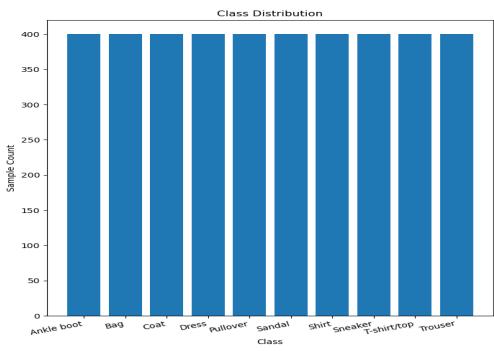
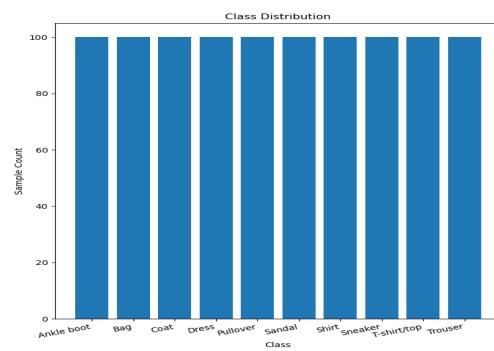
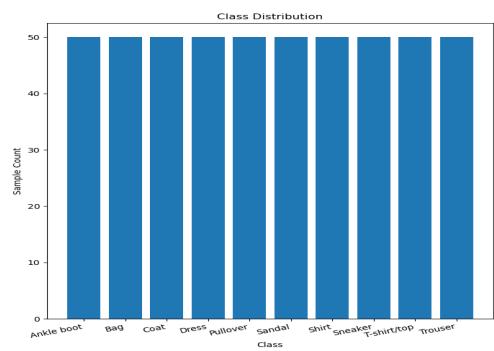
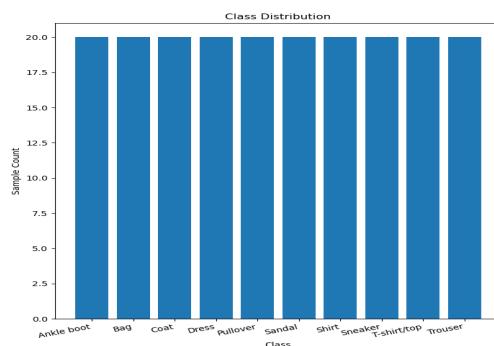
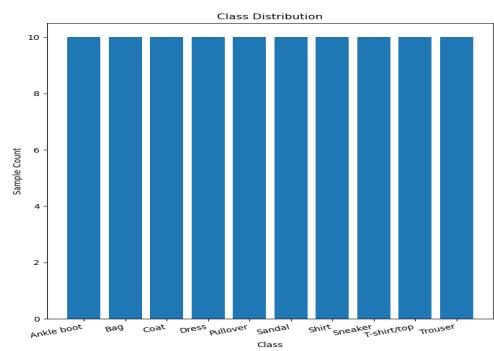
Uses DinoBloom Encoding: [False, False, False, False, False]

Number of Output Channels: [1, 1, 1, 1, 1]

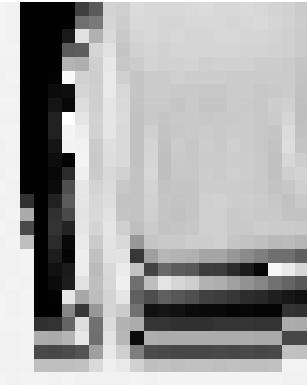
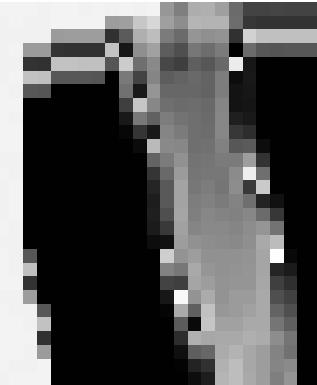
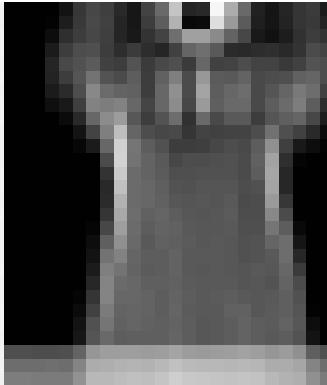
Is Multiple Instance Dataset: [False, False, False, False, False]

Bag Sizes: [, , , ,]

Class Distribution:



Sample Images:



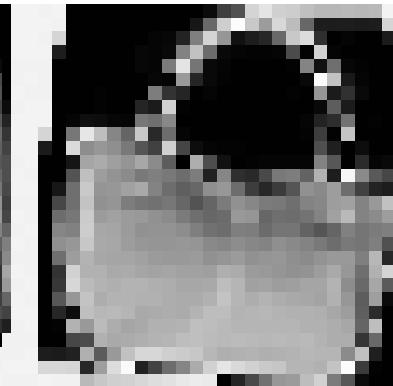
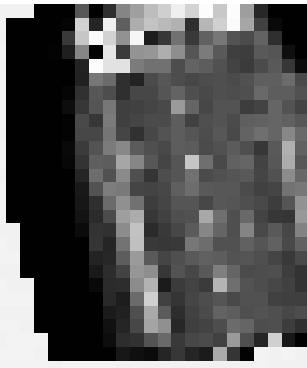
Ankle boot

T-shirt/top

Dress

Pullover

Sneaker



Sandal

Trouser

Shirt

Coat

Bag



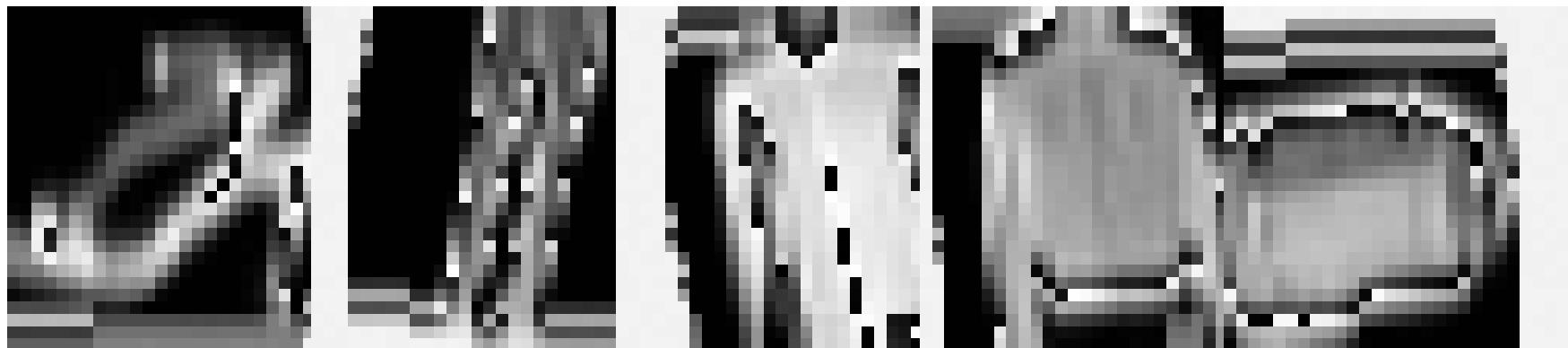
Ankle boot

T-shirt/top

Dress

Pullover

Sneaker



Sandal

Trouser

Shirt

Coat

Bag



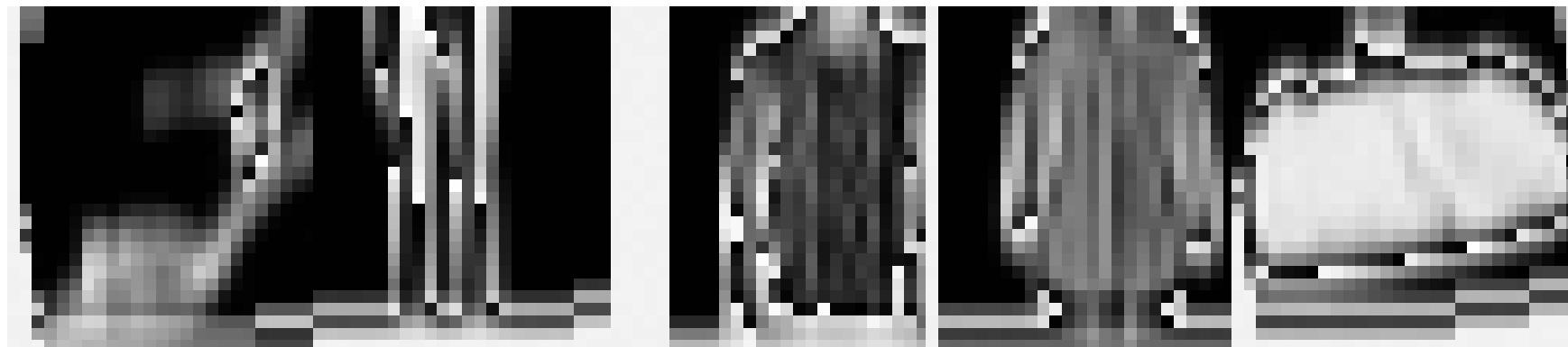
Ankle boot

T-shirt/top

Dress

Pullover

Sneaker



Sandal

Trouser

Shirt

Coat

Bag



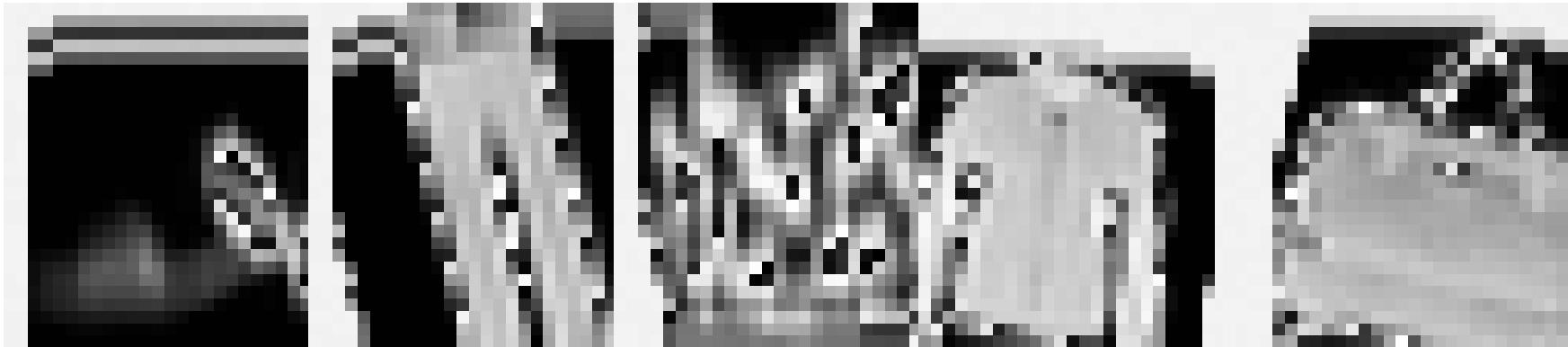
Ankle boot

T-shirt/top

Dress

Pullover

Sneaker



Sandal

Trouser

Shirt

Coat

Bag



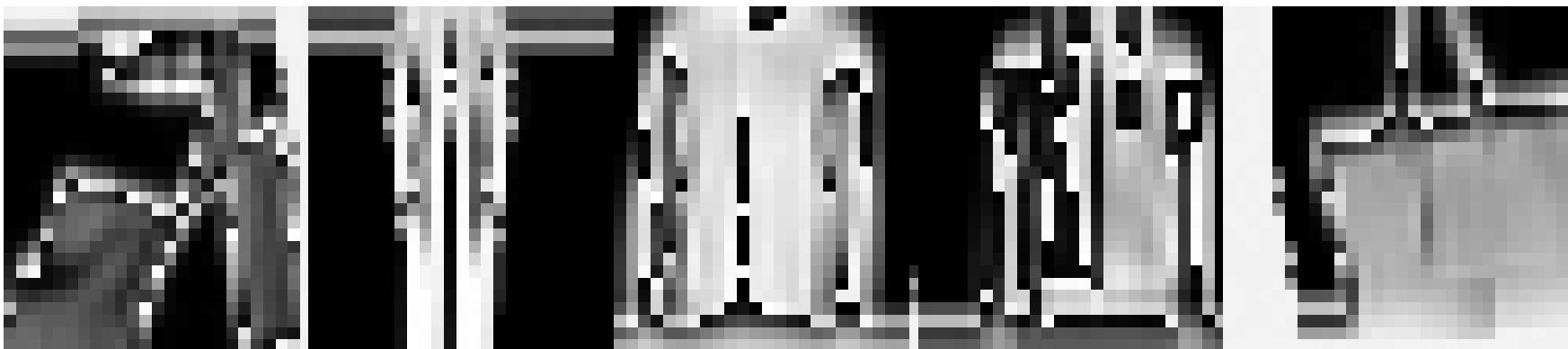
Ankle boot

T-shirt/top

Dress

Pullover

Sneaker



Sandal

Trouser

Shirt

Coat

Bag

('di no blo om ' , ")		('intra_to_inter ' _class_distanc , 10)	('intra_to_inter ' _class_distanc , 20)	('intra_to_inter ' _class_distanc , 50)	('intra_to_inter ' _class_distanc , 100)	('intra_to_inter ' _class_distanc , 400)	('loo cv_k nn_< acc', 10)	('loo cv_k nn_< acc', 20)	('loo cv_k nn_< acc', 50)	('loo cv_k nn_< acc', 100)	('loo cv_k nn_< acc', 400)
no rm al	Isom ap	0.934	0.910	0.899	0.879	0.866	0.25 0	0.25 0	0.30 0	0.19 0	0.32 0
no rm al	PCA	0.880	0.861	0.907	0.868	0.875	0.38 0	0.27 0	0.31 0	0.34 0	0.27 0
no rm al	PHA TE	0.969	0.925	0.938	0.925	0.933	0.25 0	0.12 0	0.24 0	0.24 0	0.25 0
no rm al	TSN E	0.993	0.927	0.976	0.947	0.871	0.15 0	0.34 0	0.24 0	0.20 0	0.28 0
no rm al	UMA P	0.958	0.959	0.952	0.868	0.916	0.30 0	0.21 0	0.29 0	0.21 0	0.30 0
no rm al	eucli dean _dist ance	0.927	0.935	0.920	0.912	0.921	0.28 0	0.34 0	0.39 0	0.28 0	0.28 0

CIFAR10 Dataset Experiment Overview

Name: CIFAR10

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

Dataset Size: [100, 200, 500, 1000, 4000]

Augmentation Scheme: ['WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT']

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

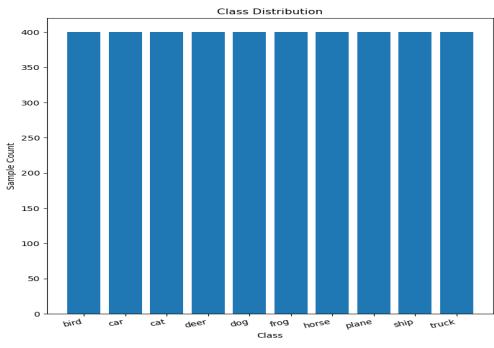
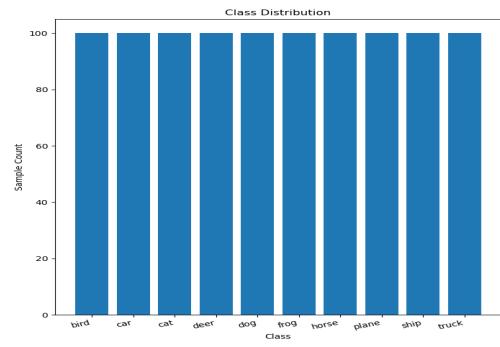
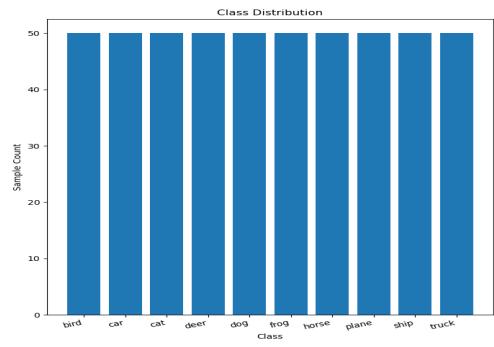
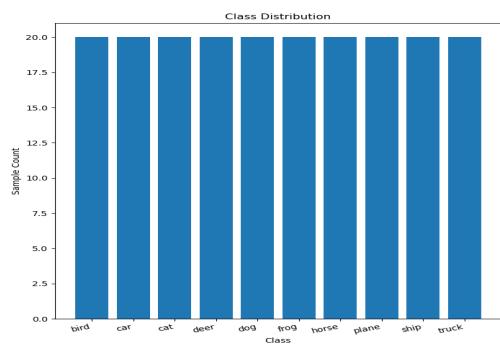
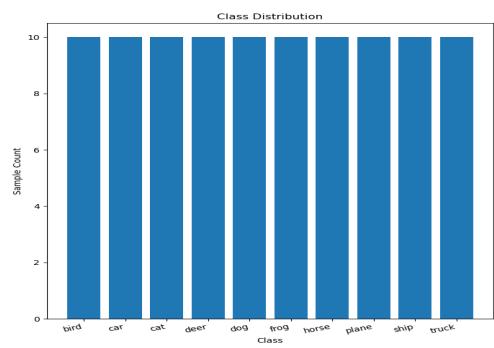
Uses DinoBloom Encoding: [False, False, False, False, False]

Number of Output Channels: [3, 3, 3, 3, 3]

Is Multiple Instance Dataset: [False, False, False, False, False]

Bag Sizes: [, , ,]

Class Distribution:



Sample Images:



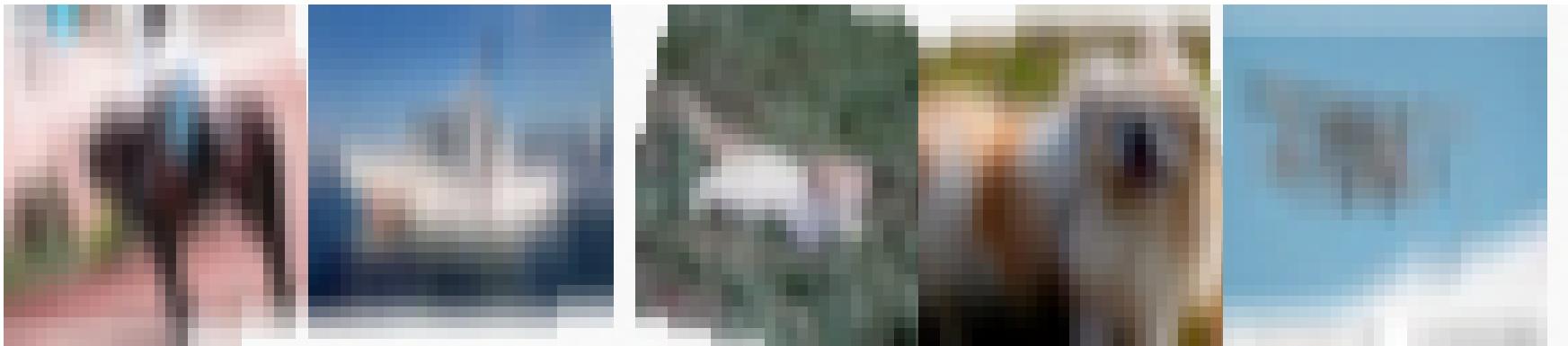
frog

truck

deer

car

bird



horse

ship

cat

dog

plane



frog

truck

deer

car

bird



horse

ship

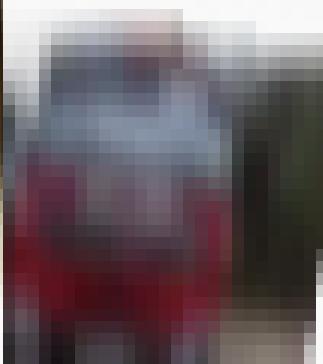
cat

dog

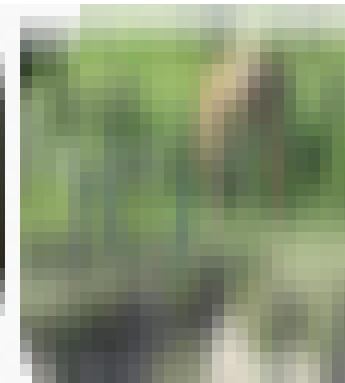
plane



frog



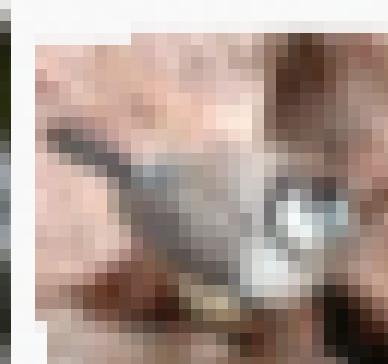
truck



deer



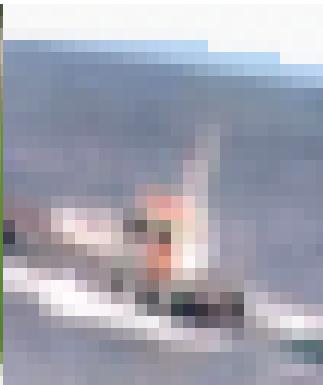
car



bird



horse



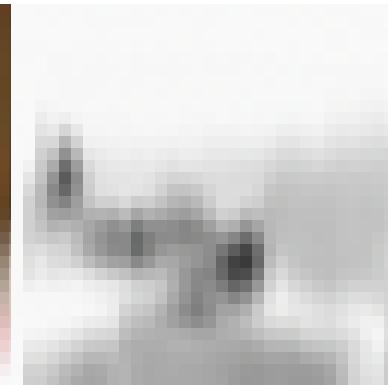
ship



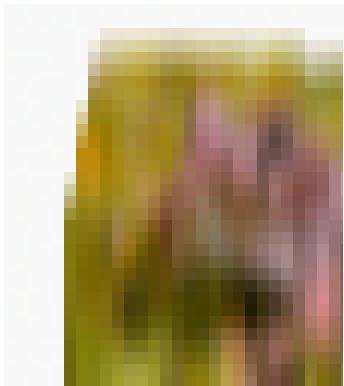
cat



dog



plane



frog



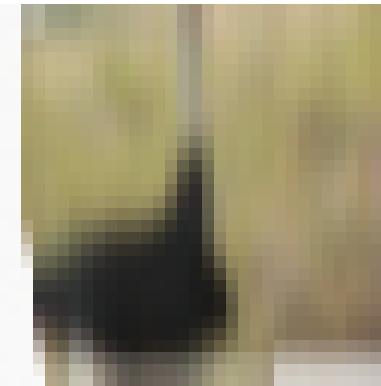
truck



deer



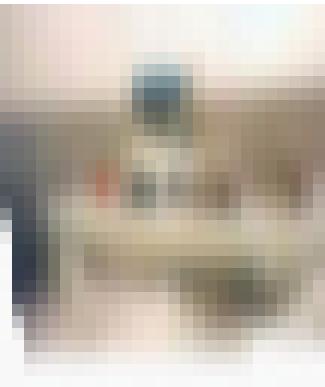
car



bird



horse



ship



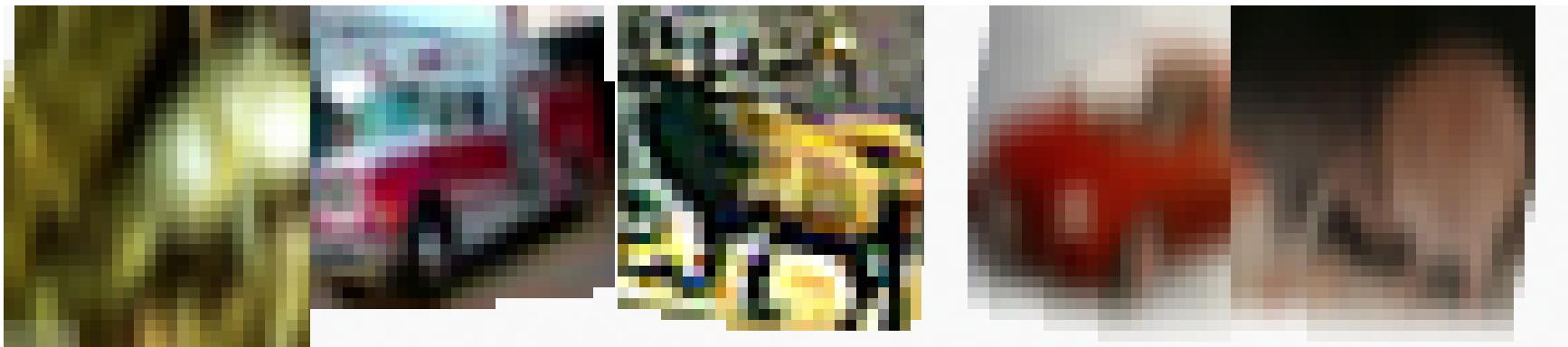
cat



dog



plane



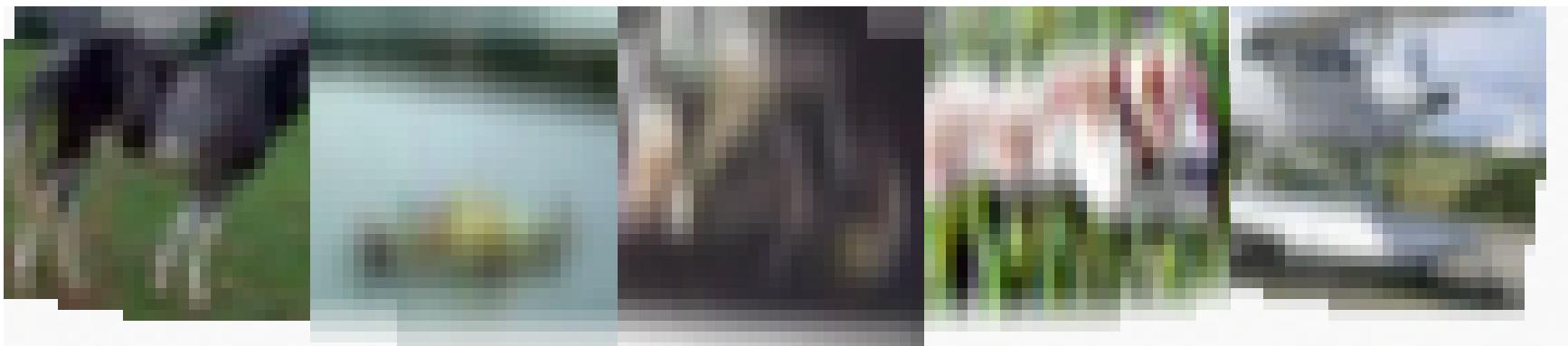
frog

truck

deer

car

bird



horse

ship

cat

dog

plane

('di no blo om ' , ")		('intra_to_inter ' _class_distanc , 10)	('intra_to_inter ' _class_distanc , 20)	('intra_to_inter ' _class_distanc , 50)	('intra_to_inter ' _class_distanc , 100)	('intra_to_inter ' _class_distanc , 400)	('loo cv_k nn_< acc', 10)	('loo cv_k nn_< acc', 20)	('loo cv_k nn_< acc', 50)	('loo cv_k nn_< acc', 100)	('loo cv_k nn_< acc', 400)
no rm al	Isom ap	0.989	0.983	0.973	0.990	0.982	0.13 0	0.19 0	0.08 0	0.06 0	0.15 0
no rm al	PCA	0.970	0.979	0.950	0.963	0.957	0.13 0	0.15 0	0.11 0	0.14 0	0.18 0
no rm al	PHA TE	0.968	0.985	1.013	0.965	0.945	0.08 0	0.13 0	0.07 0	0.14 0	0.18 0
no rm al	TSN E	1.000	1.005	0.984	0.969	1.006	0.14 0	0.07 0	0.08 0	0.14 0	0.07 0
no rm al	UMA P	0.998	0.980	1.001	0.975	0.981	0.08 0	0.16 0	0.12 0	0.15 0	0.14 0
no rm al	eucli dean _dist ance	0.995	0.979	0.983	0.950	0.989	0.08 0	0.16 0	0.09 0	0.17 0	0.10 0

MNIST Dataset Experiment Overview

Name: MNIST

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

Dataset Size: [100, 200, 500, 1000, 4000]

Augmentation Scheme: ['WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT', 'WEAKLY_ROTATIONALY_INVARIANT']

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

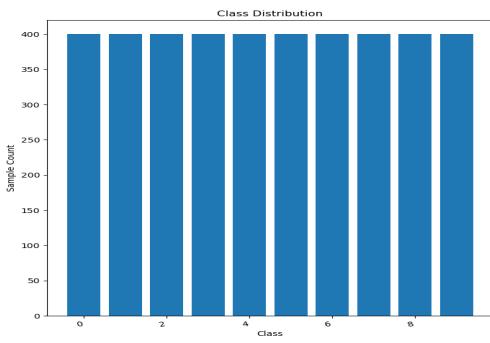
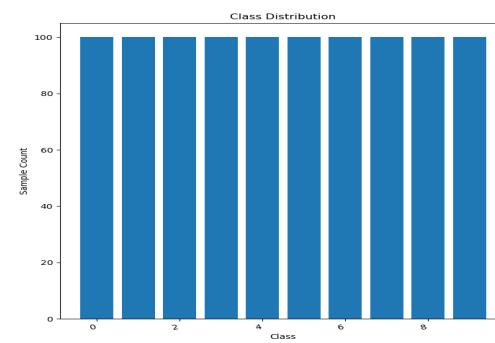
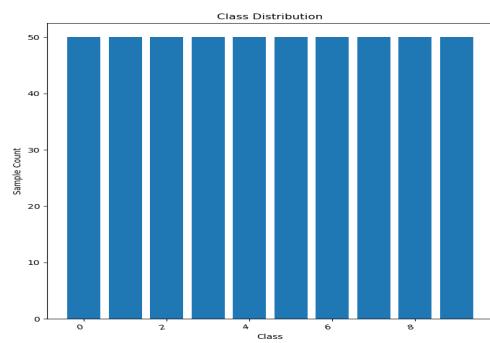
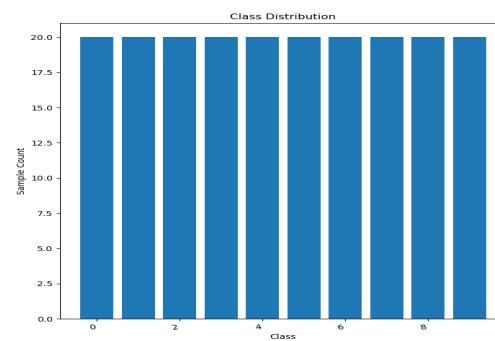
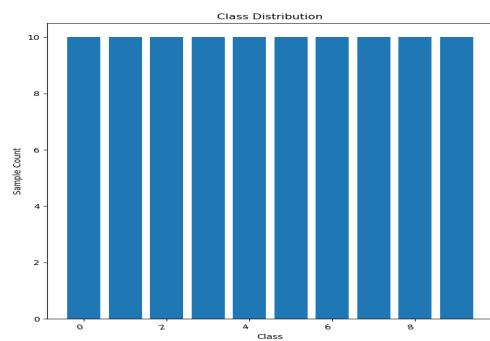
Uses DinoBloom Encoding: [False, False, False, False, False]

Number of Output Channels: [1, 1, 1, 1, 1]

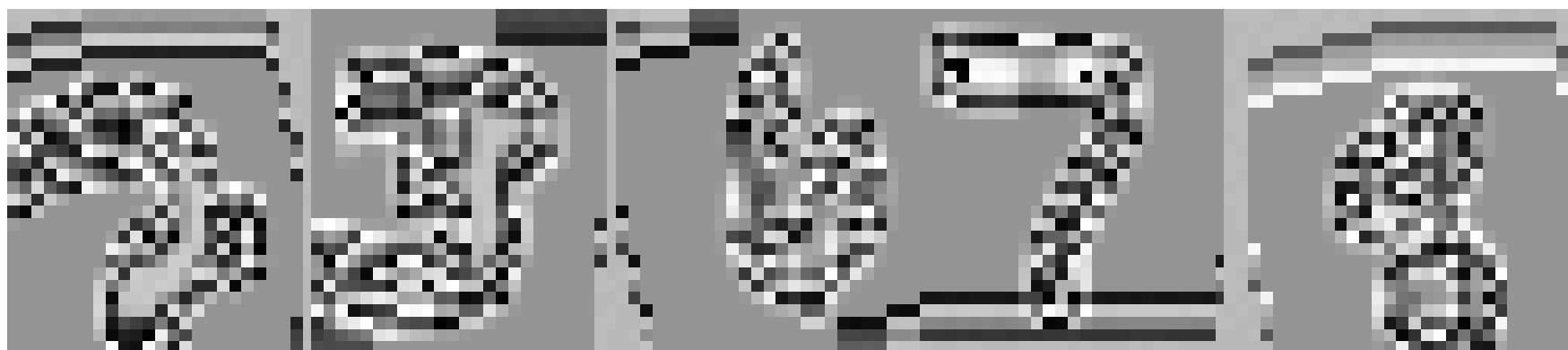
Is Multiple Instance Dataset: [False, False, False, False, False]

Bag Sizes: [, , ,]

Class Distribution:



Sample Images:





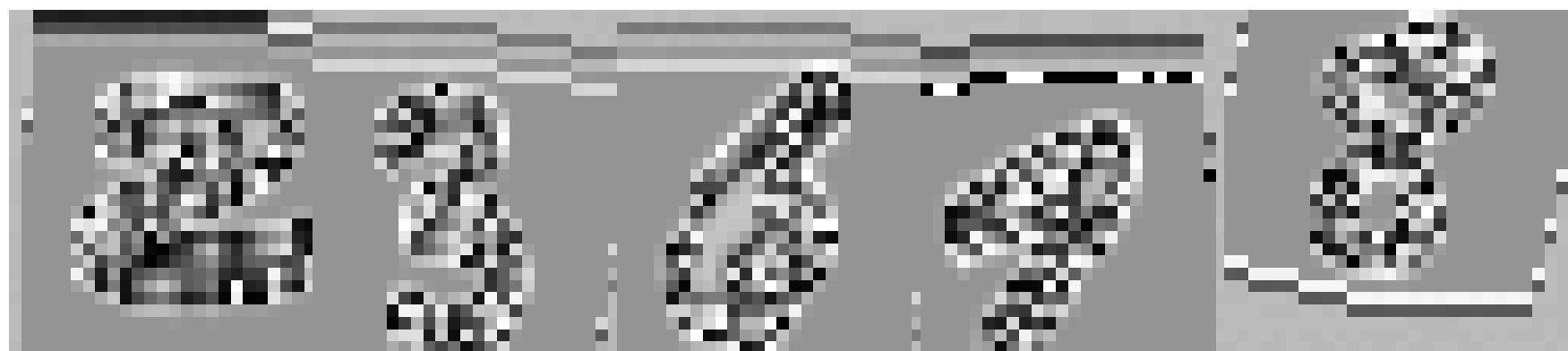
5

0

4

1

9



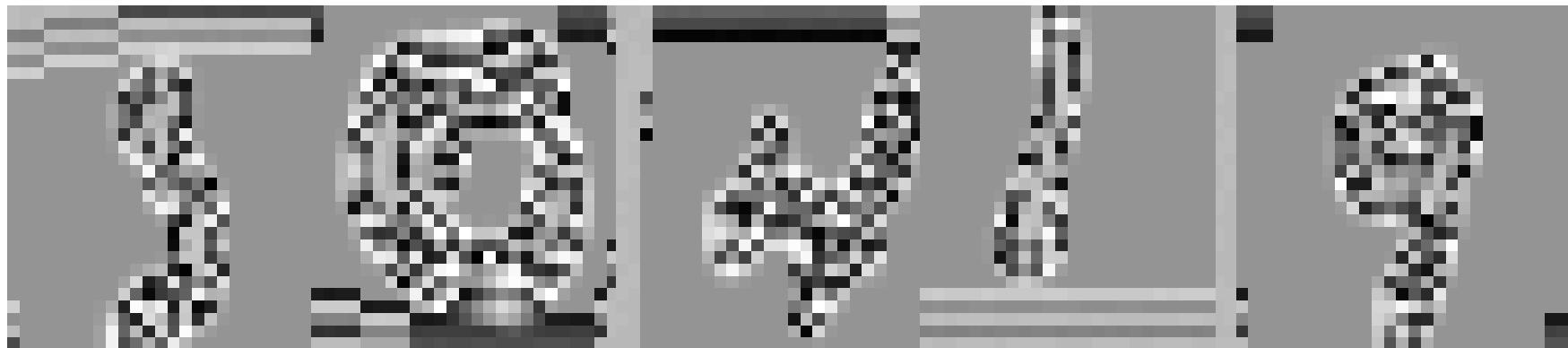
2

3

6

7

8



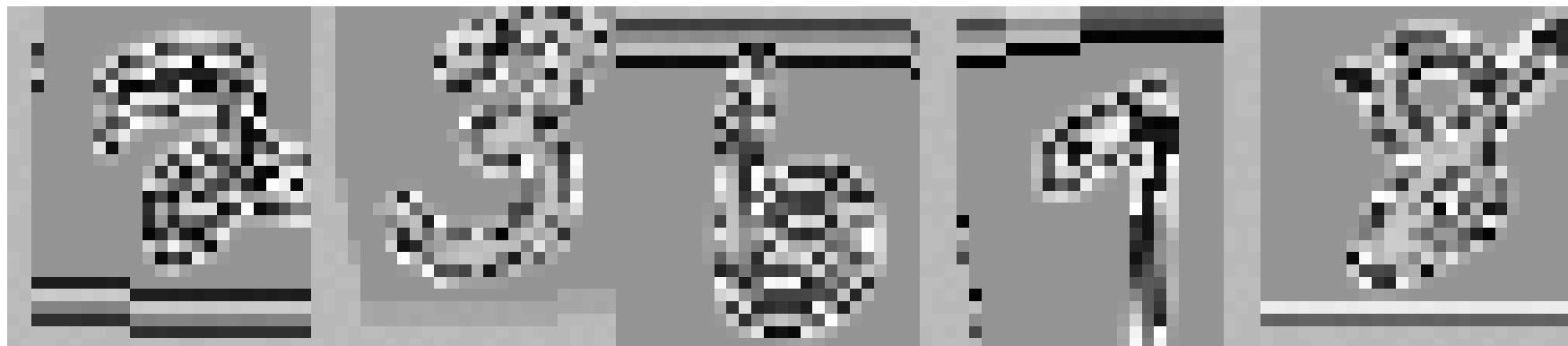
5

0

4

1

9



2

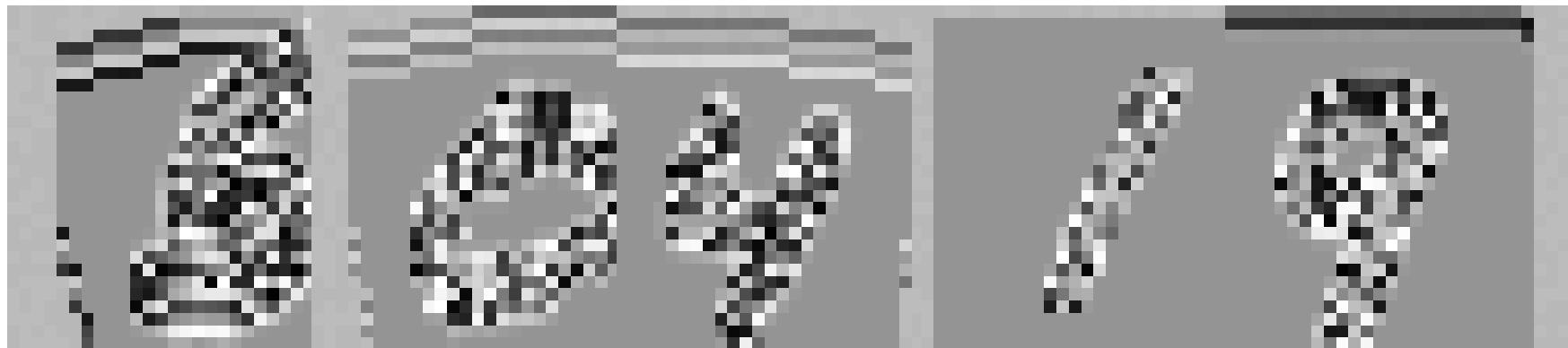
3

6

7

8





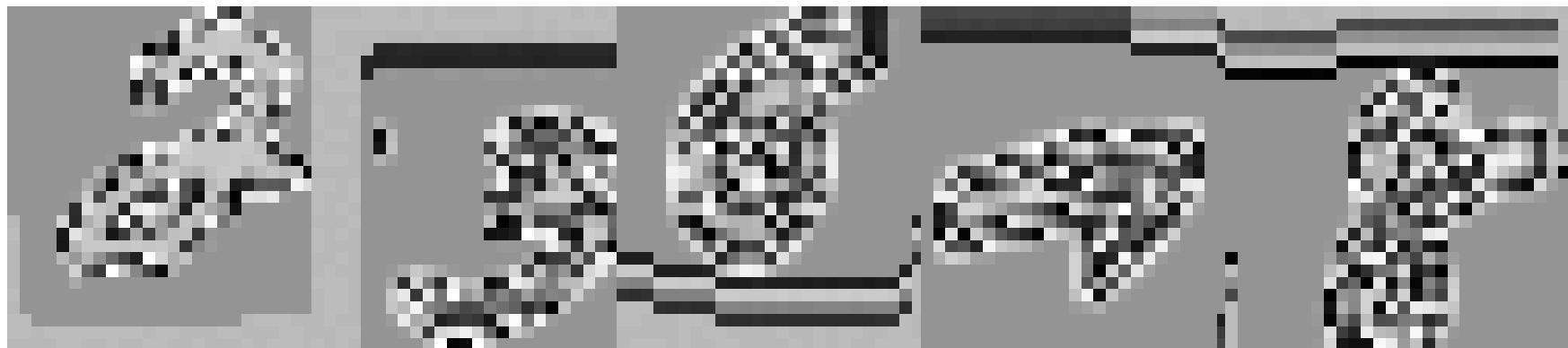
5

0

4

1

9



2

3

6

7

8

('di no blo om ' , ")		('intra_to_inter ' _class_distanc ' e_overall_ratio' , 10)	('intra_to_inter ' _class_distanc ' e_overall_ratio' , 20)	('intra_to_inter ' _class_distanc ' e_overall_ratio' , 50)	('intra_to_inter ' _class_distanc ' e_overall_ratio' , 100)	('intra_to_inter ' _class_distanc ' e_overall_ratio' , 400)	('loo cv_k nn_ acc', 10)	('loo cv_k nn_ acc', 20)	('loo cv_k nn_ acc', 50)	('loo cv_k nn_ acc', 100)	('loo cv_k nn_ acc', 400)
no rm al	Isom ap	0.982	1.002	0.999	0.987	0.988	0.22 0	0.14 0	0.19 0	0.15 0	0.11 0
no rm al	PCA	0.979	1.004	0.987	0.960	0.995	0.21 0	0.10 0	0.14 0	0.19 0	0.17 0
no rm al	PHA TE	1.019	0.985	0.988	1.017	1.012	0.04 0	0.17 0	0.15 0	0.04 0	0.08 0
no rm al	TSN E	0.995	1.000	0.964	0.988	0.996	0.07 0	0.17 0	0.15 0	0.21 0	0.19 0
no rm al	UMA P	1.014	0.995	1.000	1.021	1.007	0.10 0	0.10 0	0.18 0	0.17 0	0.12 0
no rm al	eucli dean _dist ance	0.985	0.985	0.960	0.962	1.000	0.15 0	0.21 0	0.25 0	0.30 0	0.18 0