### Model Attempts

#### Base Resnet

Augmentation : Resize only

Batch Size: 8 LR Scheduler:

Exponential Decay initial\_learning\_rate=1e-2, decay\_steps=10000, decay\_rate=0.9

Epochs: 10

Best Val\_RSME: 0.2053 @ Epoch 3, Train\_RSME: 0.2081

#### Base Resnet

Augmentation : Resize only

Batch Size: 8 LR Scheduler:

**Exponential Decay** 

initial\_learning\_rate=1e-2,
decay\_steps=10000,

decay\_rate=0.9

Stair\_step = True

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
0	0.702816	0.238425	0.670657	0.211516
1	0.671991	0.214936	0.667493	0.207836
2	0.666311	0.208903	0.667818	0.208092
3	0.665212	0.207681	0.673601	0.213941
4	0.662998	0.205148	0.669034	0.209508

#### Base Resnet

Augmentation : Resize only

Batch Size : 8 LR Scheduler :

**Exponential Decay** 

initial\_learning\_rate=0.1,

decay\_steps=10000,

decay\_rate=0.9

## Stair\_step = True

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
0	0.704102	0.241226	0.669316	0.209437
1	0.673506	0.216249	0.670838	0.211735
2	0.668974	0.211727	0.667294	0.207532
3	0.667277	0.209987	0.668439	0.208571
4	0.665834	0.208377	0.686969	0.223565

Base Resnet

Augmentation : Resize only

## Batch Size: 32

LR Scheduler:

Exponential Decay initial\_learning\_rate=0.1, decay\_steps=10000, decay\_rate=0.9 Stair\_step = True

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
0	0.708199	0.244651	0.675114	0.215448
1	0.677728	0.220725	0.667108	0.207241
2	0.667291	0.209766	0.670605	0.211420
3	0.658934	0.200284	0.676413	0.218159
4	0.649607	0.188861	0.679929	0.219953

### Base Resnet

# Augmentation: Resize only, Brightness

Batch Size : 32 LR Scheduler :

Exponential Decay initial\_learning\_rate=0.1, decay\_steps=10000,

decay\_rate=0.9 Stair\_step = True

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
(	0.708214	0.245083	0.686018	0.228756
	<b>1</b> 0.674629	0.217615	0.711073	0.245329
	<b>2</b> 0.665288	0.207612	0.690189	0.228979
;	<b>3</b> 0.657628	0.198676	0.676821	0.216966
	4 0.645203	0.183210	0.699805	0.235574

Base Resnet

Augmentation : Resize only, Brightness

Batch Size :8 LR Scheduler :

> Exponential Decay initial\_learning\_rate=0.1, decay\_steps=10000, decay\_rate=0.9 Stair\_step = True

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
0	0.704127	0.240837	0.697749	0.234236
1	0.672512	0.215549	0.672121	0.213155
2	0.668117	0.210876	0.667829	0.208093
3	0.666496	0.209133	0.672165	0.212224
4	0.665915	0.208453	0.667878	0.208181

### Base Resnet

Augmentation : Resize only

Batch Size :32

LR Scheduler:

InverseTimeDecay

initial\_learning\_rate=0.1,

decay\_steps=1.0,

decay rate=0.5

Stair\_step = False

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
0	0.711184	0.244605	0.682226	0.224640
1	0.675097	0.218101	0.692867	0.231263
2	0.665322	0.207641	0.681737	0.221507
3	0.657160	0.198208	0.690450	0.228444
4	0.647304	0.185850	0.729037	0.256451

#### Base Resnet

Augmentation : Resize only

Batch Size: 8

LR Scheduler:

InverseTimeDecay initial\_learning\_rate=0.1, decay\_steps=1.0, decay\_rate=0.5

Stair\_step = False

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
0	0.700969	0.236609	0.709744	0.227794
1	0.673333	0.216042	0.666968	0.207152
2	0.669787	0.212681	0.669926	0.209513
3	0.667569	0.210337	0.665993	0.206034
4	0.665653	0.208179	0.804329	0.276412

### Base Resnet

Augmentation : Resize only Batch Size : 8

LR Scheduler:

 $Inverse \\ Time \\ Decay$ 

initial\_learning\_rate=0.1,

decay\_steps=1.0,

decay\_rate=0.25

Stair\_step = False

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
0	0.705763	0.240554	0.751132	0.249624
1	0.676292	0.218969	0.668191	0.208527
2	0.670238	0.213099	0.669073	0.209216
3	0.667485	0.210162	0.667473	0.207769
4	0.666585	0.209221	0.666250	0.206380

### Base Resnet

## Epochs: 10

Augmentation : Resize only

Batch Size : 8 LR Scheduler :

InverseTimeDecay

initial\_learning\_rate=0.1,

decay\_steps=1.0, decay\_rate=0.25

Stair\_step = False

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
0	0.701741	0.239501	0.681181	0.220027
1	0.673234	0.216284	0.667536	0.207947
2	0.667851	0.210587	0.677740	0.214038
3	0.666365	0.208967	0.668255	0.208595
4	0.665099	0.207578	0.667680	0.207952
5	0.664874	0.207291	0.666541	0.206721
6	0.664468	0.206844	0.667760	0.207990
7	0.664063	0.206388	0.667285	0.207490
8	0.663759	0.206054	0.671212	0.211518
9	0.662770	0.204875	0.669605	0.210005

## Base Resnet

## Epochs: 5

Augmentation : Resize only

Batch Size : 8 LR Scheduler : InverseTimeDecay initial\_learning\_rate=0.1, decay\_steps=1.0, decay\_rate=0.15 Stair\_step = Falsde

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
0	0.702520	0.240033	0.723662	0.262878
1	0.672424	0.215263	0.670393	0.210517
2	0.667654	0.210426	0.667268	0.207419
3	0.666557	0.209179	0.666430	0.206506
4	0.665586	0.208112	0.668503	0.208845

Base Resnet Epochs: 5

Augmentation : Resize only

Batch Size : 8 LR Scheduler :

InverseTimeDecay

initial learning rate=0.01,

decay\_steps=1.0, decay\_rate=0.15 Stair\_step = False

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
0	0.700370	0.237110	1.386409	0.474225
1	0.675391	0.218071	0.696721	0.237375
2	0.669337	0.212201	0.666622	0.206791
3	0.667295	0.209969	0.675075	0.214956
4	0.666287	0.208885	0.673077	0.214345

Base Resnet Epochs: 5

Augmentation : Resize only

Batch Size : 8 LR Scheduler :

InverseTimeDecay

initial\_learning\_rate=0.2,

decay\_steps=1.0, decay\_rate=0.15 Stair\_step = False

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
0	0.698480	0.237821	0.685818	0.228606
1	0.670976	0.213967	0.672222	0.213380
2	0.668014	0.210777	0.670422	0.210877
3	0.664552	0.206932	0.667466	0.207683
4	0.663773	0.206036	0.669619	0.210019

Base Resnet Epochs: 5

Augmentation : Resize only

Batch Size : 8 LR Scheduler :

InverseTimeDecay

initial\_learning\_rate=0.2,

decay\_steps=1.0, decay\_rate=0.25 Stair\_step = False

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
(	0.697279	0.236565	0.711564	0.254989
	0.670938	0.213933	0.675583	0.216110
2	0.667009	0.209692	0.666400	0.206554
3	0.664180	0.206502	0.669104	0.209727
4	0.662131	0.204118	0.669236	0.209866

Base Resnet Epochs: 5

Augmentation : Resize only

Batch Size : 8

LR Scheduler :

CosineDecay

initial\_learning\_rate=0.1

Decay\_steps = 1000

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
0	0.701627	0.239193	0.676111	0.217450
1	0.671722	0.214717	0.667897	0.208294
2	0.667394	0.210144	0.681293	0.221803
3	0.665416	0.207914	0.665656	0.205700
4	0.664078	0.206412	0.666443	0.206605

Base Resnet Epochs: 5

Augmentation : Resize only

Batch Size : 8 LR Scheduler :

CosineDecay

initial\_learning\_rate=0.01

Decay\_steps = 1000

	loss	root_mean_squared_error	val_loss	val_root_mean_squared_error
0	0.701953	0.239453	0.670799	0.211264
1	0.673365	0.216356	0.668940	0.209335
2	0.668484	0.211319	0.680859	0.221051
3	0.666609	0.209228	0.668181	0.208659
4	0.666245	0.208837	0.667480	0.207770