**Corrosion Resistance Neural Network and Mean Absolute Percentage Error Results**

**TRIAL ONE :**

runfile('C:/Users/Shrishti D Hore/OneDrive/Documents/Stir\_Research/Folder/Stir\_Research\_Corrosion\_Resistance\_NN\_and\_mean\_absolute\_percentage\_error.py', wdir='C:/Users/Shrishti D Hore/OneDrive/Documents/Stir\_Research/Folder')

C:\Users\Shrishti D Hore\Miniconda3\envs\shripy\lib\site-packages\sklearn\utils\validation.py:595: DataConversionWarning: Data with input dtype int64 was converted to float64 by StandardScaler.

warnings.warn(msg, DataConversionWarning)

C:\Users\Shrishti D Hore\Miniconda3\envs\shripy\lib\site-packages\sklearn\utils\validation.py:595: DataConversionWarning: Data with input dtype int64 was converted to float64 by StandardScaler.

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C:\Users\Shrishti D Hore\Miniconda3\envs\shripy\lib\site-packages\sklearn\utils\validation.py:595: DataConversionWarning: Data with input dtype int64 was converted to float64 by StandardScaler.

warnings.warn(msg, DataConversionWarning)

Train on 22 samples, validate on 8 samples

Epoch 1/100

22/22 [==============================] - 3s 130ms/step - loss: 187.0062 - mean\_absolute\_percentage\_error: 187.0063 - val\_loss: 194.0537 - val\_mean\_absolute\_percentage\_error: 194.0537

Epoch 2/100

22/22 [==============================] - 0s 5ms/step - loss: 186.4747 - mean\_absolute\_percentage\_error: 186.4747 - val\_loss: 193.6945 - val\_mean\_absolute\_percentage\_error: 193.6945

Epoch 3/100

22/22 [==============================] - 0s 820us/step - loss: 185.8751 - mean\_absolute\_percentage\_error: 185.8751 - val\_loss: 193.3386 - val\_mean\_absolute\_percentage\_error: 193.3386

Epoch 4/100

22/22 [==============================] - 0s 5ms/step - loss: 185.4050 - mean\_absolute\_percentage\_error: 185.4050 - val\_loss: 192.9883 - val\_mean\_absolute\_percentage\_error: 192.9883

Epoch 5/100

22/22 [==============================] - 0s 3ms/step - loss: 184.8652 - mean\_absolute\_percentage\_error: 184.8652 - val\_loss: 192.6509 - val\_mean\_absolute\_percentage\_error: 192.6509

Epoch 6/100

22/22 [==============================] - 0s 3ms/step - loss: 184.3589 - mean\_absolute\_percentage\_error: 184.3589 - val\_loss: 192.3195 - val\_mean\_absolute\_percentage\_error: 192.3195

Epoch 7/100

22/22 [==============================] - 0s 3ms/step - loss: 183.8652 - mean\_absolute\_percentage\_error: 183.8652 - val\_loss: 191.9897 - val\_mean\_absolute\_percentage\_error: 191.9897

Epoch 8/100

22/22 [==============================] - 0s 5ms/step - loss: 183.3993 - mean\_absolute\_percentage\_error: 183.3994 - val\_loss: 191.6617 - val\_mean\_absolute\_percentage\_error: 191.6617

Epoch 9/100

22/22 [==============================] - 0s 3ms/step - loss: 182.9079 - mean\_absolute\_percentage\_error: 182.9079 - val\_loss: 191.3528 - val\_mean\_absolute\_percentage\_error: 191.3528

Epoch 10/100

22/22 [==============================] - 0s 947us/step - loss: 182.3647 - mean\_absolute\_percentage\_error: 182.3647 - val\_loss: 191.0504 - val\_mean\_absolute\_percentage\_error: 191.0504

Epoch 11/100

22/22 [==============================] - 0s 2ms/step - loss: 181.9306 - mean\_absolute\_percentage\_error: 181.9306 - val\_loss: 190.7373 - val\_mean\_absolute\_percentage\_error: 190.7373

Epoch 12/100

22/22 [==============================] - 0s 4ms/step - loss: 181.4755 - mean\_absolute\_percentage\_error: 181.4755 - val\_loss: 190.4290 - val\_mean\_absolute\_percentage\_error: 190.4290

Epoch 13/100

22/22 [==============================] - 0s 4ms/step - loss: 181.0210 - mean\_absolute\_percentage\_error: 181.0210 - val\_loss: 190.1255 - val\_mean\_absolute\_percentage\_error: 190.1255

Epoch 14/100

22/22 [==============================] - 0s 908us/step - loss: 180.5844 - mean\_absolute\_percentage\_error: 180.5844 - val\_loss: 189.8250 - val\_mean\_absolute\_percentage\_error: 189.8250

Epoch 15/100

22/22 [==============================] - 0s 1ms/step - loss: 180.1646 - mean\_absolute\_percentage\_error: 180.1646 - val\_loss: 189.5235 - val\_mean\_absolute\_percentage\_error: 189.5235

Epoch 16/100

22/22 [==============================] - 0s 2ms/step - loss: 179.7471 - mean\_absolute\_percentage\_error: 179.7471 - val\_loss: 189.2336 - val\_mean\_absolute\_percentage\_error: 189.2336

Epoch 17/100

22/22 [==============================] - 0s 4ms/step - loss: 179.3336 - mean\_absolute\_percentage\_error: 179.3336 - val\_loss: 188.9499 - val\_mean\_absolute\_percentage\_error: 188.9499

Epoch 18/100

22/22 [==============================] - 0s 2ms/step - loss: 178.9553 - mean\_absolute\_percentage\_error: 178.9553 - val\_loss: 188.6781 - val\_mean\_absolute\_percentage\_error: 188.6781

Epoch 19/100

22/22 [==============================] - 0s 7ms/step - loss: 178.6039 - mean\_absolute\_percentage\_error: 178.6039 - val\_loss: 188.3970 - val\_mean\_absolute\_percentage\_error: 188.3970

Epoch 20/100

22/22 [==============================] - 0s 5ms/step - loss: 178.3440 - mean\_absolute\_percentage\_error: 178.3440 - val\_loss: 188.1007 - val\_mean\_absolute\_percentage\_error: 188.1007

Epoch 21/100

22/22 [==============================] - 0s 1ms/step - loss: 178.0773 - mean\_absolute\_percentage\_error: 178.0773 - val\_loss: 187.8244 - val\_mean\_absolute\_percentage\_error: 187.8244

Epoch 22/100

22/22 [==============================] - 0s 679us/step - loss: 177.8228 - mean\_absolute\_percentage\_error: 177.8228 - val\_loss: 187.5443 - val\_mean\_absolute\_percentage\_error: 187.5443

Epoch 23/100

22/22 [==============================] - 0s 1ms/step - loss: 177.5501 - mean\_absolute\_percentage\_error: 177.5501 - val\_loss: 187.2961 - val\_mean\_absolute\_percentage\_error: 187.2961

Epoch 24/100

22/22 [==============================] - 0s 9ms/step - loss: 177.3065 - mean\_absolute\_percentage\_error: 177.3065 - val\_loss: 187.0528 - val\_mean\_absolute\_percentage\_error: 187.0528

Epoch 25/100

22/22 [==============================] - 0s 2ms/step - loss: 177.0547 - mean\_absolute\_percentage\_error: 177.0547 - val\_loss: 186.8138 - val\_mean\_absolute\_percentage\_error: 186.8138

Epoch 26/100

22/22 [==============================] - 0s 505us/step - loss: 176.7875 - mean\_absolute\_percentage\_error: 176.7875 - val\_loss: 186.5731 - val\_mean\_absolute\_percentage\_error: 186.5731

Epoch 27/100

22/22 [==============================] - 0s 4ms/step - loss: 176.5654 - mean\_absolute\_percentage\_error: 176.5654 - val\_loss: 186.3344 - val\_mean\_absolute\_percentage\_error: 186.3344

Epoch 28/100

22/22 [==============================] - 0s 5ms/step - loss: 176.3222 - mean\_absolute\_percentage\_error: 176.3222 - val\_loss: 186.1600 - val\_mean\_absolute\_percentage\_error: 186.1600

Epoch 29/100

22/22 [==============================] - 0s 2ms/step - loss: 176.1134 - mean\_absolute\_percentage\_error: 176.1134 - val\_loss: 186.0350 - val\_mean\_absolute\_percentage\_error: 186.0350

Epoch 30/100

22/22 [==============================] - 0s 5ms/step - loss: 175.9629 - mean\_absolute\_percentage\_error: 175.9629 - val\_loss: 185.8981 - val\_mean\_absolute\_percentage\_error: 185.8981

Epoch 31/100

22/22 [==============================] - 0s 1ms/step - loss: 175.8021 - mean\_absolute\_percentage\_error: 175.8021 - val\_loss: 185.7462 - val\_mean\_absolute\_percentage\_error: 185.7462

Epoch 32/100

22/22 [==============================] - 0s 754us/step - loss: 175.6690 - mean\_absolute\_percentage\_error: 175.6690 - val\_loss: 185.5931 - val\_mean\_absolute\_percentage\_error: 185.5931

Epoch 33/100

22/22 [==============================] - 0s 4ms/step - loss: 175.4769 - mean\_absolute\_percentage\_error: 175.4769 - val\_loss: 185.4133 - val\_mean\_absolute\_percentage\_error: 185.4133

Epoch 34/100

22/22 [==============================] - 0s 4ms/step - loss: 175.2995 - mean\_absolute\_percentage\_error: 175.2995 - val\_loss: 185.1738 - val\_mean\_absolute\_percentage\_error: 185.1738

Epoch 35/100

22/22 [==============================] - 0s 2ms/step - loss: 175.1325 - mean\_absolute\_percentage\_error: 175.1325 - val\_loss: 184.9347 - val\_mean\_absolute\_percentage\_error: 184.9347

Epoch 36/100

22/22 [==============================] - 0s 3ms/step - loss: 174.9417 - mean\_absolute\_percentage\_error: 174.9417 - val\_loss: 184.7048 - val\_mean\_absolute\_percentage\_error: 184.7048

Epoch 37/100

22/22 [==============================] - 0s 2ms/step - loss: 174.7045 - mean\_absolute\_percentage\_error: 174.7045 - val\_loss: 184.5104 - val\_mean\_absolute\_percentage\_error: 184.5104

Epoch 38/100

22/22 [==============================] - 0s 703us/step - loss: 174.5545 - mean\_absolute\_percentage\_error: 174.5545 - val\_loss: 184.3293 - val\_mean\_absolute\_percentage\_error: 184.3293

Epoch 39/100

22/22 [==============================] - 0s 1ms/step - loss: 174.3888 - mean\_absolute\_percentage\_error: 174.3888 - val\_loss: 184.1553 - val\_mean\_absolute\_percentage\_error: 184.1553

Epoch 40/100

22/22 [==============================] - 0s 2ms/step - loss: 174.2570 - mean\_absolute\_percentage\_error: 174.2569 - val\_loss: 183.9698 - val\_mean\_absolute\_percentage\_error: 183.9698

Epoch 41/100

22/22 [==============================] - 0s 5ms/step - loss: 174.1017 - mean\_absolute\_percentage\_error: 174.1017 - val\_loss: 183.7781 - val\_mean\_absolute\_percentage\_error: 183.7781

Epoch 42/100

22/22 [==============================] - 0s 818us/step - loss: 173.9244 - mean\_absolute\_percentage\_error: 173.9244 - val\_loss: 183.5839 - val\_mean\_absolute\_percentage\_error: 183.5839

Epoch 43/100

22/22 [==============================] - 0s 1ms/step - loss: 173.7570 - mean\_absolute\_percentage\_error: 173.7570 - val\_loss: 183.3837 - val\_mean\_absolute\_percentage\_error: 183.3837

Epoch 44/100

22/22 [==============================] - 0s 3ms/step - loss: 173.6186 - mean\_absolute\_percentage\_error: 173.6186 - val\_loss: 183.1453 - val\_mean\_absolute\_percentage\_error: 183.1453

Epoch 45/100

22/22 [==============================] - 0s 507us/step - loss: 173.4061 - mean\_absolute\_percentage\_error: 173.4061 - val\_loss: 182.9088 - val\_mean\_absolute\_percentage\_error: 182.9088

Epoch 46/100

22/22 [==============================] - 0s 3ms/step - loss: 173.2502 - mean\_absolute\_percentage\_error: 173.2502 - val\_loss: 182.6394 - val\_mean\_absolute\_percentage\_error: 182.6394

Epoch 47/100

22/22 [==============================] - 0s 925us/step - loss: 173.0102 - mean\_absolute\_percentage\_error: 173.0102 - val\_loss: 182.3919 - val\_mean\_absolute\_percentage\_error: 182.3919

Epoch 48/100

22/22 [==============================] - 0s 2ms/step - loss: 172.8559 - mean\_absolute\_percentage\_error: 172.8559 - val\_loss: 182.1002 - val\_mean\_absolute\_percentage\_error: 182.1002

Epoch 49/100

22/22 [==============================] - 0s 6ms/step - loss: 172.6654 - mean\_absolute\_percentage\_error: 172.6654 - val\_loss: 181.7935 - val\_mean\_absolute\_percentage\_error: 181.7935

Epoch 50/100

22/22 [==============================] - 0s 1ms/step - loss: 172.4415 - mean\_absolute\_percentage\_error: 172.4415 - val\_loss: 181.5168 - val\_mean\_absolute\_percentage\_error: 181.5168

Epoch 51/100

22/22 [==============================] - 0s 3ms/step - loss: 172.2582 - mean\_absolute\_percentage\_error: 172.2582 - val\_loss: 181.2548 - val\_mean\_absolute\_percentage\_error: 181.2548

Epoch 52/100

22/22 [==============================] - 0s 4ms/step - loss: 172.0816 - mean\_absolute\_percentage\_error: 172.0816 - val\_loss: 180.9956 - val\_mean\_absolute\_percentage\_error: 180.9956

Epoch 53/100

22/22 [==============================] - 0s 935us/step - loss: 171.9128 - mean\_absolute\_percentage\_error: 171.9128 - val\_loss: 180.7562 - val\_mean\_absolute\_percentage\_error: 180.7562

Epoch 54/100

22/22 [==============================] - 0s 10ms/step - loss: 171.6989 - mean\_absolute\_percentage\_error: 171.6990 - val\_loss: 180.5475 - val\_mean\_absolute\_percentage\_error: 180.5475

Epoch 55/100

22/22 [==============================] - 0s 6ms/step - loss: 171.5401 - mean\_absolute\_percentage\_error: 171.5401 - val\_loss: 180.3324 - val\_mean\_absolute\_percentage\_error: 180.3324

Epoch 56/100

22/22 [==============================] - 0s 4ms/step - loss: 171.3717 - mean\_absolute\_percentage\_error: 171.3717 - val\_loss: 180.1043 - val\_mean\_absolute\_percentage\_error: 180.1043

Epoch 57/100

22/22 [==============================] - 0s 10ms/step - loss: 171.1908 - mean\_absolute\_percentage\_error: 171.1908 - val\_loss: 179.8431 - val\_mean\_absolute\_percentage\_error: 179.8431

Epoch 58/100

22/22 [==============================] - 0s 2ms/step - loss: 171.0092 - mean\_absolute\_percentage\_error: 171.0092 - val\_loss: 179.5952 - val\_mean\_absolute\_percentage\_error: 179.5952

Epoch 59/100

22/22 [==============================] - 0s 1ms/step - loss: 170.7915 - mean\_absolute\_percentage\_error: 170.7915 - val\_loss: 179.3444 - val\_mean\_absolute\_percentage\_error: 179.3444

Epoch 60/100

22/22 [==============================] - 0s 3ms/step - loss: 170.6052 - mean\_absolute\_percentage\_error: 170.6052 - val\_loss: 179.0958 - val\_mean\_absolute\_percentage\_error: 179.0958

Epoch 61/100

22/22 [==============================] - 0s 791us/step - loss: 170.4008 - mean\_absolute\_percentage\_error: 170.4008 - val\_loss: 178.8410 - val\_mean\_absolute\_percentage\_error: 178.8410

Epoch 62/100

22/22 [==============================] - 0s 716us/step - loss: 170.1643 - mean\_absolute\_percentage\_error: 170.1643 - val\_loss: 178.5821 - val\_mean\_absolute\_percentage\_error: 178.5821

Epoch 63/100

22/22 [==============================] - 0s 2ms/step - loss: 169.9403 - mean\_absolute\_percentage\_error: 169.9403 - val\_loss: 178.3250 - val\_mean\_absolute\_percentage\_error: 178.3250

Epoch 64/100

22/22 [==============================] - 0s 5ms/step - loss: 169.7299 - mean\_absolute\_percentage\_error: 169.7299 - val\_loss: 178.0648 - val\_mean\_absolute\_percentage\_error: 178.0648

Epoch 65/100

22/22 [==============================] - 0s 3ms/step - loss: 169.5011 - mean\_absolute\_percentage\_error: 169.5011 - val\_loss: 177.8103 - val\_mean\_absolute\_percentage\_error: 177.8103

Epoch 66/100

22/22 [==============================] - 0s 838us/step - loss: 169.2620 - mean\_absolute\_percentage\_error: 169.2620 - val\_loss: 177.5540 - val\_mean\_absolute\_percentage\_error: 177.5540

Epoch 67/100

22/22 [==============================] - 0s 3ms/step - loss: 169.0495 - mean\_absolute\_percentage\_error: 169.0495 - val\_loss: 177.3001 - val\_mean\_absolute\_percentage\_error: 177.3001

Epoch 68/100

22/22 [==============================] - 0s 2ms/step - loss: 168.8201 - mean\_absolute\_percentage\_error: 168.8201 - val\_loss: 177.0509 - val\_mean\_absolute\_percentage\_error: 177.0509

Epoch 69/100

22/22 [==============================] - 0s 5ms/step - loss: 168.6070 - mean\_absolute\_percentage\_error: 168.6070 - val\_loss: 176.7875 - val\_mean\_absolute\_percentage\_error: 176.7875

Epoch 70/100

22/22 [==============================] - 0s 1ms/step - loss: 168.3592 - mean\_absolute\_percentage\_error: 168.3592 - val\_loss: 176.5056 - val\_mean\_absolute\_percentage\_error: 176.5056

Epoch 71/100

22/22 [==============================] - 0s 838us/step - loss: 168.1092 - mean\_absolute\_percentage\_error: 168.1092 - val\_loss: 176.2180 - val\_mean\_absolute\_percentage\_error: 176.2180

Epoch 72/100

22/22 [==============================] - 0s 4ms/step - loss: 167.8437 - mean\_absolute\_percentage\_error: 167.8437 - val\_loss: 175.9706 - val\_mean\_absolute\_percentage\_error: 175.9706

Epoch 73/100

22/22 [==============================] - 0s 2ms/step - loss: 167.7013 - mean\_absolute\_percentage\_error: 167.7013 - val\_loss: 175.7846 - val\_mean\_absolute\_percentage\_error: 175.7846

Epoch 74/100

22/22 [==============================] - 0s 3ms/step - loss: 167.5415 - mean\_absolute\_percentage\_error: 167.5415 - val\_loss: 175.6645 - val\_mean\_absolute\_percentage\_error: 175.6645

Epoch 75/100

22/22 [==============================] - 0s 3ms/step - loss: 167.3878 - mean\_absolute\_percentage\_error: 167.3878 - val\_loss: 175.5576 - val\_mean\_absolute\_percentage\_error: 175.5576

Epoch 76/100

22/22 [==============================] - 0s 1ms/step - loss: 167.2329 - mean\_absolute\_percentage\_error: 167.2329 - val\_loss: 175.4481 - val\_mean\_absolute\_percentage\_error: 175.4481

Epoch 77/100

22/22 [==============================] - 0s 3ms/step - loss: 167.1107 - mean\_absolute\_percentage\_error: 167.1107 - val\_loss: 175.3364 - val\_mean\_absolute\_percentage\_error: 175.3364

Epoch 78/100

22/22 [==============================] - 0s 5ms/step - loss: 166.9424 - mean\_absolute\_percentage\_error: 166.9424 - val\_loss: 175.2484 - val\_mean\_absolute\_percentage\_error: 175.2484

Epoch 79/100

22/22 [==============================] - 0s 2ms/step - loss: 166.8162 - mean\_absolute\_percentage\_error: 166.8162 - val\_loss: 175.1311 - val\_mean\_absolute\_percentage\_error: 175.1311

Epoch 80/100

22/22 [==============================] - 0s 2ms/step - loss: 166.6659 - mean\_absolute\_percentage\_error: 166.6659 - val\_loss: 175.0051 - val\_mean\_absolute\_percentage\_error: 175.0051

Epoch 81/100

22/22 [==============================] - 0s 4ms/step - loss: 166.4984 - mean\_absolute\_percentage\_error: 166.4984 - val\_loss: 174.9110 - val\_mean\_absolute\_percentage\_error: 174.9110

Epoch 82/100

22/22 [==============================] - 0s 3ms/step - loss: 166.3575 - mean\_absolute\_percentage\_error: 166.3575 - val\_loss: 174.8305 - val\_mean\_absolute\_percentage\_error: 174.8305

Epoch 83/100

22/22 [==============================] - 0s 1ms/step - loss: 166.2053 - mean\_absolute\_percentage\_error: 166.2054 - val\_loss: 174.7408 - val\_mean\_absolute\_percentage\_error: 174.7408

Epoch 84/100

22/22 [==============================] - 0s 6ms/step - loss: 166.0520 - mean\_absolute\_percentage\_error: 166.0520 - val\_loss: 174.6643 - val\_mean\_absolute\_percentage\_error: 174.6643

Epoch 85/100

22/22 [==============================] - 0s 3ms/step - loss: 165.9261 - mean\_absolute\_percentage\_error: 165.9261 - val\_loss: 174.5774 - val\_mean\_absolute\_percentage\_error: 174.5774

Epoch 86/100

22/22 [==============================] - 0s 4ms/step - loss: 165.7523 - mean\_absolute\_percentage\_error: 165.7523 - val\_loss: 174.4951 - val\_mean\_absolute\_percentage\_error: 174.4951

Epoch 87/100

22/22 [==============================] - 0s 3ms/step - loss: 165.6117 - mean\_absolute\_percentage\_error: 165.6117 - val\_loss: 174.3775 - val\_mean\_absolute\_percentage\_error: 174.3775

Epoch 88/100

22/22 [==============================] - 0s 5ms/step - loss: 165.4746 - mean\_absolute\_percentage\_error: 165.4746 - val\_loss: 174.2242 - val\_mean\_absolute\_percentage\_error: 174.2242

Epoch 89/100

22/22 [==============================] - 0s 3ms/step - loss: 165.2764 - mean\_absolute\_percentage\_error: 165.2764 - val\_loss: 174.0912 - val\_mean\_absolute\_percentage\_error: 174.0912

Epoch 90/100

22/22 [==============================] - 0s 8ms/step - loss: 165.0702 - mean\_absolute\_percentage\_error: 165.0702 - val\_loss: 173.9679 - val\_mean\_absolute\_percentage\_error: 173.9679

Epoch 91/100

22/22 [==============================] - 0s 806us/step - loss: 164.8980 - mean\_absolute\_percentage\_error: 164.8980 - val\_loss: 173.8046 - val\_mean\_absolute\_percentage\_error: 173.8046

Epoch 92/100

22/22 [==============================] - 0s 2ms/step - loss: 164.6949 - mean\_absolute\_percentage\_error: 164.6949 - val\_loss: 173.6451 - val\_mean\_absolute\_percentage\_error: 173.6451

Epoch 93/100

22/22 [==============================] - 0s 4ms/step - loss: 164.5004 - mean\_absolute\_percentage\_error: 164.5004 - val\_loss: 173.5011 - val\_mean\_absolute\_percentage\_error: 173.5011

Epoch 94/100

22/22 [==============================] - 0s 460us/step - loss: 164.3378 - mean\_absolute\_percentage\_error: 164.3378 - val\_loss: 173.3816 - val\_mean\_absolute\_percentage\_error: 173.3816

Epoch 95/100

22/22 [==============================] - 0s 5ms/step - loss: 164.0807 - mean\_absolute\_percentage\_error: 164.0807 - val\_loss: 173.3374 - val\_mean\_absolute\_percentage\_error: 173.3374

Epoch 96/100

22/22 [==============================] - 0s 9ms/step - loss: 163.9238 - mean\_absolute\_percentage\_error: 163.9238 - val\_loss: 173.2563 - val\_mean\_absolute\_percentage\_error: 173.2563

Epoch 97/100

22/22 [==============================] - 0s 4ms/step - loss: 163.7277 - mean\_absolute\_percentage\_error: 163.7277 - val\_loss: 173.1539 - val\_mean\_absolute\_percentage\_error: 173.1539

Epoch 98/100

22/22 [==============================] - 0s 11ms/step - loss: 163.5421 - mean\_absolute\_percentage\_error: 163.5421 - val\_loss: 173.0358 - val\_mean\_absolute\_percentage\_error: 173.0358

Epoch 99/100

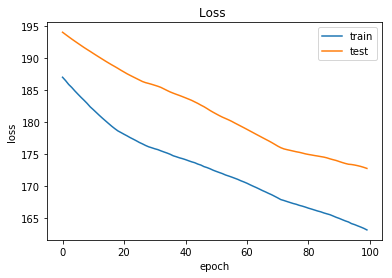
22/22 [==============================] - 0s 5ms/step - loss: 163.3370 - mean\_absolute\_percentage\_error: 163.3370 - val\_loss: 172.8905 - val\_mean\_absolute\_percentage\_error: 172.8905

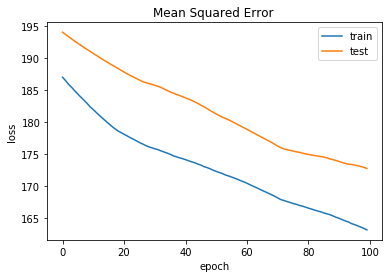
Epoch 100/100

22/22 [==============================] - 0s 4ms/step - loss: 163.0935 - mean\_absolute\_percentage\_error: 163.0935 - val\_loss: 172.7256 - val\_mean\_absolute\_percentage\_error: 172.7256

22/22 [==============================] - 0s 486us/step

8/8 [==============================] - 0s 5ms/step





**TRAIL TWO :**

runfile('C:/Users/Shrishti D Hore/OneDrive/Documents/Stir\_Research/Folder/Stir\_Research\_Corrosion\_Resistance\_NN\_and\_mean\_absolute\_percentage\_error.py', wdir='C:/Users/Shrishti D Hore/OneDrive/Documents/Stir\_Research/Folder')

C:\Users\Shrishti D Hore\Miniconda3\envs\shripy\lib\site-packages\sklearn\utils\validation.py:595: DataConversionWarning: Data with input dtype int64 was converted to float64 by StandardScaler.

warnings.warn(msg, DataConversionWarning)

C:\Users\Shrishti D Hore\Miniconda3\envs\shripy\lib\site-packages\sklearn\utils\validation.py:595: DataConversionWarning: Data with input dtype int64 was converted to float64 by StandardScaler.

warnings.warn(msg, DataConversionWarning)

C:\Users\Shrishti D Hore\Miniconda3\envs\shripy\lib\site-packages\sklearn\utils\validation.py:595: DataConversionWarning: Data with input dtype int64 was converted to float64 by StandardScaler.

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C:\Users\Shrishti D Hore\Miniconda3\envs\shripy\lib\site-packages\sklearn\utils\validation.py:595: DataConversionWarning: Data with input dtype int64 was converted to float64 by StandardScaler.

warnings.warn(msg, DataConversionWarning)

Train on 22 samples, validate on 8 samples

Epoch 1/100

22/22 [==============================] - 3s 129ms/step - loss: 160.6589 - mean\_absolute\_percentage\_error: 160.6589 - val\_loss: 232.0613 - val\_mean\_absolute\_percentage\_error: 232.0613

Epoch 2/100

22/22 [==============================] - 0s 3ms/step - loss: 160.1436 - mean\_absolute\_percentage\_error: 160.1436 - val\_loss: 231.7085 - val\_mean\_absolute\_percentage\_error: 231.7085

Epoch 3/100

22/22 [==============================] - 0s 2ms/step - loss: 159.6512 - mean\_absolute\_percentage\_error: 159.6512 - val\_loss: 231.4041 - val\_mean\_absolute\_percentage\_error: 231.4041

Epoch 4/100

22/22 [==============================] - 0s 918us/step - loss: 159.0561 - mean\_absolute\_percentage\_error: 159.0561 - val\_loss: 231.1038 - val\_mean\_absolute\_percentage\_error: 231.1038

Epoch 5/100

22/22 [==============================] - 0s 1ms/step - loss: 158.5488 - mean\_absolute\_percentage\_error: 158.5488 - val\_loss: 230.7929 - val\_mean\_absolute\_percentage\_error: 230.7929

Epoch 6/100

22/22 [==============================] - 0s 4ms/step - loss: 157.9293 - mean\_absolute\_percentage\_error: 157.9293 - val\_loss: 230.4433 - val\_mean\_absolute\_percentage\_error: 230.4433

Epoch 7/100

22/22 [==============================] - 0s 788us/step - loss: 157.3997 - mean\_absolute\_percentage\_error: 157.3997 - val\_loss: 230.0644 - val\_mean\_absolute\_percentage\_error: 230.0644

Epoch 8/100

22/22 [==============================] - 0s 2ms/step - loss: 156.7914 - mean\_absolute\_percentage\_error: 156.7914 - val\_loss: 229.7042 - val\_mean\_absolute\_percentage\_error: 229.7042

Epoch 9/100

22/22 [==============================] - 0s 903us/step - loss: 156.3827 - mean\_absolute\_percentage\_error: 156.3827 - val\_loss: 229.4519 - val\_mean\_absolute\_percentage\_error: 229.4519

Epoch 10/100

22/22 [==============================] - 0s 2ms/step - loss: 155.9616 - mean\_absolute\_percentage\_error: 155.9616 - val\_loss: 229.2582 - val\_mean\_absolute\_percentage\_error: 229.2582

Epoch 11/100

22/22 [==============================] - 0s 4ms/step - loss: 155.7078 - mean\_absolute\_percentage\_error: 155.7078 - val\_loss: 229.0227 - val\_mean\_absolute\_percentage\_error: 229.0227

Epoch 12/100

22/22 [==============================] - 0s 6ms/step - loss: 155.3103 - mean\_absolute\_percentage\_error: 155.3103 - val\_loss: 228.7886 - val\_mean\_absolute\_percentage\_error: 228.7886

Epoch 13/100

22/22 [==============================] - 0s 7ms/step - loss: 155.0089 - mean\_absolute\_percentage\_error: 155.0089 - val\_loss: 228.5567 - val\_mean\_absolute\_percentage\_error: 228.5567

Epoch 14/100

22/22 [==============================] - 0s 3ms/step - loss: 154.6148 - mean\_absolute\_percentage\_error: 154.6147 - val\_loss: 228.3188 - val\_mean\_absolute\_percentage\_error: 228.3188

Epoch 15/100

22/22 [==============================] - 0s 10ms/step - loss: 154.2773 - mean\_absolute\_percentage\_error: 154.2773 - val\_loss: 228.0642 - val\_mean\_absolute\_percentage\_error: 228.0642

Epoch 16/100

22/22 [==============================] - 0s 1ms/step - loss: 153.8925 - mean\_absolute\_percentage\_error: 153.8925 - val\_loss: 227.7845 - val\_mean\_absolute\_percentage\_error: 227.7845

Epoch 17/100

22/22 [==============================] - 0s 5ms/step - loss: 153.5082 - mean\_absolute\_percentage\_error: 153.5082 - val\_loss: 227.4923 - val\_mean\_absolute\_percentage\_error: 227.4923

Epoch 18/100

22/22 [==============================] - 0s 1ms/step - loss: 153.1487 - mean\_absolute\_percentage\_error: 153.1487 - val\_loss: 227.1752 - val\_mean\_absolute\_percentage\_error: 227.1752

Epoch 19/100

22/22 [==============================] - 0s 2ms/step - loss: 152.8261 - mean\_absolute\_percentage\_error: 152.8261 - val\_loss: 226.8311 - val\_mean\_absolute\_percentage\_error: 226.8311

Epoch 20/100

22/22 [==============================] - 0s 4ms/step - loss: 152.4027 - mean\_absolute\_percentage\_error: 152.4027 - val\_loss: 226.4906 - val\_mean\_absolute\_percentage\_error: 226.4906

Epoch 21/100

22/22 [==============================] - 0s 5ms/step - loss: 152.0770 - mean\_absolute\_percentage\_error: 152.0770 - val\_loss: 226.1698 - val\_mean\_absolute\_percentage\_error: 226.1698

Epoch 22/100

22/22 [==============================] - 0s 1ms/step - loss: 151.7019 - mean\_absolute\_percentage\_error: 151.7019 - val\_loss: 225.8739 - val\_mean\_absolute\_percentage\_error: 225.8739

Epoch 23/100

22/22 [==============================] - 0s 1ms/step - loss: 151.4424 - mean\_absolute\_percentage\_error: 151.4424 - val\_loss: 225.5833 - val\_mean\_absolute\_percentage\_error: 225.5833

Epoch 24/100

22/22 [==============================] - 0s 6ms/step - loss: 151.1097 - mean\_absolute\_percentage\_error: 151.1097 - val\_loss: 225.3099 - val\_mean\_absolute\_percentage\_error: 225.3099

Epoch 25/100

22/22 [==============================] - 0s 4ms/step - loss: 150.7887 - mean\_absolute\_percentage\_error: 150.7887 - val\_loss: 225.0281 - val\_mean\_absolute\_percentage\_error: 225.0281

Epoch 26/100

22/22 [==============================] - 0s 4ms/step - loss: 150.5176 - mean\_absolute\_percentage\_error: 150.5176 - val\_loss: 224.7207 - val\_mean\_absolute\_percentage\_error: 224.7207

Epoch 27/100

22/22 [==============================] - 0s 5ms/step - loss: 150.1991 - mean\_absolute\_percentage\_error: 150.1992 - val\_loss: 224.2981 - val\_mean\_absolute\_percentage\_error: 224.2981

Epoch 28/100

22/22 [==============================] - 0s 3ms/step - loss: 149.8311 - mean\_absolute\_percentage\_error: 149.8311 - val\_loss: 223.7610 - val\_mean\_absolute\_percentage\_error: 223.7610

Epoch 29/100

22/22 [==============================] - 0s 590us/step - loss: 149.3973 - mean\_absolute\_percentage\_error: 149.3973 - val\_loss: 223.2453 - val\_mean\_absolute\_percentage\_error: 223.2453

Epoch 30/100

22/22 [==============================] - 0s 1ms/step - loss: 148.9758 - mean\_absolute\_percentage\_error: 148.9758 - val\_loss: 222.7869 - val\_mean\_absolute\_percentage\_error: 222.7869

Epoch 31/100

22/22 [==============================] - 0s 1ms/step - loss: 148.5501 - mean\_absolute\_percentage\_error: 148.5501 - val\_loss: 222.3408 - val\_mean\_absolute\_percentage\_error: 222.3408

Epoch 32/100

22/22 [==============================] - 0s 820us/step - loss: 148.0783 - mean\_absolute\_percentage\_error: 148.0783 - val\_loss: 221.8305 - val\_mean\_absolute\_percentage\_error: 221.8305

Epoch 33/100

22/22 [==============================] - 0s 1ms/step - loss: 147.7000 - mean\_absolute\_percentage\_error: 147.7000 - val\_loss: 221.2051 - val\_mean\_absolute\_percentage\_error: 221.2051

Epoch 34/100

22/22 [==============================] - 0s 2ms/step - loss: 147.0509 - mean\_absolute\_percentage\_error: 147.0509 - val\_loss: 220.5862 - val\_mean\_absolute\_percentage\_error: 220.5862

Epoch 35/100

22/22 [==============================] - 0s 4ms/step - loss: 146.5009 - mean\_absolute\_percentage\_error: 146.5009 - val\_loss: 220.0249 - val\_mean\_absolute\_percentage\_error: 220.0249

Epoch 36/100

22/22 [==============================] - 0s 999us/step - loss: 146.0871 - mean\_absolute\_percentage\_error: 146.0871 - val\_loss: 219.4058 - val\_mean\_absolute\_percentage\_error: 219.4058

Epoch 37/100

22/22 [==============================] - 0s 5ms/step - loss: 145.5418 - mean\_absolute\_percentage\_error: 145.5418 - val\_loss: 218.8739 - val\_mean\_absolute\_percentage\_error: 218.8739

Epoch 38/100

22/22 [==============================] - 0s 2ms/step - loss: 145.1159 - mean\_absolute\_percentage\_error: 145.1160 - val\_loss: 218.3150 - val\_mean\_absolute\_percentage\_error: 218.3150

Epoch 39/100

22/22 [==============================] - 0s 993us/step - loss: 144.7104 - mean\_absolute\_percentage\_error: 144.7104 - val\_loss: 217.7348 - val\_mean\_absolute\_percentage\_error: 217.7348

Epoch 40/100

22/22 [==============================] - 0s 685us/step - loss: 144.3990 - mean\_absolute\_percentage\_error: 144.3990 - val\_loss: 217.1964 - val\_mean\_absolute\_percentage\_error: 217.1964

Epoch 41/100

22/22 [==============================] - 0s 3ms/step - loss: 144.1703 - mean\_absolute\_percentage\_error: 144.1703 - val\_loss: 216.6830 - val\_mean\_absolute\_percentage\_error: 216.6830

Epoch 42/100

22/22 [==============================] - 0s 3ms/step - loss: 143.8715 - mean\_absolute\_percentage\_error: 143.8715 - val\_loss: 216.2031 - val\_mean\_absolute\_percentage\_error: 216.2031

Epoch 43/100

22/22 [==============================] - 0s 6ms/step - loss: 143.6017 - mean\_absolute\_percentage\_error: 143.6017 - val\_loss: 215.6999 - val\_mean\_absolute\_percentage\_error: 215.6999

Epoch 44/100

22/22 [==============================] - 0s 954us/step - loss: 143.3256 - mean\_absolute\_percentage\_error: 143.3256 - val\_loss: 215.1820 - val\_mean\_absolute\_percentage\_error: 215.1820

Epoch 45/100

22/22 [==============================] - 0s 964us/step - loss: 143.0120 - mean\_absolute\_percentage\_error: 143.0120 - val\_loss: 214.6408 - val\_mean\_absolute\_percentage\_error: 214.6408

Epoch 46/100

22/22 [==============================] - 0s 2ms/step - loss: 142.6770 - mean\_absolute\_percentage\_error: 142.6770 - val\_loss: 214.0290 - val\_mean\_absolute\_percentage\_error: 214.0290

Epoch 47/100

22/22 [==============================] - 0s 2ms/step - loss: 142.3730 - mean\_absolute\_percentage\_error: 142.3730 - val\_loss: 213.3516 - val\_mean\_absolute\_percentage\_error: 213.3516

Epoch 48/100

22/22 [==============================] - 0s 553us/step - loss: 142.0761 - mean\_absolute\_percentage\_error: 142.0761 - val\_loss: 212.7414 - val\_mean\_absolute\_percentage\_error: 212.7414

Epoch 49/100

22/22 [==============================] - 0s 3ms/step - loss: 141.7396 - mean\_absolute\_percentage\_error: 141.7396 - val\_loss: 212.1848 - val\_mean\_absolute\_percentage\_error: 212.1848

Epoch 50/100

22/22 [==============================] - 0s 7ms/step - loss: 141.4467 - mean\_absolute\_percentage\_error: 141.4467 - val\_loss: 211.6439 - val\_mean\_absolute\_percentage\_error: 211.6439

Epoch 51/100

22/22 [==============================] - 0s 666us/step - loss: 141.1520 - mean\_absolute\_percentage\_error: 141.1520 - val\_loss: 211.1568 - val\_mean\_absolute\_percentage\_error: 211.1568

Epoch 52/100

22/22 [==============================] - 0s 4ms/step - loss: 140.8765 - mean\_absolute\_percentage\_error: 140.8765 - val\_loss: 210.6249 - val\_mean\_absolute\_percentage\_error: 210.6249

Epoch 53/100

22/22 [==============================] - 0s 592us/step - loss: 140.5863 - mean\_absolute\_percentage\_error: 140.5863 - val\_loss: 210.0799 - val\_mean\_absolute\_percentage\_error: 210.0799

Epoch 54/100

22/22 [==============================] - 0s 1ms/step - loss: 140.2894 - mean\_absolute\_percentage\_error: 140.2894 - val\_loss: 209.5642 - val\_mean\_absolute\_percentage\_error: 209.5642

Epoch 55/100

22/22 [==============================] - 0s 688us/step - loss: 139.9997 - mean\_absolute\_percentage\_error: 139.9997 - val\_loss: 208.9815 - val\_mean\_absolute\_percentage\_error: 208.9815

Epoch 56/100

22/22 [==============================] - 0s 5ms/step - loss: 139.6399 - mean\_absolute\_percentage\_error: 139.6399 - val\_loss: 208.3823 - val\_mean\_absolute\_percentage\_error: 208.3823

Epoch 57/100

22/22 [==============================] - 0s 1ms/step - loss: 139.3247 - mean\_absolute\_percentage\_error: 139.3247 - val\_loss: 207.7413 - val\_mean\_absolute\_percentage\_error: 207.7413

Epoch 58/100

22/22 [==============================] - 0s 5ms/step - loss: 138.9984 - mean\_absolute\_percentage\_error: 138.9984 - val\_loss: 207.1084 - val\_mean\_absolute\_percentage\_error: 207.1084

Epoch 59/100

22/22 [==============================] - 0s 5ms/step - loss: 138.6345 - mean\_absolute\_percentage\_error: 138.6345 - val\_loss: 206.5089 - val\_mean\_absolute\_percentage\_error: 206.5089

Epoch 60/100

22/22 [==============================] - 0s 4ms/step - loss: 138.2911 - mean\_absolute\_percentage\_error: 138.2911 - val\_loss: 205.9552 - val\_mean\_absolute\_percentage\_error: 205.9552

Epoch 61/100

22/22 [==============================] - 0s 933us/step - loss: 138.0926 - mean\_absolute\_percentage\_error: 138.0926 - val\_loss: 205.3725 - val\_mean\_absolute\_percentage\_error: 205.3725

Epoch 62/100

22/22 [==============================] - 0s 822us/step - loss: 137.7199 - mean\_absolute\_percentage\_error: 137.7199 - val\_loss: 204.8058 - val\_mean\_absolute\_percentage\_error: 204.8058

Epoch 63/100

22/22 [==============================] - 0s 1ms/step - loss: 137.4126 - mean\_absolute\_percentage\_error: 137.4126 - val\_loss: 204.3044 - val\_mean\_absolute\_percentage\_error: 204.3044

Epoch 64/100

22/22 [==============================] - 0s 2ms/step - loss: 137.1806 - mean\_absolute\_percentage\_error: 137.1806 - val\_loss: 203.8291 - val\_mean\_absolute\_percentage\_error: 203.8291

Epoch 65/100

22/22 [==============================] - 0s 1ms/step - loss: 136.8807 - mean\_absolute\_percentage\_error: 136.8807 - val\_loss: 203.3838 - val\_mean\_absolute\_percentage\_error: 203.3838

Epoch 66/100

22/22 [==============================] - 0s 458us/step - loss: 136.6464 - mean\_absolute\_percentage\_error: 136.6464 - val\_loss: 202.8748 - val\_mean\_absolute\_percentage\_error: 202.8748

Epoch 67/100

22/22 [==============================] - 0s 4ms/step - loss: 136.3957 - mean\_absolute\_percentage\_error: 136.3957 - val\_loss: 202.2997 - val\_mean\_absolute\_percentage\_error: 202.2997

Epoch 68/100

22/22 [==============================] - 0s 916us/step - loss: 136.0707 - mean\_absolute\_percentage\_error: 136.0707 - val\_loss: 201.7119 - val\_mean\_absolute\_percentage\_error: 201.7119

Epoch 69/100

22/22 [==============================] - 0s 8ms/step - loss: 135.7609 - mean\_absolute\_percentage\_error: 135.7609 - val\_loss: 201.0519 - val\_mean\_absolute\_percentage\_error: 201.0519

Epoch 70/100

22/22 [==============================] - 0s 1ms/step - loss: 135.3963 - mean\_absolute\_percentage\_error: 135.3963 - val\_loss: 200.3192 - val\_mean\_absolute\_percentage\_error: 200.3192

Epoch 71/100

22/22 [==============================] - 0s 589us/step - loss: 135.0174 - mean\_absolute\_percentage\_error: 135.0173 - val\_loss: 199.5558 - val\_mean\_absolute\_percentage\_error: 199.5558

Epoch 72/100

22/22 [==============================] - 0s 879us/step - loss: 134.6570 - mean\_absolute\_percentage\_error: 134.6570 - val\_loss: 198.8485 - val\_mean\_absolute\_percentage\_error: 198.8485

Epoch 73/100

22/22 [==============================] - 0s 4ms/step - loss: 134.3142 - mean\_absolute\_percentage\_error: 134.3141 - val\_loss: 198.1882 - val\_mean\_absolute\_percentage\_error: 198.1882

Epoch 74/100

22/22 [==============================] - 1s 24ms/step - loss: 133.9978 - mean\_absolute\_percentage\_error: 133.9978 - val\_loss: 197.5174 - val\_mean\_absolute\_percentage\_error: 197.5174

C:\Users\Shrishti D Hore\Miniconda3\envs\shripy\lib\site-packages\keras\callbacks\callbacks.py:95: RuntimeWarning: Method (on\_train\_batch\_end) is slow compared to the batch update (0.172826). Check your callbacks.

% (hook\_name, delta\_t\_median), RuntimeWarning)

C:\Users\Shrishti D Hore\Miniconda3\envs\shripy\lib\site-packages\keras\callbacks\callbacks.py:95: RuntimeWarning: Method (on\_train\_batch\_end) is slow compared to the batch update (0.107810). Check your callbacks.

% (hook\_name, delta\_t\_median), RuntimeWarning)

Epoch 75/100

22/22 [==============================] - 0s 6ms/step - loss: 133.6249 - mean\_absolute\_percentage\_error: 133.6249 - val\_loss: 196.8625 - val\_mean\_absolute\_percentage\_error: 196.8625

Epoch 76/100

22/22 [==============================] - 0s 2ms/step - loss: 133.3167 - mean\_absolute\_percentage\_error: 133.3167 - val\_loss: 196.2305 - val\_mean\_absolute\_percentage\_error: 196.2305

Epoch 77/100

22/22 [==============================] - 0s 4ms/step - loss: 133.0112 - mean\_absolute\_percentage\_error: 133.0112 - val\_loss: 195.6429 - val\_mean\_absolute\_percentage\_error: 195.6429

Epoch 78/100

22/22 [==============================] - 0s 7ms/step - loss: 132.7033 - mean\_absolute\_percentage\_error: 132.7033 - val\_loss: 195.1378 - val\_mean\_absolute\_percentage\_error: 195.1378

Epoch 79/100

22/22 [==============================] - 0s 1ms/step - loss: 132.4245 - mean\_absolute\_percentage\_error: 132.4245 - val\_loss: 194.6539 - val\_mean\_absolute\_percentage\_error: 194.6539

Epoch 80/100

22/22 [==============================] - 0s 6ms/step - loss: 132.1413 - mean\_absolute\_percentage\_error: 132.1413 - val\_loss: 194.1633 - val\_mean\_absolute\_percentage\_error: 194.1633

Epoch 81/100

22/22 [==============================] - 0s 3ms/step - loss: 131.9392 - mean\_absolute\_percentage\_error: 131.9392 - val\_loss: 193.6611 - val\_mean\_absolute\_percentage\_error: 193.6611

Epoch 82/100

22/22 [==============================] - 0s 981us/step - loss: 131.6580 - mean\_absolute\_percentage\_error: 131.6580 - val\_loss: 193.2177 - val\_mean\_absolute\_percentage\_error: 193.2177

Epoch 83/100

22/22 [==============================] - 0s 3ms/step - loss: 131.3972 - mean\_absolute\_percentage\_error: 131.3972 - val\_loss: 192.7698 - val\_mean\_absolute\_percentage\_error: 192.7698

Epoch 84/100

22/22 [==============================] - 0s 8ms/step - loss: 131.1706 - mean\_absolute\_percentage\_error: 131.1706 - val\_loss: 192.3045 - val\_mean\_absolute\_percentage\_error: 192.3045

Epoch 85/100

22/22 [==============================] - 0s 5ms/step - loss: 130.9165 - mean\_absolute\_percentage\_error: 130.9165 - val\_loss: 191.7742 - val\_mean\_absolute\_percentage\_error: 191.7742

Epoch 86/100

22/22 [==============================] - 0s 3ms/step - loss: 130.6349 - mean\_absolute\_percentage\_error: 130.6349 - val\_loss: 191.1980 - val\_mean\_absolute\_percentage\_error: 191.1980

Epoch 87/100

22/22 [==============================] - 0s 949us/step - loss: 130.3496 - mean\_absolute\_percentage\_error: 130.3496 - val\_loss: 190.6571 - val\_mean\_absolute\_percentage\_error: 190.6571

Epoch 88/100

22/22 [==============================] - 0s 5ms/step - loss: 130.0367 - mean\_absolute\_percentage\_error: 130.0367 - val\_loss: 190.0814 - val\_mean\_absolute\_percentage\_error: 190.0814

Epoch 89/100

22/22 [==============================] - 0s 2ms/step - loss: 129.7223 - mean\_absolute\_percentage\_error: 129.7223 - val\_loss: 189.4393 - val\_mean\_absolute\_percentage\_error: 189.4393

Epoch 90/100

22/22 [==============================] - 0s 605us/step - loss: 129.3911 - mean\_absolute\_percentage\_error: 129.3911 - val\_loss: 188.7086 - val\_mean\_absolute\_percentage\_error: 188.7086

Epoch 91/100

22/22 [==============================] - 0s 5ms/step - loss: 129.0697 - mean\_absolute\_percentage\_error: 129.0697 - val\_loss: 188.0256 - val\_mean\_absolute\_percentage\_error: 188.0256

Epoch 92/100

22/22 [==============================] - 0s 1ms/step - loss: 128.7312 - mean\_absolute\_percentage\_error: 128.7312 - val\_loss: 187.3876 - val\_mean\_absolute\_percentage\_error: 187.3876

Epoch 93/100

22/22 [==============================] - 0s 4ms/step - loss: 128.3818 - mean\_absolute\_percentage\_error: 128.3818 - val\_loss: 186.7949 - val\_mean\_absolute\_percentage\_error: 186.7949

Epoch 94/100

22/22 [==============================] - 0s 7ms/step - loss: 128.0583 - mean\_absolute\_percentage\_error: 128.0583 - val\_loss: 186.1161 - val\_mean\_absolute\_percentage\_error: 186.1161

Epoch 95/100

22/22 [==============================] - 0s 3ms/step - loss: 127.7494 - mean\_absolute\_percentage\_error: 127.7494 - val\_loss: 185.3611 - val\_mean\_absolute\_percentage\_error: 185.3611

Epoch 96/100

22/22 [==============================] - 0s 921us/step - loss: 127.3653 - mean\_absolute\_percentage\_error: 127.3653 - val\_loss: 184.6369 - val\_mean\_absolute\_percentage\_error: 184.6369

Epoch 97/100

22/22 [==============================] - 0s 8ms/step - loss: 127.0055 - mean\_absolute\_percentage\_error: 127.0055 - val\_loss: 183.9102 - val\_mean\_absolute\_percentage\_error: 183.9102

Epoch 98/100

22/22 [==============================] - 0s 916us/step - loss: 126.6337 - mean\_absolute\_percentage\_error: 126.6337 - val\_loss: 183.2277 - val\_mean\_absolute\_percentage\_error: 183.2277

Epoch 99/100

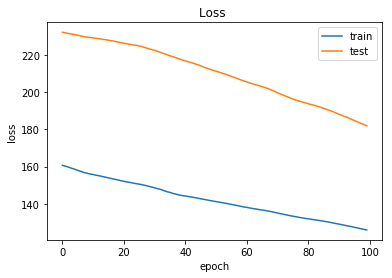
22/22 [==============================] - 0s 2ms/step - loss: 126.2767 - mean\_absolute\_percentage\_error: 126.2767 - val\_loss: 182.5375 - val\_mean\_absolute\_percentage\_error: 182.5375

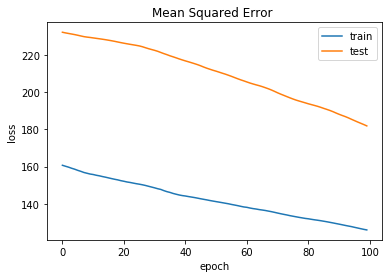
Epoch 100/100

22/22 [==============================] - 0s 5ms/step - loss: 125.9705 - mean\_absolute\_percentage\_error: 125.9705 - val\_loss: 181.7964 - val\_mean\_absolute\_percentage\_error: 181.7964

22/22 [==============================] - 0s 45us/step

8/8 [==============================] - 0s 1ms/step





**TRIAL THREE :**

runfile('C:/Users/Shrishti D Hore/OneDrive/Documents/Stir\_Research/Folder/Stir\_Research\_Corrosion\_Resistance\_NN\_and\_mean\_absolute\_percentage\_error.py', wdir='C:/Users/Shrishti D Hore/OneDrive/Documents/Stir\_Research/Folder')

C:\Users\Shrishti D Hore\Miniconda3\envs\shripy\lib\site-packages\sklearn\utils\validation.py:595: DataConversionWarning: Data with input dtype int64 was converted to float64 by StandardScaler.

warnings.warn(msg, DataConversionWarning)

C:\Users\Shrishti D Hore\Miniconda3\envs\shripy\lib\site-packages\sklearn\utils\validation.py:595: DataConversionWarning: Data with input dtype int64 was converted to float64 by StandardScaler.

warnings.warn(msg, DataConversionWarning)

C:\Users\Shrishti D Hore\Miniconda3\envs\shripy\lib\site-packages\sklearn\utils\validation.py:595: DataConversionWarning: Data with input dtype int64 was converted to float64 by StandardScaler.

warnings.warn(msg, DataConversionWarning)

C:\Users\Shrishti D Hore\Miniconda3\envs\shripy\lib\site-packages\sklearn\utils\validation.py:595: DataConversionWarning: Data with input dtype int64 was converted to float64 by StandardScaler.

warnings.warn(msg, DataConversionWarning)

Train on 22 samples, validate on 8 samples

Epoch 1/100

22/22 [==============================] - 4s 161ms/step - loss: 198.5087 - mean\_absolute\_percentage\_error: 198.5087 - val\_loss: 194.1329 - val\_mean\_absolute\_percentage\_error: 194.1329

Epoch 2/100

22/22 [==============================] - 0s 908us/step - loss: 197.6584 - mean\_absolute\_percentage\_error: 197.6584 - val\_loss: 193.5680 - val\_mean\_absolute\_percentage\_error: 193.5680

Epoch 3/100

22/22 [==============================] - 0s 3ms/step - loss: 196.5543 - mean\_absolute\_percentage\_error: 196.5543 - val\_loss: 193.1177 - val\_mean\_absolute\_percentage\_error: 193.1177

Epoch 4/100

22/22 [==============================] - 0s 1ms/step - loss: 195.6217 - mean\_absolute\_percentage\_error: 195.6217 - val\_loss: 192.6728 - val\_mean\_absolute\_percentage\_error: 192.6728

Epoch 5/100

22/22 [==============================] - 0s 2ms/step - loss: 194.7535 - mean\_absolute\_percentage\_error: 194.7536 - val\_loss: 192.2006 - val\_mean\_absolute\_percentage\_error: 192.2006

Epoch 6/100

22/22 [==============================] - 0s 2ms/step - loss: 193.8612 - mean\_absolute\_percentage\_error: 193.8612 - val\_loss: 191.6618 - val\_mean\_absolute\_percentage\_error: 191.6618

Epoch 7/100

22/22 [==============================] - 0s 3ms/step - loss: 192.6759 - mean\_absolute\_percentage\_error: 192.6759 - val\_loss: 191.1544 - val\_mean\_absolute\_percentage\_error: 191.1544

Epoch 8/100

22/22 [==============================] - 0s 2ms/step - loss: 191.8797 - mean\_absolute\_percentage\_error: 191.8797 - val\_loss: 190.8831 - val\_mean\_absolute\_percentage\_error: 190.8831

Epoch 9/100

22/22 [==============================] - 0s 4ms/step - loss: 190.7092 - mean\_absolute\_percentage\_error: 190.7092 - val\_loss: 190.6931 - val\_mean\_absolute\_percentage\_error: 190.6931

Epoch 10/100

22/22 [==============================] - 0s 7ms/step - loss: 189.9456 - mean\_absolute\_percentage\_error: 189.9456 - val\_loss: 190.4924 - val\_mean\_absolute\_percentage\_error: 190.4924

Epoch 11/100

22/22 [==============================] - 0s 859us/step - loss: 189.1142 - mean\_absolute\_percentage\_error: 189.1142 - val\_loss: 190.2943 - val\_mean\_absolute\_percentage\_error: 190.2943

Epoch 12/100

22/22 [==============================] - 0s 977us/step - loss: 188.4612 - mean\_absolute\_percentage\_error: 188.4612 - val\_loss: 190.0871 - val\_mean\_absolute\_percentage\_error: 190.0871

Epoch 13/100

22/22 [==============================] - 0s 2ms/step - loss: 187.6762 - mean\_absolute\_percentage\_error: 187.6762 - val\_loss: 189.9006 - val\_mean\_absolute\_percentage\_error: 189.9006

Epoch 14/100

22/22 [==============================] - 0s 2ms/step - loss: 186.9680 - mean\_absolute\_percentage\_error: 186.9680 - val\_loss: 189.7383 - val\_mean\_absolute\_percentage\_error: 189.7383

Epoch 15/100

22/22 [==============================] - 0s 4ms/step - loss: 186.1976 - mean\_absolute\_percentage\_error: 186.1976 - val\_loss: 189.5958 - val\_mean\_absolute\_percentage\_error: 189.5958

Epoch 16/100

22/22 [==============================] - 0s 2ms/step - loss: 185.5983 - mean\_absolute\_percentage\_error: 185.5983 - val\_loss: 189.4478 - val\_mean\_absolute\_percentage\_error: 189.4478

Epoch 17/100

22/22 [==============================] - 0s 1ms/step - loss: 184.9592 - mean\_absolute\_percentage\_error: 184.9592 - val\_loss: 189.2925 - val\_mean\_absolute\_percentage\_error: 189.2925

Epoch 18/100

22/22 [==============================] - 0s 1ms/step - loss: 184.2678 - mean\_absolute\_percentage\_error: 184.2678 - val\_loss: 189.1503 - val\_mean\_absolute\_percentage\_error: 189.1503

Epoch 19/100

22/22 [==============================] - 0s 2ms/step - loss: 183.7163 - mean\_absolute\_percentage\_error: 183.7163 - val\_loss: 189.0048 - val\_mean\_absolute\_percentage\_error: 189.0048

Epoch 20/100

22/22 [==============================] - 0s 4ms/step - loss: 183.0568 - mean\_absolute\_percentage\_error: 183.0568 - val\_loss: 188.8675 - val\_mean\_absolute\_percentage\_error: 188.8675

Epoch 21/100

22/22 [==============================] - 0s 4ms/step - loss: 182.5150 - mean\_absolute\_percentage\_error: 182.5150 - val\_loss: 188.7279 - val\_mean\_absolute\_percentage\_error: 188.7279

Epoch 22/100

22/22 [==============================] - 0s 2ms/step - loss: 181.8898 - mean\_absolute\_percentage\_error: 181.8898 - val\_loss: 188.5979 - val\_mean\_absolute\_percentage\_error: 188.5979

Epoch 23/100

22/22 [==============================] - 0s 1ms/step - loss: 181.1811 - mean\_absolute\_percentage\_error: 181.1811 - val\_loss: 188.4626 - val\_mean\_absolute\_percentage\_error: 188.4626

Epoch 24/100

22/22 [==============================] - 0s 6ms/step - loss: 180.5569 - mean\_absolute\_percentage\_error: 180.5569 - val\_loss: 188.2871 - val\_mean\_absolute\_percentage\_error: 188.2871

Epoch 25/100

22/22 [==============================] - 0s 4ms/step - loss: 179.8012 - mean\_absolute\_percentage\_error: 179.8012 - val\_loss: 188.1060 - val\_mean\_absolute\_percentage\_error: 188.1060

Epoch 26/100

22/22 [==============================] - 0s 1ms/step - loss: 179.1407 - mean\_absolute\_percentage\_error: 179.1407 - val\_loss: 187.9073 - val\_mean\_absolute\_percentage\_error: 187.9073

Epoch 27/100

22/22 [==============================] - 0s 3ms/step - loss: 178.4361 - mean\_absolute\_percentage\_error: 178.4361 - val\_loss: 187.7219 - val\_mean\_absolute\_percentage\_error: 187.7219

Epoch 28/100

22/22 [==============================] - 0s 4ms/step - loss: 177.7089 - mean\_absolute\_percentage\_error: 177.7089 - val\_loss: 187.5507 - val\_mean\_absolute\_percentage\_error: 187.5507

Epoch 29/100

22/22 [==============================] - 0s 1ms/step - loss: 177.0813 - mean\_absolute\_percentage\_error: 177.0813 - val\_loss: 187.3823 - val\_mean\_absolute\_percentage\_error: 187.3823

Epoch 30/100

22/22 [==============================] - 0s 6ms/step - loss: 176.3693 - mean\_absolute\_percentage\_error: 176.3693 - val\_loss: 187.2173 - val\_mean\_absolute\_percentage\_error: 187.2173

Epoch 31/100

22/22 [==============================] - 0s 1ms/step - loss: 175.6541 - mean\_absolute\_percentage\_error: 175.6541 - val\_loss: 187.0569 - val\_mean\_absolute\_percentage\_error: 187.0569

Epoch 32/100

22/22 [==============================] - 0s 587us/step - loss: 175.0499 - mean\_absolute\_percentage\_error: 175.0499 - val\_loss: 186.9089 - val\_mean\_absolute\_percentage\_error: 186.9089

Epoch 33/100

22/22 [==============================] - 0s 7ms/step - loss: 174.4309 - mean\_absolute\_percentage\_error: 174.4309 - val\_loss: 186.7623 - val\_mean\_absolute\_percentage\_error: 186.7623

Epoch 34/100

22/22 [==============================] - 0s 2ms/step - loss: 173.8113 - mean\_absolute\_percentage\_error: 173.8113 - val\_loss: 186.6829 - val\_mean\_absolute\_percentage\_error: 186.6829

Epoch 35/100

22/22 [==============================] - 0s 5ms/step - loss: 173.3670 - mean\_absolute\_percentage\_error: 173.3670 - val\_loss: 186.6211 - val\_mean\_absolute\_percentage\_error: 186.6211

Epoch 36/100

22/22 [==============================] - 0s 3ms/step - loss: 172.8993 - mean\_absolute\_percentage\_error: 172.8993 - val\_loss: 186.5508 - val\_mean\_absolute\_percentage\_error: 186.5508

Epoch 37/100

22/22 [==============================] - 0s 5ms/step - loss: 172.5082 - mean\_absolute\_percentage\_error: 172.5082 - val\_loss: 186.4775 - val\_mean\_absolute\_percentage\_error: 186.4775

Epoch 38/100

22/22 [==============================] - 0s 3ms/step - loss: 172.0536 - mean\_absolute\_percentage\_error: 172.0536 - val\_loss: 186.3924 - val\_mean\_absolute\_percentage\_error: 186.3924

Epoch 39/100

22/22 [==============================] - 0s 2ms/step - loss: 171.5479 - mean\_absolute\_percentage\_error: 171.5479 - val\_loss: 186.3361 - val\_mean\_absolute\_percentage\_error: 186.3361

Epoch 40/100

22/22 [==============================] - 0s 820us/step - loss: 171.0732 - mean\_absolute\_percentage\_error: 171.0732 - val\_loss: 186.2047 - val\_mean\_absolute\_percentage\_error: 186.2047

Epoch 41/100

22/22 [==============================] - 0s 901us/step - loss: 170.6137 - mean\_absolute\_percentage\_error: 170.6137 - val\_loss: 186.1033 - val\_mean\_absolute\_percentage\_error: 186.1033

Epoch 42/100

22/22 [==============================] - 0s 5ms/step - loss: 170.1106 - mean\_absolute\_percentage\_error: 170.1106 - val\_loss: 185.9904 - val\_mean\_absolute\_percentage\_error: 185.9904

Epoch 43/100

22/22 [==============================] - 0s 929us/step - loss: 169.6372 - mean\_absolute\_percentage\_error: 169.6372 - val\_loss: 185.8782 - val\_mean\_absolute\_percentage\_error: 185.8782

Epoch 44/100

22/22 [==============================] - 0s 5ms/step - loss: 169.0191 - mean\_absolute\_percentage\_error: 169.0191 - val\_loss: 185.8143 - val\_mean\_absolute\_percentage\_error: 185.8143

Epoch 45/100

22/22 [==============================] - 0s 7ms/step - loss: 168.4474 - mean\_absolute\_percentage\_error: 168.4474 - val\_loss: 185.6258 - val\_mean\_absolute\_percentage\_error: 185.6258

Epoch 46/100

22/22 [==============================] - 0s 2ms/step - loss: 167.9077 - mean\_absolute\_percentage\_error: 167.9077 - val\_loss: 185.4086 - val\_mean\_absolute\_percentage\_error: 185.4086

Epoch 47/100

22/22 [==============================] - 0s 4ms/step - loss: 167.2911 - mean\_absolute\_percentage\_error: 167.2911 - val\_loss: 185.2202 - val\_mean\_absolute\_percentage\_error: 185.2202

Epoch 48/100

22/22 [==============================] - 0s 3ms/step - loss: 166.7663 - mean\_absolute\_percentage\_error: 166.7663 - val\_loss: 185.0469 - val\_mean\_absolute\_percentage\_error: 185.0469

Epoch 49/100

22/22 [==============================] - 0s 567us/step - loss: 166.1911 - mean\_absolute\_percentage\_error: 166.1911 - val\_loss: 184.8947 - val\_mean\_absolute\_percentage\_error: 184.8947

Epoch 50/100

22/22 [==============================] - 0s 5ms/step - loss: 165.6886 - mean\_absolute\_percentage\_error: 165.6886 - val\_loss: 184.7518 - val\_mean\_absolute\_percentage\_error: 184.7518

Epoch 51/100

22/22 [==============================] - 0s 2ms/step - loss: 165.3165 - mean\_absolute\_percentage\_error: 165.3165 - val\_loss: 184.6060 - val\_mean\_absolute\_percentage\_error: 184.6060

Epoch 52/100

22/22 [==============================] - 0s 2ms/step - loss: 164.9134 - mean\_absolute\_percentage\_error: 164.9134 - val\_loss: 184.4536 - val\_mean\_absolute\_percentage\_error: 184.4536

Epoch 53/100

22/22 [==============================] - 0s 1ms/step - loss: 164.5013 - mean\_absolute\_percentage\_error: 164.5013 - val\_loss: 184.2903 - val\_mean\_absolute\_percentage\_error: 184.2903

Epoch 54/100

22/22 [==============================] - 0s 3ms/step - loss: 164.0577 - mean\_absolute\_percentage\_error: 164.0577 - val\_loss: 184.1275 - val\_mean\_absolute\_percentage\_error: 184.1275

Epoch 55/100

22/22 [==============================] - 0s 1ms/step - loss: 163.5750 - mean\_absolute\_percentage\_error: 163.5750 - val\_loss: 183.9698 - val\_mean\_absolute\_percentage\_error: 183.9698

Epoch 56/100

22/22 [==============================] - 0s 5ms/step - loss: 163.1374 - mean\_absolute\_percentage\_error: 163.1374 - val\_loss: 183.8109 - val\_mean\_absolute\_percentage\_error: 183.8109

Epoch 57/100

22/22 [==============================] - 0s 5ms/step - loss: 162.7332 - mean\_absolute\_percentage\_error: 162.7332 - val\_loss: 183.6555 - val\_mean\_absolute\_percentage\_error: 183.6555

Epoch 58/100

22/22 [==============================] - 0s 2ms/step - loss: 162.2797 - mean\_absolute\_percentage\_error: 162.2797 - val\_loss: 183.4912 - val\_mean\_absolute\_percentage\_error: 183.4912

Epoch 59/100

22/22 [==============================] - 0s 7ms/step - loss: 161.7900 - mean\_absolute\_percentage\_error: 161.7900 - val\_loss: 183.3088 - val\_mean\_absolute\_percentage\_error: 183.3088

Epoch 60/100

22/22 [==============================] - 0s 3ms/step - loss: 161.3157 - mean\_absolute\_percentage\_error: 161.3157 - val\_loss: 183.1038 - val\_mean\_absolute\_percentage\_error: 183.1038

Epoch 61/100

22/22 [==============================] - 0s 509us/step - loss: 160.7858 - mean\_absolute\_percentage\_error: 160.7858 - val\_loss: 182.8999 - val\_mean\_absolute\_percentage\_error: 182.8999

Epoch 62/100

22/22 [==============================] - 0s 2ms/step - loss: 160.2706 - mean\_absolute\_percentage\_error: 160.2706 - val\_loss: 182.7086 - val\_mean\_absolute\_percentage\_error: 182.7086

Epoch 63/100

22/22 [==============================] - 0s 665us/step - loss: 159.7310 - mean\_absolute\_percentage\_error: 159.7310 - val\_loss: 182.5157 - val\_mean\_absolute\_percentage\_error: 182.5157

Epoch 64/100

22/22 [==============================] - 0s 4ms/step - loss: 159.1642 - mean\_absolute\_percentage\_error: 159.1642 - val\_loss: 182.3033 - val\_mean\_absolute\_percentage\_error: 182.3033

Epoch 65/100

22/22 [==============================] - 0s 6ms/step - loss: 158.6533 - mean\_absolute\_percentage\_error: 158.6533 - val\_loss: 182.0675 - val\_mean\_absolute\_percentage\_error: 182.0675

Epoch 66/100

22/22 [==============================] - 0s 948us/step - loss: 158.1155 - mean\_absolute\_percentage\_error: 158.1155 - val\_loss: 181.8653 - val\_mean\_absolute\_percentage\_error: 181.8653

Epoch 67/100

22/22 [==============================] - 0s 5ms/step - loss: 157.6676 - mean\_absolute\_percentage\_error: 157.6676 - val\_loss: 181.6576 - val\_mean\_absolute\_percentage\_error: 181.6576

Epoch 68/100

22/22 [==============================] - 0s 2ms/step - loss: 157.0402 - mean\_absolute\_percentage\_error: 157.0402 - val\_loss: 181.4992 - val\_mean\_absolute\_percentage\_error: 181.4992

Epoch 69/100

22/22 [==============================] - 0s 1ms/step - loss: 156.5273 - mean\_absolute\_percentage\_error: 156.5273 - val\_loss: 181.2739 - val\_mean\_absolute\_percentage\_error: 181.2739

Epoch 70/100

22/22 [==============================] - 0s 6ms/step - loss: 156.0600 - mean\_absolute\_percentage\_error: 156.0600 - val\_loss: 181.0596 - val\_mean\_absolute\_percentage\_error: 181.0596

Epoch 71/100

22/22 [==============================] - 0s 493us/step - loss: 155.5647 - mean\_absolute\_percentage\_error: 155.5647 - val\_loss: 180.8503 - val\_mean\_absolute\_percentage\_error: 180.8503

Epoch 72/100

22/22 [==============================] - 0s 4ms/step - loss: 155.1815 - mean\_absolute\_percentage\_error: 155.1815 - val\_loss: 180.6467 - val\_mean\_absolute\_percentage\_error: 180.6467

Epoch 73/100

22/22 [==============================] - 0s 5ms/step - loss: 154.6519 - mean\_absolute\_percentage\_error: 154.6519 - val\_loss: 180.4642 - val\_mean\_absolute\_percentage\_error: 180.4642

Epoch 74/100

22/22 [==============================] - 0s 4ms/step - loss: 154.3165 - mean\_absolute\_percentage\_error: 154.3165 - val\_loss: 180.2700 - val\_mean\_absolute\_percentage\_error: 180.2700

Epoch 75/100

22/22 [==============================] - 0s 1ms/step - loss: 153.9427 - mean\_absolute\_percentage\_error: 153.9427 - val\_loss: 180.0729 - val\_mean\_absolute\_percentage\_error: 180.0729

Epoch 76/100

22/22 [==============================] - 0s 3ms/step - loss: 153.4567 - mean\_absolute\_percentage\_error: 153.4567 - val\_loss: 179.8618 - val\_mean\_absolute\_percentage\_error: 179.8618

Epoch 77/100

22/22 [==============================] - 0s 1ms/step - loss: 153.1695 - mean\_absolute\_percentage\_error: 153.1695 - val\_loss: 179.6029 - val\_mean\_absolute\_percentage\_error: 179.6029

Epoch 78/100

22/22 [==============================] - 0s 2ms/step - loss: 152.5398 - mean\_absolute\_percentage\_error: 152.5398 - val\_loss: 179.3603 - val\_mean\_absolute\_percentage\_error: 179.3603

Epoch 79/100

22/22 [==============================] - 0s 924us/step - loss: 152.0999 - mean\_absolute\_percentage\_error: 152.0999 - val\_loss: 179.0991 - val\_mean\_absolute\_percentage\_error: 179.0991

Epoch 80/100

22/22 [==============================] - 0s 2ms/step - loss: 151.6343 - mean\_absolute\_percentage\_error: 151.6343 - val\_loss: 178.8481 - val\_mean\_absolute\_percentage\_error: 178.8481

Epoch 81/100

22/22 [==============================] - 0s 662us/step - loss: 151.1675 - mean\_absolute\_percentage\_error: 151.1675 - val\_loss: 178.6075 - val\_mean\_absolute\_percentage\_error: 178.6075

Epoch 82/100

22/22 [==============================] - 0s 5ms/step - loss: 150.7928 - mean\_absolute\_percentage\_error: 150.7928 - val\_loss: 178.3882 - val\_mean\_absolute\_percentage\_error: 178.3882

Epoch 83/100

22/22 [==============================] - 0s 1ms/step - loss: 150.3116 - mean\_absolute\_percentage\_error: 150.3116 - val\_loss: 178.1913 - val\_mean\_absolute\_percentage\_error: 178.1913

Epoch 84/100

22/22 [==============================] - 0s 3ms/step - loss: 149.9090 - mean\_absolute\_percentage\_error: 149.9090 - val\_loss: 177.9801 - val\_mean\_absolute\_percentage\_error: 177.9801

Epoch 85/100

22/22 [==============================] - 0s 4ms/step - loss: 149.5604 - mean\_absolute\_percentage\_error: 149.5604 - val\_loss: 177.7648 - val\_mean\_absolute\_percentage\_error: 177.7648

Epoch 86/100

22/22 [==============================] - 0s 932us/step - loss: 149.2183 - mean\_absolute\_percentage\_error: 149.2183 - val\_loss: 177.5270 - val\_mean\_absolute\_percentage\_error: 177.5270

Epoch 87/100

22/22 [==============================] - 0s 3ms/step - loss: 148.8534 - mean\_absolute\_percentage\_error: 148.8534 - val\_loss: 177.3136 - val\_mean\_absolute\_percentage\_error: 177.3136

Epoch 88/100

22/22 [==============================] - 0s 7ms/step - loss: 148.4231 - mean\_absolute\_percentage\_error: 148.4231 - val\_loss: 177.1053 - val\_mean\_absolute\_percentage\_error: 177.1053

Epoch 89/100

22/22 [==============================] - 0s 2ms/step - loss: 148.0640 - mean\_absolute\_percentage\_error: 148.0640 - val\_loss: 176.8712 - val\_mean\_absolute\_percentage\_error: 176.8712

Epoch 90/100

22/22 [==============================] - 0s 4ms/step - loss: 147.6862 - mean\_absolute\_percentage\_error: 147.6861 - val\_loss: 176.6340 - val\_mean\_absolute\_percentage\_error: 176.6340

Epoch 91/100

22/22 [==============================] - 0s 4ms/step - loss: 147.2703 - mean\_absolute\_percentage\_error: 147.2703 - val\_loss: 176.3962 - val\_mean\_absolute\_percentage\_error: 176.3962

Epoch 92/100

22/22 [==============================] - 0s 5ms/step - loss: 146.9551 - mean\_absolute\_percentage\_error: 146.9551 - val\_loss: 176.1265 - val\_mean\_absolute\_percentage\_error: 176.1265

Epoch 93/100

22/22 [==============================] - 0s 4ms/step - loss: 146.5070 - mean\_absolute\_percentage\_error: 146.5070 - val\_loss: 175.8725 - val\_mean\_absolute\_percentage\_error: 175.8725

Epoch 94/100

22/22 [==============================] - 0s 1ms/step - loss: 146.0320 - mean\_absolute\_percentage\_error: 146.0320 - val\_loss: 175.6160 - val\_mean\_absolute\_percentage\_error: 175.6160

Epoch 95/100

22/22 [==============================] - 0s 1ms/step - loss: 145.6156 - mean\_absolute\_percentage\_error: 145.6156 - val\_loss: 175.3376 - val\_mean\_absolute\_percentage\_error: 175.3376

Epoch 96/100

22/22 [==============================] - 0s 1ms/step - loss: 145.1618 - mean\_absolute\_percentage\_error: 145.1618 - val\_loss: 175.0250 - val\_mean\_absolute\_percentage\_error: 175.0250

Epoch 97/100

22/22 [==============================] - 0s 5ms/step - loss: 144.8452 - mean\_absolute\_percentage\_error: 144.8452 - val\_loss: 174.6759 - val\_mean\_absolute\_percentage\_error: 174.6759

Epoch 98/100

22/22 [==============================] - 0s 1ms/step - loss: 144.3062 - mean\_absolute\_percentage\_error: 144.3063 - val\_loss: 174.3716 - val\_mean\_absolute\_percentage\_error: 174.3716

Epoch 99/100

22/22 [==============================] - 0s 6ms/step - loss: 143.9228 - mean\_absolute\_percentage\_error: 143.9228 - val\_loss: 174.0605 - val\_mean\_absolute\_percentage\_error: 174.0605

Epoch 100/100

22/22 [==============================] - 0s 2ms/step - loss: 143.4344 - mean\_absolute\_percentage\_error: 143.4344 - val\_loss: 173.7596 - val\_mean\_absolute\_percentage\_error: 173.7596

22/22 [==============================] - 0s 0us/step

8/8 [==============================] - 0s 139us/step

