

QHD Results:

	DiameterRemoved	AvgMSE	TrainPerformance	ValPerformance	
TestPerformance	MSEDeletedDiameter	MSEBEPs	Score		
	NaN	0.0039285	0.0028838	0.0034358	0.0059646 ✓
NaN	0.0054126	0.0033419			
	220	0.030093	0.0091516	0.027962	0.063279 ✓
62.305	14.482	27.842			
	230	2.1664	0.0049077	0.74021	6.7737 ✓
73.774	11.816	34.281			
	240	0.0043968	0.0016072	0.0019346	0.010973 ✓
0.19113	0.024155	0.085218			
	250	0.00088785	0.00096837	0.00075212	0.00090432 ✓
56.083	19.901	26.414			
	260	0.0017087	0.0008838	0.0024402	0.002194 ✓
45.295	5.7397	19.267			

QDP Results:

	DiameterRemoved	AvgMSE	TrainPerformance	ValPerformance	TestPerformance
MSEDeletedDiameter	MSEBEPs	Score			
	NaN	0.0061475	0.0055729	0.0061324	0.007011 ✓
NaN	0.014941	0.0057486			
	220	0.005917	0.0048547	0.0034999	0.0099041 ✓
290.19	88.169	133.71			
	230	0.0013612	0.0011326	0.001204	0.0018558 ✓
0.55901	0.048094	0.23393			
	240	0.084459	0.10195	0.064123	0.078944 ✓
0.48975	0.076482	0.24203			
	250	1.2453	1.1618	1.3735	1.2407 ✓
0.99093	2.2473	1.3488			
	260	0.95759	0.91676	0.97803	0.99742 ✓
46.133	11.336	21.119			

QDH Results:

	DiameterRemoved	AvgMSE	TrainPerformance	ValPerformance	
TestPerformance	MSEDeletedDiameter	MSEBEPs	Score		
	NaN	0.00085315	0.00084649	0.00082983	0.00088631 ✓
NaN	0.00064815	0.00048133			
	220	0.00099234	0.00066547	0.00098963	0.0014798 ✓
16.947	3.7419	7.5279			
	230	0.0023287	0.00085696	0.0013501	0.0054734 ✓
3.3618	0.12386	1.3715			
	240	0.0024057	0.0010751	0.001385	0.0053889 ✓

4.1453	0.0030024	1.6607			
250	0.00092797	0.00078843	0.00086994	0.0011926 ✓	
69.021	8.5669	29.322			
260	0.00082026	0.00076208	0.00084883	0.00087752 ✓	
61.104	0.051288	24.452			

Best Neural Networks:

Best QHD Network: Diameter NaN

Score: 0.0054126

Train Performance: 0.0028838

Validation Performance: 0.0034358

Test Performance: 0.0059646

Best QDP Network: Diameter NaN

Score: 0.0057486

Train Performance: 0.0055729

Validation Performance: 0.0061324

Test Performance: 0.007011

Best QDH Network: Diameter NaN

Score: 0.00048133

Train Performance: 0.00084649

Validation Performance: 0.00082983

Test Performance: 0.00088631

Percent errors for traditional trimming when the 260 mm diameter is ref:

241.1457 241.7994 238.9787 228.2940 245.5366

Percent errors for when choose nearest diameter and ref usin trim_diameters function:

3.2614 7.2988 7.3823 1.3514 0.8062

Percent errors for best trainedNetQHD:

0.0466 0.0138 0.0003 0.0321 0.0367

Final statistics:

MAE_Trim_Diameters	MAE_TrainedNetQHD	Count_Better_TrainedNetQHD ✓
Count_Better_Trim_Diameters		✓

4.02	0.025899	5 ✓
0		

trainedNetQHD has a lower mean absolute error and is therefore better.

trainedNetQHD outperforms trim_diameters more frequently.

Script execution completed.

>>