

BREAST CANCER DATASET

UNIVARIATE ANALYSIS

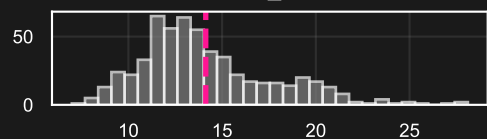
Risk Stratification Model

SUMMARY STATISTICS

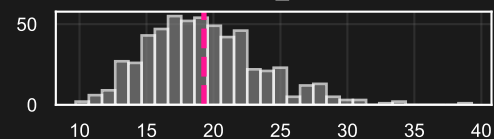
	mean	median	std	min	25%	50%	75%	max	skewness	kurtosis
radius_mean	14.127	13.370	3.524	6.981	11.700	13.370	15.780	28.110	0.942	0.846
texture_mean	19.290	18.840	4.301	9.710	16.170	18.840	21.800	39.280	0.650	0.758
perimeter_mean	91.969	86.240	24.299	43.790	75.170	86.240	104.100	188.500	0.991	0.972
area_mean	654.889	551.100	351.914	143.500	420.300	551.100	782.700	2501.000	1.646	3.652
smoothness_mean	0.096	0.096	0.014	0.053	0.086	0.096	0.105	0.163	0.456	0.856
compactness_mean	0.104	0.093	0.053	0.019	0.065	0.093	0.130	0.345	1.190	1.650
concavity_mean	0.089	0.062	0.080	0.000	0.030	0.062	0.131	0.427	1.401	1.999
concave_points_mean	0.049	0.034	0.039	0.000	0.020	0.034	0.074	0.201	1.171	1.067
symmetry_mean	0.181	0.179	0.027	0.106	0.162	0.179	0.196	0.304	0.726	1.288
fractal_dimension_mean	0.063	0.062	0.007	0.050	0.058	0.062	0.066	0.097	1.304	3.006
radius_se	0.405	0.324	0.277	0.112	0.232	0.324	0.479	2.873	3.089	17.687
texture_se	1.217	1.108	0.552	0.360	0.834	1.108	1.474	4.885	1.646	5.349
perimeter_se	2.866	2.287	2.022	0.757	1.606	2.287	3.357	21.980	3.444	21.402
area_se	40.337	24.530	45.491	6.802	17.850	24.530	45.190	542.200	5.447	49.209
smoothness_se	0.007	0.006	0.003	0.002	0.005	0.006	0.008	0.031	2.314	10.470
compactness_se	0.025	0.020	0.018	0.002	0.013	0.020	0.032	0.135	1.902	5.106
concavity_se	0.032	0.026	0.030	0.000	0.015	0.026	0.042	0.396	5.110	48.861
concave_points_se	0.012	0.011	0.006	0.000	0.008	0.011	0.015	0.053	1.445	5.126
symmetry_se	0.021	0.019	0.008	0.008	0.015	0.019	0.023	0.079	2.195	7.896
fractal_dimension_se	0.004	0.003	0.003	0.001	0.002	0.003	0.005	0.030	3.924	26.281
radius_worst	16.269	14.970	4.833	7.930	13.010	14.970	18.790	36.040	1.103	0.944
texture_worst	25.677	25.410	6.146	12.020	21.080	25.410	29.720	49.540	0.498	0.224
perimeter_worst	107.261	97.660	33.603	50.410	84.110	97.660	125.400	251.200	1.128	1.070
area_worst	880.583	686.500	569.357	185.200	515.300	686.500	1084.000	4254.000	1.859	4.396
smoothness_worst	0.132	0.131	0.023	0.071	0.117	0.131	0.146	0.223	0.415	0.518
compactness_worst	0.254	0.212	0.157	0.027	0.147	0.212	0.339	1.058	1.474	3.039
concavity_worst	0.272	0.227	0.209	0.000	0.115	0.227	0.383	1.252	1.150	1.615
concave_points_worst	0.115	0.100	0.066	0.000	0.065	0.100	0.161	0.291	0.493	-0.536
symmetry_worst	0.290	0.282	0.062	0.157	0.250	0.282	0.318	0.664	1.434	4.445
fractal_dimension_worst	0.084	0.080	0.018	0.055	0.071	0.080	0.092	0.207	1.663	5.245

Distribution of Features

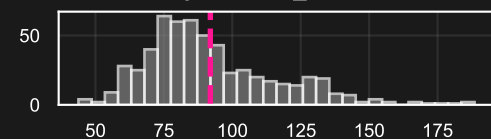
radius_mean



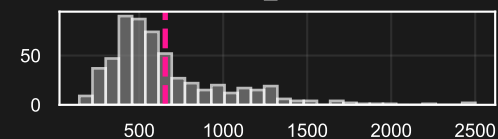
texture_mean



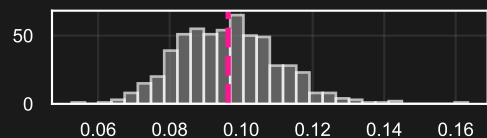
perimeter_mean



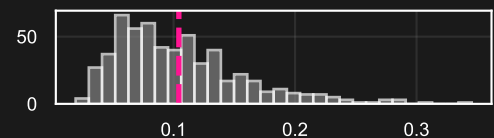
area_mean



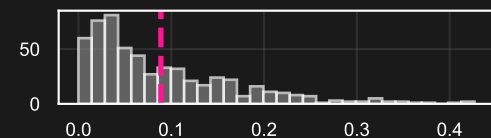
smoothness_mean



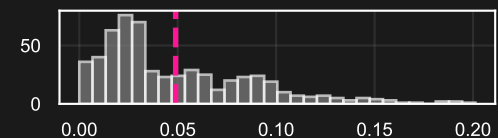
compactness_mean



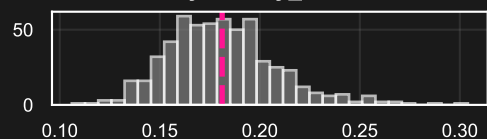
concavity_mean



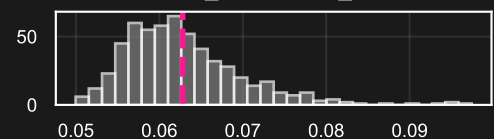
concave points_mean



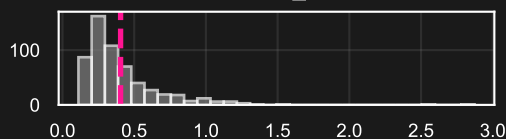
symmetry_mean



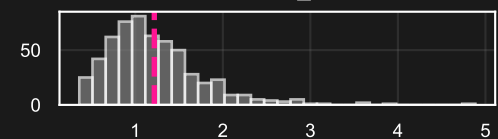
fractal_dimension_mean



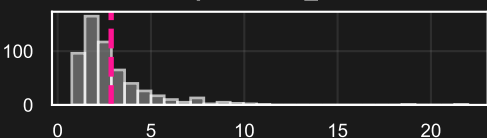
radius_se



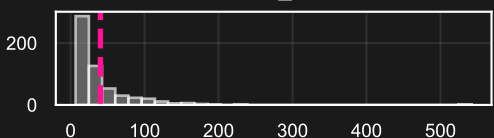
texture_se



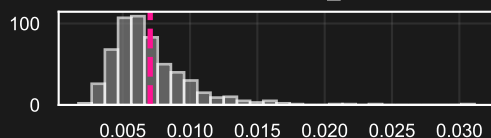
perimeter_se



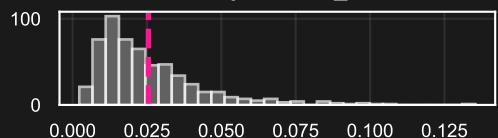
area_se



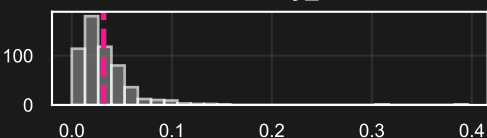
smoothness_se



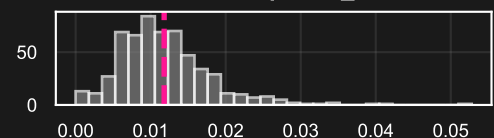
compactness_se



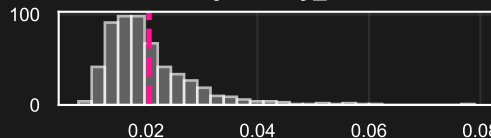
concavity_se



concave points_se



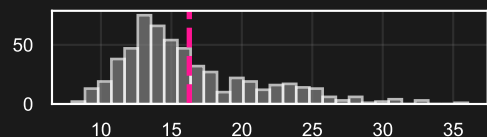
symmetry_se



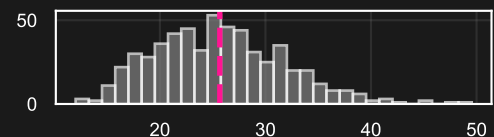
fractal_dimension_se



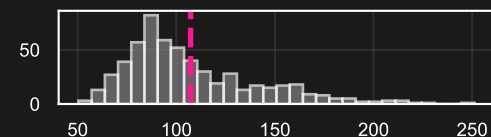
radius_worst



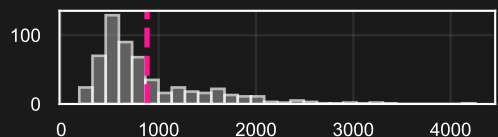
texture_worst



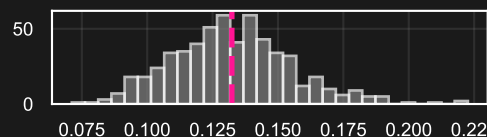
perimeter_worst



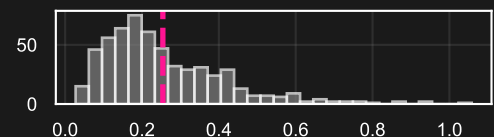
area_worst



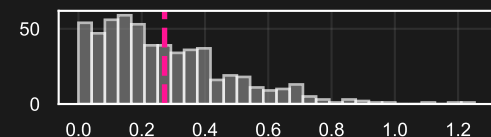
smoothness_worst



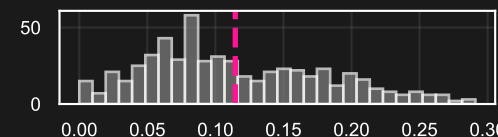
compactness_worst



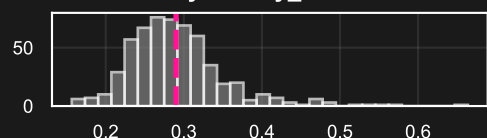
concavity_worst



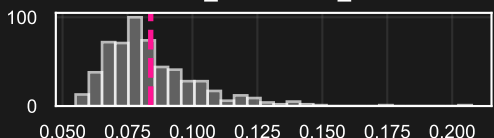
concave points_worst



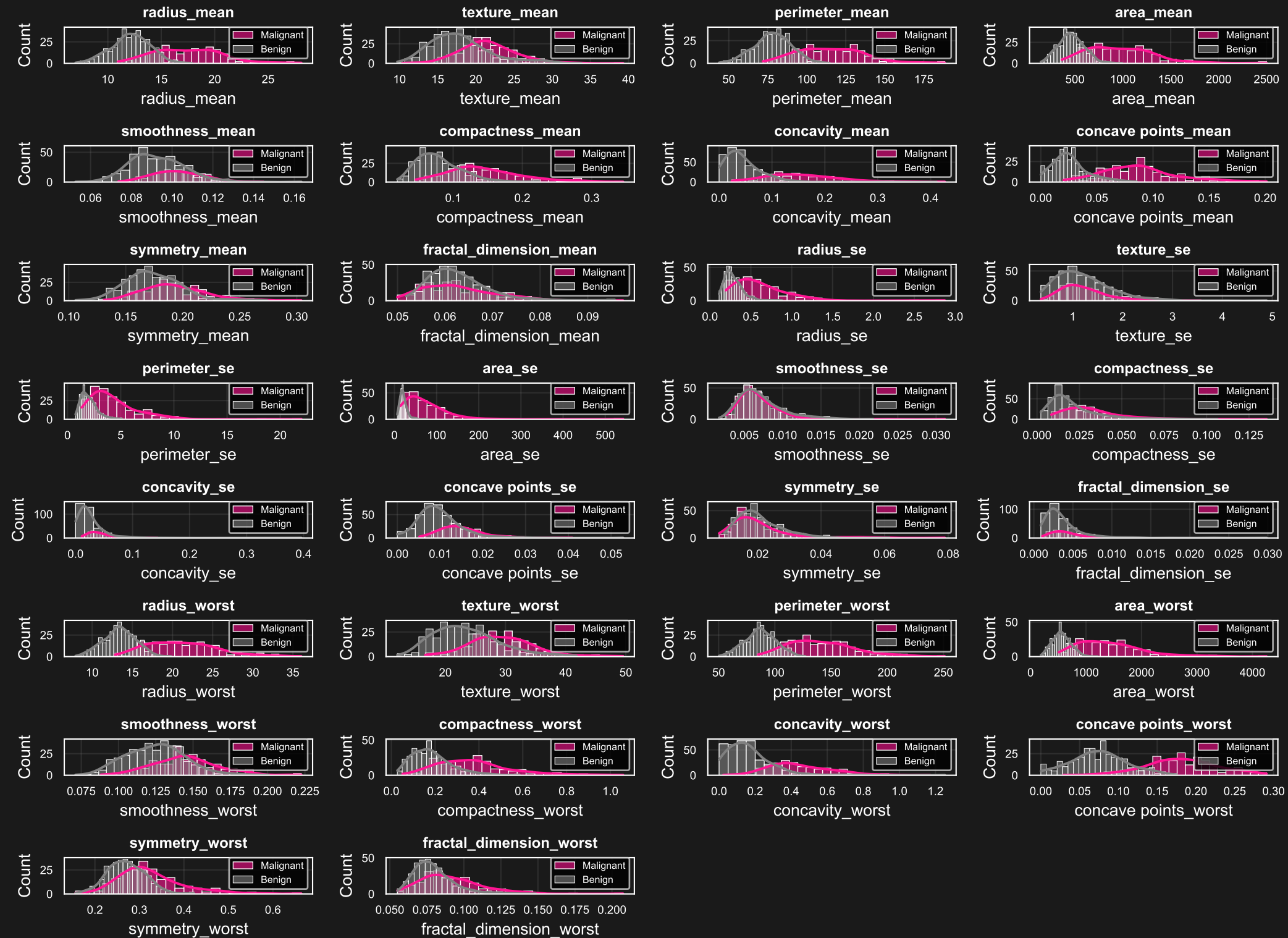
symmetry_worst



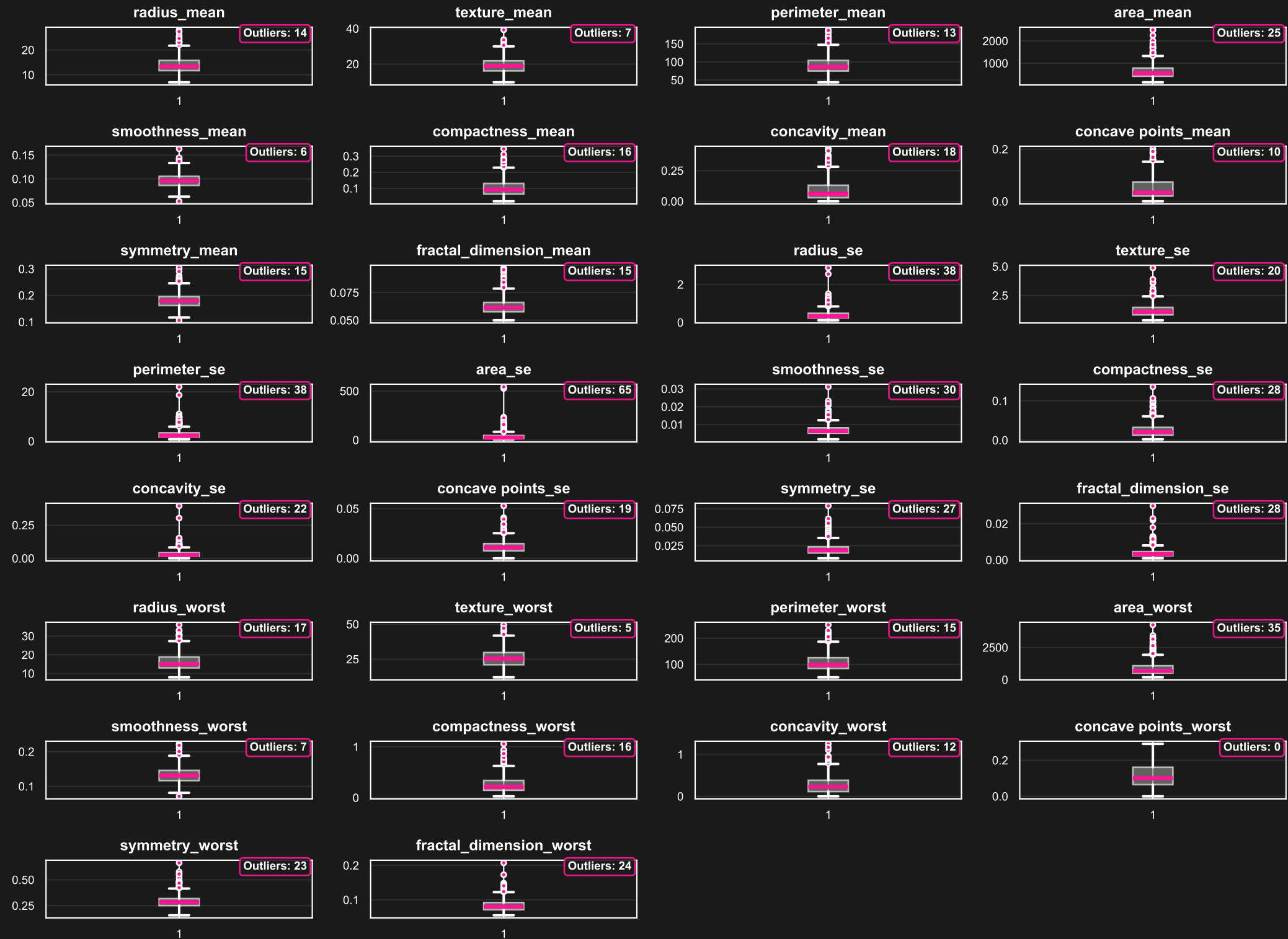
fractal_dimension_worst



Distribution by Diagnosis



Boxplots - Outlier Detection



OUTLIER SUMMARY

Feature	Outlier Count	Percentage
radius_mean	14	2.46%
texture_mean	7	1.23%
perimeter_mean	13	2.28%
area_mean	25	4.39%
smoothness_mean	6	1.05%
compactness_mean	16	2.81%
concavity_mean	18	3.16%
concave points_mean	10	1.76%
symmetry_mean	15	2.64%
fractal_dimension_mean	15	2.64%
radius_se	38	6.68%
texture_se	20	3.51%
perimeter_se	38	6.68%
area_se	65	11.42%
smoothness_se	30	5.27%
compactness_se	28	4.92%
concavity_se	22	3.87%
concave points_se	19	3.34%
symmetry_se	27	4.75%
fractal_dimension_se	28	4.92%
radius_worst	17	2.99%
texture_worst	5	0.88%
perimeter_worst	15	2.64%
area_worst	35	6.15%
smoothness_worst	7	1.23%
compactness_worst	16	2.81%
concavity_worst	12	2.11%
concave points_worst	0	0.00%
symmetry_worst	23	4.04%
fractal_dimension_worst	24	4.22%