# Appendix C. Detailed segmentation statistics.

The tables is this appendix show distribution statistics, by finger position, for the segmentation algorithms tested as compared to the hand marked ground truth for 3-inch slap images. The differences between the segmentation algorithm and ground truth are sorted into bins based on the tolerances allowed for correct segmentation. Specifically, the left/right edges must be within -32/+64 pixels of the ground truth, top edge -64/+64 and bottom edge -64/+128. For each finger position there is a column for each of the four segmentation box edges (L, R, T and B).

The first row ("No Finger Found") shows the counts for when a finger was not detected by the segmentation algorithm. The next four rows show statistics for segmentation edges that are within the specified minimum (MN) and maximum (MX) pixel tolerances compared to the ground truth, so these are considered good segmentations. Rows 1 (MN <= d < 0) and 3 (0 <= d <= MX) show the average value for all differences in that range and rows 3 and 5 show the total count occurring in that range.

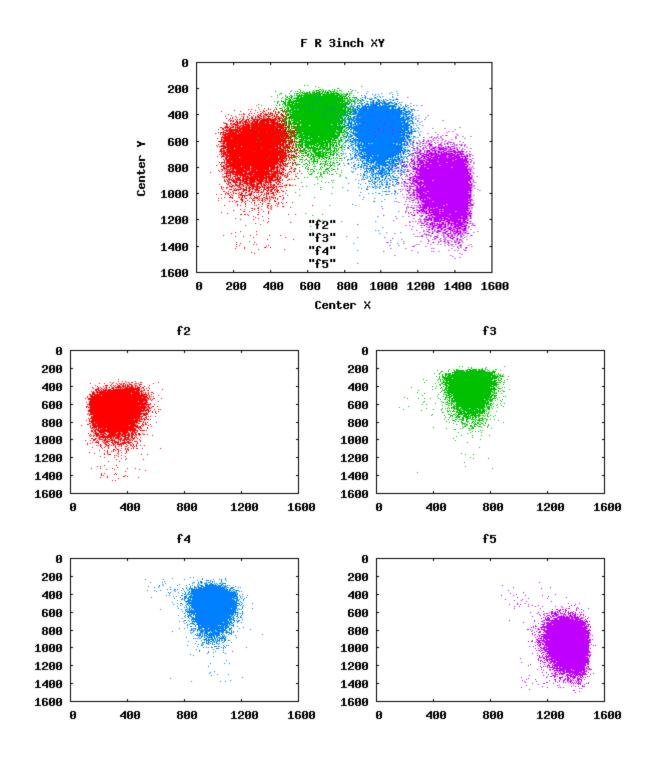
Rows 6-9 also show average difference values and bin counts but for ranges MN-32 <= d < MN and MX < d <= MX+32, which are just outside the accepted tolerance ranges. Rows 10-13 tally everything greater than 32 pixels away from the accepted tolerance range, d < MN-32 and d > MX+32.

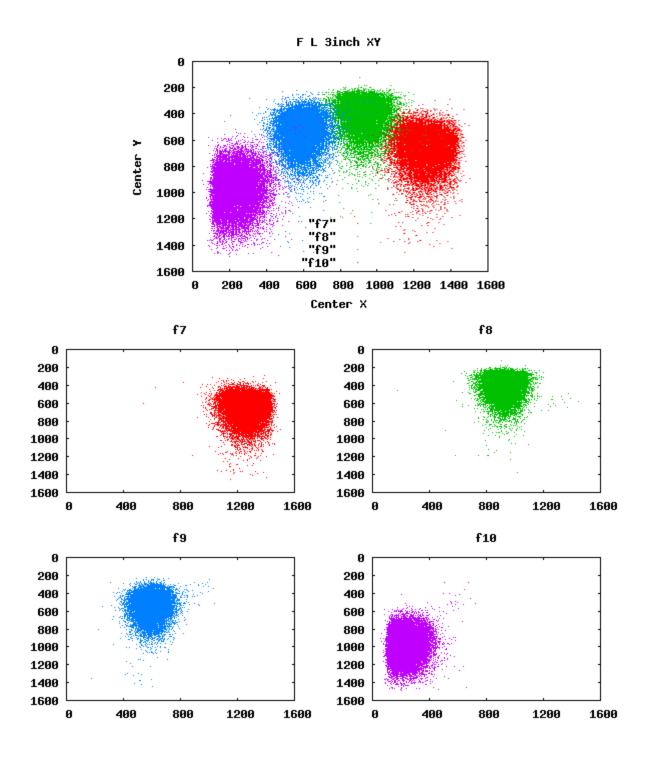
The last three rows show the total count for each bin, the overall average difference value and the standard deviation of all the difference values.

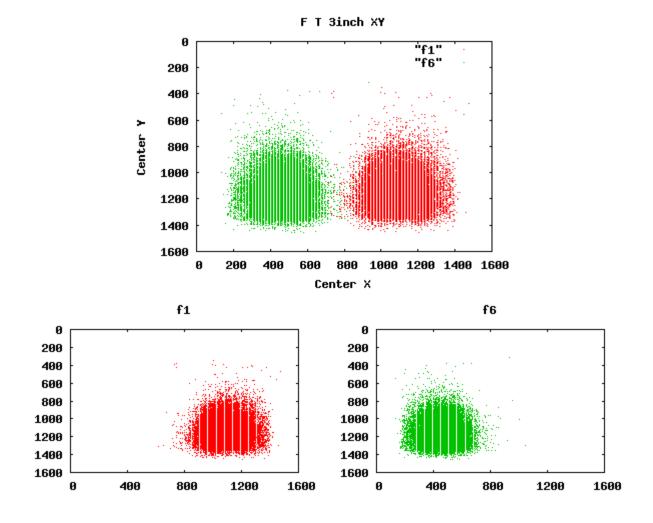
										F										
No Finance Found	R. Thumb 9				R. Index 102				R Middle 58				R. Ring 41				R. Little 91			
No Finger Found	L	R	9 Т	в	L	R 10	2 Т	в	L	R	8 Т	в	L	R	41 T	в	L	R	т	в
MN <= d < 0	-4.32	-5.55	-9.82	-15.60	-4.57	-6.29	-9.73	-10.64	-2.81	-6.30	-9.95	-11.92	-3.40	-7.35	-10.08	-11.92	-4.35	-4.67	-10.20	-12.00
#	367	263	13876	7318	770	192	15863	1124	797	221	15174	1949	282	719	14590	1543	451	1136	14268	688
0 <= d <= MX	20.67	22.66	7.57	23.63	23.04	28.28	11.20	31.31	23.41	26.21	11.81	29.54	23.96	24.53	11.97	31.60	21.18	20.71	11.73	35.77
#	24010	23949	10488	16163	23777	24196	8937	23392	23655	24297	9686	22595	24390	23843	10270	22930	24233	23507	10451	23829
MN-32 <= d < MN	-53.50	-49.00	-78.04	-77.25	-41.00	-44.17	-79.50	-74.62	#DIV/0!	-36.50	-71.70	-76.42	-51.50	-41.00	-70.83	-77.27	-49.12	-40.25	-76.11	-77.37
#	-55.50	-49.00	-78.04	290	-41.00	-44.17	-79.50	26	#DIV/0!	-30.30	-71.70	94	-51.50	-41.00	-70.85	87	29	-40.23	-70.11	15
MX < d <= MX+32	72.64	73.58	75.75	143.56	74.70	75.84	74.64	142.71	74.85	75.05	74.23	140.83	74.18	76.16	75.72	143.59	73.67	74.82	65.50	142.90
#	14	154	6	181	291	417	7	145	371	286	15	108	182	277	9	186	87	130	1	53
d < MN-32	-692.11	-619.17	-377.64	-188.03	-255.63	-442.55	-723.63	-730.89	-360.50	-587.45	-364.11	-394.74	-261.08	-680.40	-591.28	-393.34	-154.03	-926.17	-416.39	-747.28
#	19	12	25	148	4	96	49	101	3	85	44	84	6	72	25	79	20	136	110	119
d > MX+32	435.68 11	514.20 38	592.65 13	235.70 322	191.60 124	142.38 64	358.45 101	350.90 180	331.27 142	129.29 77	194.66 44	266.05 138	482.54 103	148.55 55	245.63 68	265.53 143	821.56 148	156.59 55	585.22 119	318.55 264
*	11	30	15	522	124	04	101	100	142	//	44	130	105	55	00	145	140	55	119	204
Total #	24422	24422	24422	24422	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968
Average	19.96	23.11	-2.42	13.08	23.58	27.29	-2.16	29.18	25.04	24.71	-1.73	26.27	25.83	22.42	-0.88	29.37	25.42	14.97	-0.02	33.88
Std Dev	25.99	35.03	24.98	52.26	19.82	33.85	43.09	65.26	31.56	41.64	24.75	43.17	38.05	47.35	28.69	45.25	71.51	83.53	52.91	70.76
	L. Thumb L. Index L. Middle L. Ring L. Little																			
No Finger Found						L. Inc									Ring 47					
No Finger Found	L		numb 5 T	в	L	L. Inc 89 R		в	L	L. Mi 4 R		в	L		Ring 47 T	в	L		ittle )2 T	в
No Finger Found MN <= d < 0	L -5.22		5	<b>B</b> -15.99	L -2.83	89	)	<b>B</b> -9.90	L -2.27	4	0	В -11.96	L -2.64		47	<b>B</b> -11.26	L -7.90	9	2	<b>B</b> -11.16
J.	-	R	5 T	-	-	89 R	) Т		-	4 R	0 Т			R	47 T	-	-	R	12 T	
MN <= d < 0 # 0 <= d <= MX	-5.22 380 21.16	R -3.99 167 22.96	5 T -11.03 15726 7.39	-15.99 7299 23.65	-2.83 509 23.74	89 R -8.63 666 27.70	<b>T</b> -9.85 15589 11.54	-9.90 1183 30.40	-2.27 797 22.54	4 R -7.26 339 28.67	0 T -10.13 14662 11.72	-11.96 2285 28.14	-2.64 989 21.81	<b>R</b> -7.61 237 29.32	47 T -10.04 13781 12.59	-11.26 2272 28.06	-7.90 2327 20.22	R -8.74 378 27.36	2 T -10.44 13367 12.39	-11.16 1029 31.85
MN <= d < 0 #	-5.22 380	R -3.99 167	5 T -11.03 15726	-15.99 7299	-2.83 509	R -8.63 666	• •9.85 15589	-9.90 1183	-2.27 797	4 R -7.26 339	0 T -10.13 14662	-11.96 2285	-2.64 989	R -7.61 237	47 T -10.04 13781	-11.26 2272	-7.90 2327	R -8.74 378	7 T -10.44 13367	-11.16 1029
MN <= d < 0 # 0 <= d <= MX #	-5.22 380 21.16 23757	R -3.99 167 22.96 24202	5 T -11.03 15726 7.39 8637	-15.99 7299 23.65 16133	-2.83 509 23.74 23984	R -8.63 666 27.70 23752	T -9.85 15589 11.54 9224	-9.90 1183 30.40 23337	-2.27 797 22.54 23814	4 R -7.26 339 28.67 23894	0 T -10.13 14662 11.72 10212	-11.96 2285 28.14 22238	-2.64 989 21.81 23588	<b>R</b> -7.61 237 29.32 24324	47 T -10.04 13781 12.59 11080	-11.26 2272 28.06 22188	-7.90 2327 20.22 22244	R -8.74 378 27.36 24245	2 T -10.44 13367 12.39 11323	-11.16 1029 31.85 23419
MN <= d < 0 # 0 <= d <= MX	-5.22 380 21.16 23757 -46.07	<b>R</b> -3.99 167 22.96 24202 -41.75	5 T -11.03 15726 7.39 8637 -77.88	-15.99 7299 23.65 16133 -78.09	-2.83 509 23.74 23984 #DIV/0!	R -8.63 666 27.70 23752 -39.38	<b>T</b> -9.85 15589 11.54 9224 -77.90	-9.90 1183 30.40 23337 -78.12	-2.27 797 22.54 23814 -42.17	4 R -7.26 339 28.67 23894 -46.50	0 T -10.13 14662 11.72 10212 -75.63	-11.96 2285 28.14 22238 -77.57	-2.64 989 21.81 23588 #DIV/0!	<b>R</b> -7.61 237 29.32 24324 -45.07	47 T -10.04 13781 12.59 11080 -74.25	-11.26 2272 28.06 22188 -78.55	-7.90 2327 20.22 22244 -43.25	R -8.74 378 27.36 24245 -46.54	2 T -10.44 13367 12.39 11323 -70.35	-11.16 1029 31.85 23419 -75.85
MN <= d < 0 # 0 <= d <= MX #	-5.22 380 21.16 23757	R -3.99 167 22.96 24202	5 T -11.03 15726 7.39 8637	-15.99 7299 23.65 16133	-2.83 509 23.74 23984	R -8.63 666 27.70 23752	T -9.85 15589 11.54 9224	-9.90 1183 30.40 23337	-2.27 797 22.54 23814	4 R -7.26 339 28.67 23894	0 T -10.13 14662 11.72 10212	-11.96 2285 28.14 22238	-2.64 989 21.81 23588	<b>R</b> -7.61 237 29.32 24324	47 T -10.04 13781 12.59 11080	-11.26 2272 28.06 22188	-7.90 2327 20.22 22244	R -8.74 378 27.36 24245	2 T -10.44 13367 12.39 11323	-11.16 1029 31.85 23419
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN #	-5.22 380 21.16 23757 -46.07 7	R -3.99 167 22.96 24202 -41.75 4	5 T -11.03 15726 7.39 8637 -77.88 12	-15.99 7299 23.65 16133 -78.09 218	-2.83 509 23.74 23984 #DIV/0! 0	R -8.63 666 27.70 23752 -39.38 8	<b>T</b> -9.85 15589 11.54 9224 -77.90 5	-9.90 1183 30.40 23337 -78.12 34	-2.27 797 22.54 23814 -42.17 3	4 R -7.26 339 28.67 23894 -46.50 1	0 T -10.13 14662 11.72 10212 -75.63 8	-11.96 2285 28.14 22238 -77.57 106	-2.64 989 21.81 23588 #DIV/0! 0	R -7.61 237 29.32 24324 -45.07 7	47 T -10.04 13781 12.59 11080 -74.25 4	-11.26 2272 28.06 22188 -78.55 55	-7.90 2327 20.22 22244 -43.25 4	R -8.74 378 27.36 24245 -46.54 26	2 T -10.44 13367 12.39 11323 -70.35 30	-11.16 1029 31.85 23419 -75.85 17
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 #	-5.22 380 21.16 23757 -46.07 7 74.87 229	R -3.99 167 22.96 24202 -41.75 4 77.37 23	5 T -11.03 15726 7.39 8637 -77.88 12 71.63 16	-15.99 7299 23.65 16133 -78.09 218 143.46 226	-2.83 509 23.74 23984 #DIV/0! 0 74.30 323	85 R -8.63 666 27.70 23752 -39.38 8 74.48 403	T   -9.85   15589   11.54   9224   -77.90   5   72.79   7	-9.90 1183 30.40 23337 -78.12 34 141.93 132	-2.27 797 22.54 23814 -42.17 3 75.26 233	4 R -7.26 339 28.67 23894 -46.50 1 74.40 574	0 T -10.13 14662 11.72 10212 -75.63 8 83.27 13	-11.96 2285 28.14 22238 -77.57 106 141.87 119	-2.64 989 21.81 23588 #DIV/0! 0 75.25 273	R -7.61 237 29.32 24324 -45.07 7 73.96 288	47 T -10.04 13781 12.59 11080 -74.25 4 82.75 4	-11.26 2272 28.06 22188 -78.55 55 142.33 190	-7.90 2327 20.22 22244 -43.25 4 74.98 199	R -8.74 378 27.36 24245 -46.54 26 74.85 155	2 T -10.44 13367 12.39 11323 -70.35 30 68.83 3	-11.16 1029 31.85 23419 -75.85 17 141.55 51
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32	-5.22 380 21.16 23757 -46.07 7 74.87 229 -459.63	R -3.99 167 22.96 24202 -41.75 4 77.37 23 -394.46	5 T -11.03 15726 7.39 8637 -77.88 12 71.63 16 -383.80	-15.99 7299 23.65 16133 -78.09 218 143.46 226 -168.39	-2.83 509 23.74 23984 #DIV/0! 0 74.30 323 -813.75	85 R -8.63 666 27.70 23752 -39.38 8 74.48 403 -1322.07	• • • • • • • • • • • • • •	-9.90 1183 30.40 23337 -78.12 34 141.93 132 -737.39	-2.27 797 22.54 23814 -42.17 3 75.26 233 -354.96	4 R -7.26 339 28.67 23894 -46.50 1 74.40 574 -927.09	0 T -10.13 14662 11.72 10212 -75.63 8 83.27 13 -417.22	-11.96 2285 28.14 22238 -77.57 106 141.87 119 -352.88	-2.64 989 21.81 23588 #DIV/0! 0 75.25 273 -271.13	R -7.61 237 29.32 24324 -45.07 7 73.96 288 -665.54	47 T -10.04 13781 12.59 11080 -74.25 4 82.75 4 82.75 4 -667.36	-11.26 2272 28.06 22188 -78.55 55 142.33 190 -426.76	-7.90 2327 20.22 22244 -43.25 4 74.98 199 -295.63	R -8.74 378 27.36 24245 -46.54 26 74.85 155 -324.52	22 T -10.44 13367 12.39 11323 -70.35 30 68.83 3 -5121.60	-11.16 1029 31.85 23419 -75.85 17 141.55 51 -846.03
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 # d < MN-32 #	-5.22 380 21.16 23757 -46.07 7 4.87 229 -459.63 16	R -3.99 167 22.96 24202 -41.75 4 77.37 23 -394.46 12	5   T     -11.03   15726     7.39   8637     -77.88   12     71.63   16     -383.80   20	-15.99 7299 23.65 16133 -78.09 218 143.46 226 -168.39 121	-2.83 509 23.74 23984 #DIV/0! 0 74.30 323 -813.75 8	85 R -8.63 666 27.70 23752 -39.38 8 74.48 403 -1322.07 88	• • • • • • • • • • • • • •	-9.90 1183 30.40 23337 -78.12 34 141.93 132 -737.39 89	-2.27 797 22.54 23814 -42.17 3 75.26 233 -354.96 26	4 R -7.26 339 28.67 23894 -46.50 1 74.40 574 -927.09 44	0 T -10.13 14662 11.72 10212 -75.63 8 83.27 13 -417.22 36	-11.96 2285 28.14 22238 -77.57 106 141.87 119 -352.88 69	-2.64 989 21.81 23588 #DIV/0! 0 75.25 273 -271.13 26	R -7.61 237 29.32 24324 -45.07 7 73.96 288 -665.54 48	47 T -10.04 13781 12.59 11080 -74.25 4 82.75 4 82.75 4 -667.36 29	-11.26 2272 28.06 22188 -78.55 55 142.33 190 -426.76 84	-7.90 2327 20.22 22244 -43.25 4 74.98 199 -295.63 40	R -8.74 378 27.36 24245 -46.54 26 74.85 155 -324.52 100	22 T -10.467 12.39 11323 -70.35 30 68.83 3 -5121.60 132	-11.16 1029 31.85 23419 -75.85 17 141.55 51 -846.03 113
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 #	-5.22 380 21.16 23757 -46.07 7 74.87 229 -459.63 16 188.48	R -3.99 167 22.96 24202 -41.75 4 77.37 23 -394.46 12 840.64	5 T 11.03 15726 7.39 8637 -77.88 12 71.63 16 20 20 565.05	-15.99 7299 23.65 16133 -78.09 218 143.46 226 -168.39 121 225.24	-2.83 509 23.74 23984 #DIV/0! 0 74.30 323 -813.75 8 734.78	85 R -8.63 666 27.70 23752 -39.38 8 74.48 403 -1322.07 88 279.22	T       -9.85       15589       11.54       9224       -77.90       5       72.79       7       -577.41       46       359.31	-9.90 1183 30.40 23337 -78.12 34 141.93 132 -737.39 89 318.11	-2.27 797 22.54 23814 -42.17 3 75.26 233 -354.96 26 415.31	4 R -7.26 339 28.67 23894 -46.50 1 74.40 574 574 -927.09 44 204.98	T       -10.13       14662       11.72       10212       -75.63       8       83.27       13       -417.22       36       215.11	-11.96 2285 28.14 22238 -77.57 106 141.87 119 -352.88 69 275.20	-2.64 989 21.81 23588 #DIV/0! 0 75.25 273 -271.13 26 308.08	R -7.61 237 29.32 24324 -45.07 7 73.96 288 -665.54 48 258.39	47 T -10.04 13.781 12.59 11080 -74.25 4 82.75 4 82.75 4 -667.36 29 276.55	-11.26 2272 28.06 22188 -78.55 55 142.33 190 -426.76 84 271.75	-7.90 2327 20.22 22244 -43.25 4 74.98 199 -295.63 40 164.60	R -8.74 378 27.36 24245 -46.54 26 74.85 155 -324.52 100 346.78	2 T -10.44 13.67 12.39 11323 -70.35 30 68.83 3 -5121.60 132 643.60	-11.16 1029 31.85 23419 -75.85 17 141.55 51 -846.03 113 317.92
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 # d < MN-32 # d > MX+32	-5.22 380 21.16 23757 -46.07 7 4.87 229 -459.63 16	R -3.99 167 22.96 24202 -41.75 4 77.37 23 -394.46 12	5   T     -11.03   15726     7.39   8637     -77.88   12     71.63   16     -383.80   20	-15.99 7299 23.65 16133 -78.09 218 143.46 226 -168.39 121	-2.83 509 23.74 23984 #DIV/0! 0 74.30 323 -813.75 8	85 R -8.63 666 27.70 23752 -39.38 8 74.48 403 -1322.07 88	• • • • • • • • • • • • • •	-9.90 1183 30.40 23337 -78.12 34 141.93 132 -737.39 89	-2.27 797 22.54 23814 -42.17 3 75.26 233 -354.96 26	4 R -7.26 339 28.67 23894 -46.50 1 74.40 574 -927.09 44	0 T -10.13 14662 11.72 10212 -75.63 8 83.27 13 -417.22 36	-11.96 2285 28.14 22238 -77.57 106 141.87 119 -352.88 69	-2.64 989 21.81 23588 #DIV/0! 0 75.25 273 -271.13 26	R -7.61 237 29.32 24324 -45.07 7 73.96 288 -665.54 48	47 T -10.04 13781 12.59 11080 -74.25 4 82.75 4 82.75 4 -667.36 29	-11.26 2272 28.06 22188 -78.55 55 142.33 190 -426.76 84	-7.90 2327 20.22 22244 -43.25 4 74.98 199 -295.63 40	R -8.74 378 27.36 24245 -46.54 26 74.85 155 -324.52 100	22 T -10.467 12.39 11323 -70.35 30 68.83 3 -5121.60 132	-11.16 1029 31.85 23419 -75.85 17 141.55 51 -846.03 113
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 # d < MN-32 # d > MX+32	-5.22 380 21.16 23757 -46.07 7 74.87 229 -459.63 16 188.48	R -3.99 167 22.96 24202 -41.75 4 77.37 23 -394.46 12 840.64	5 T 11.03 15726 7.39 8637 -77.88 12 71.63 16 20 20 565.05	-15.99 7299 23.65 16133 -78.09 218 143.46 226 -168.39 121 225.24	-2.83 509 23.74 23984 #DIV/0! 0 74.30 323 -813.75 8 734.78	85 R -8.63 666 27.70 23752 -39.38 8 74.48 403 -1322.07 88 279.22	T       -9.85       15589       11.54       9224       -77.90       5       72.79       7       -577.41       46       359.31	-9.90 1183 30.40 23337 -78.12 34 141.93 132 -737.39 89 318.11	-2.27 797 22.54 23814 -42.17 3 75.26 233 -354.96 26 415.31	4 R -7.26 339 28.67 23894 -46.50 1 74.40 574 574 -927.09 44 204.98	T       -10.13       14662       11.72       10212       -75.63       8       83.27       13       -417.22       36       215.11	-11.96 2285 28.14 22238 -77.57 106 141.87 119 -352.88 69 275.20	-2.64 989 21.81 23588 #DIV/0! 0 75.25 273 -271.13 26 308.08	R -7.61 237 29.32 24324 -45.07 7 73.96 288 -665.54 48 258.39	47 T -10.04 13.781 12.59 11080 -74.25 4 82.75 4 82.75 4 -667.36 29 276.55	-11.26 2272 28.06 22188 -78.55 55 142.33 190 -426.76 84 271.75	-7.90 2327 20.22 22244 -43.25 4 74.98 199 -295.63 40 164.60	R -8.74 378 27.36 24245 -46.54 26 74.85 155 -324.52 100 346.78	2 T -10.44 13.67 12.39 11323 -70.35 30 68.83 3 -5121.60 132 643.60	-11.16 1029 31.85 23419 -75.85 17 141.55 51 -846.03 113 317.92
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 # d < MN-32 # d > MX+32 #	-5.22 380 21.16 23757 -46.07 7 74.87 229 -459.63 16 188.48 33	R -3.99 167 22.96 24202 -41.75 4 77.37 23 -394.46 12 840.64 14	5     T       -11.03     15726       7.39     8637       8637     2       71.63     16       -200     565.05       11     11	-15.99 7299 23.65 16133 -78.09 218 143.46 226 -168.39 121 225.24 425	-2.83 509 23.74 23984 #DIV/0! 0 74.30 323 -813.75 8 734.78 140	85 R -8.63 666 27.70 23752 -39.38 8 74.48 403 -1322.07 88 279.22 47	T       -9.85       15589       11.54       9224       -77.90       5       72.79       7       -577.41       46       359.31       93	-9.90 1183 30.40 23337 -78.12 34 141.93 132 -737.39 89 318.11 189	-2.27 797 22.54 23814 -42.17 3 75.26 233 -354.96 26 415.31 91	4 R -7.26 339 28.67 23894 -46.50 1 74.40 574 -927.09 44 204.98 112	0 T -10.13 14662 11.72 10212 -75.63 8 83.27 13 -417.22 36 215.11 33	-11.96 2285 28.14 22238 -77.57 106 141.87 119 -352.88 69 275.20 147	-2.64 989 21.81 23588 #DIV/0! 0 75.25 273 -271.13 26 308.08 88	R -7.61 237 29.32 24324 -45.07 7 73.96 288 -665.54 48 258.39 60	47 T -10.04 13781 12.59 11080 -74.25 4 82.75 4 82.75 4 -667.36 29 276.55 66	-11.26 2272 28.06 22188 -78.55 55 142.33 190 -426.76 84 271.75 175	-7,90 2327 20.22 22244 -43.25 4 74.98 199 -295.63 40 164.60 150	R -8.74 378 27.36 24245 -46.54 26 74.85 155 -324.52 100 346.78 60	22 T -10.44 13367 12.39 11323 -70.35 30 68.83 3 -5121.60 132 643.60 109	-11.16 1029 31.85 23419 -75.85 17 141.55 51 -846.03 113 317.92 335

# Appendix D. Plots of 3-inch segmentation box centers.

The plots in this appendix show the distribution of the segmentation box centers (x,y) for the 3-inch data. There is a combined plot for each slap image and then a smaller plot for each finger position. The individual finger plots are better for seeing the full "spread" of x,y positions detected. The plot for the ground truth (GT) is included as a baseline for comparison. The blank lines that appear in some of the plots are most likely caused by the segmentation algorithm doing some level of sampling of the input image. The reason the lines are not evenly distributed in some plots is an artifact of the sampling when scaling the images for displaying in the report.

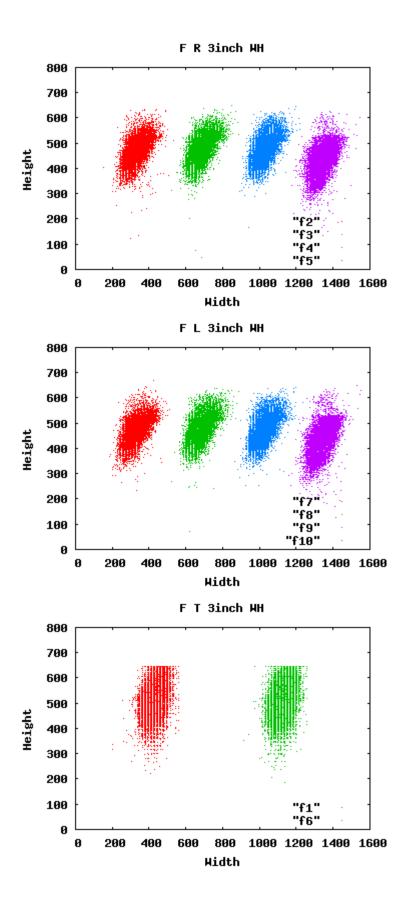






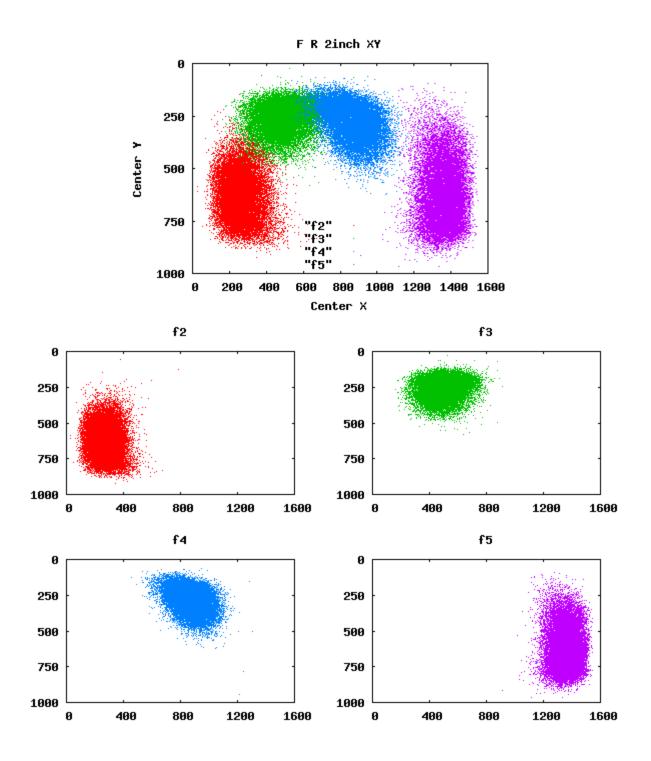
### Appendix E. Plots of 3-inch segmentation box widths and heights.

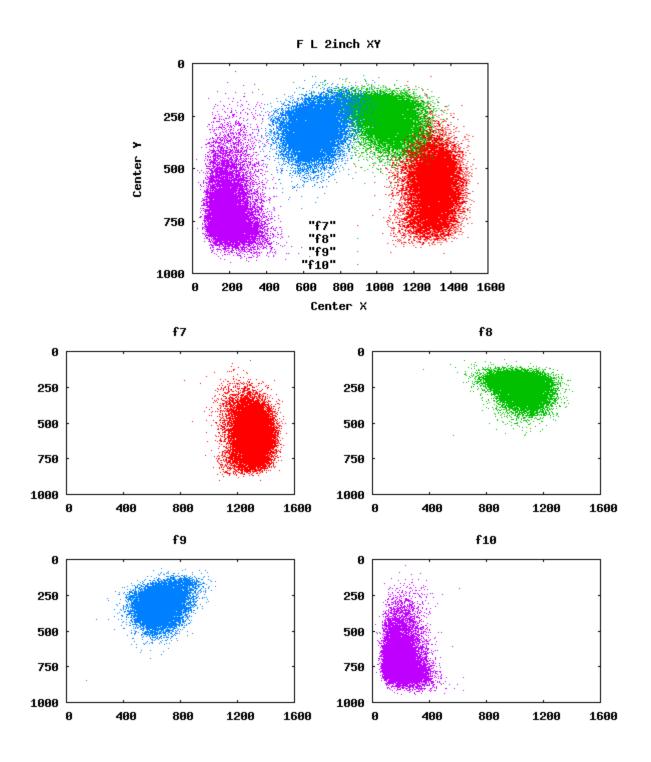
The plots in this appendix show the distribution of the segmentation box widths and heights for the 3-inch data. There is a combined plot for each slap image and then a smaller plot for each finger position. The individual finger plots are better for seeing the full "spread" of widths and heights detected. The widths are "spread out" on the plot by adding 350, 750 and 1050 to the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> widths plotted. The plot for the ground truth (GT) is included as a baseline for comparison. The blank lines that appear in some of the plots are most likely caused by the segmentation algorithm doing some level of sampling of the input image. The reason the lines are not evenly distributed in some plots is an artifact of the sampling when scaling the images for displaying in the report.



# Appendix F. Plots of 2-inch segmentation box centers.

The plots in this appendix show the distribution of the segmentation box centers (x,y) for the 2-inch data. There is a combined plot for each slap image and then a smaller plot for each finger position. The individual finger plots are better for seeing the full "spread" of x,y positions detected. The plot for the ground truth (GT) is included as a baseline for comparison. The blank lines that appear in some of the plots are most likely caused by the segmentation algorithm doing some level of sampling of the input image. The reason the lines are not evenly distributed in some plots is an artifact of the sampling when scaling the images for displaying in the report.





### Appendix G. Plots of 2-inch segmentation box widths and heights.

The plots in this appendix show the distribution of the segmentation box widths and heights for the 2-inch data. There is a combined plot for each slap image and then a smaller plot for each finger position. The individual finger plots are better for seeing the full "spread" of widths and heights detected. The widths are "spread out" on the plot by adding 350, 750 and 1050 to the 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> widths plotted. The plot for the ground truth (GT) is included as a baseline for comparison. The blank lines that appear in some of the plots are most likely caused by the segmentation algorithm doing some level of sampling of the input image. The reason the lines are not evenly distributed in some plots is an artifact of the sampling when scaling the images for displaying in the report.

