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 \leq d \leq 0) and 3 (0 \leq d \leq 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.

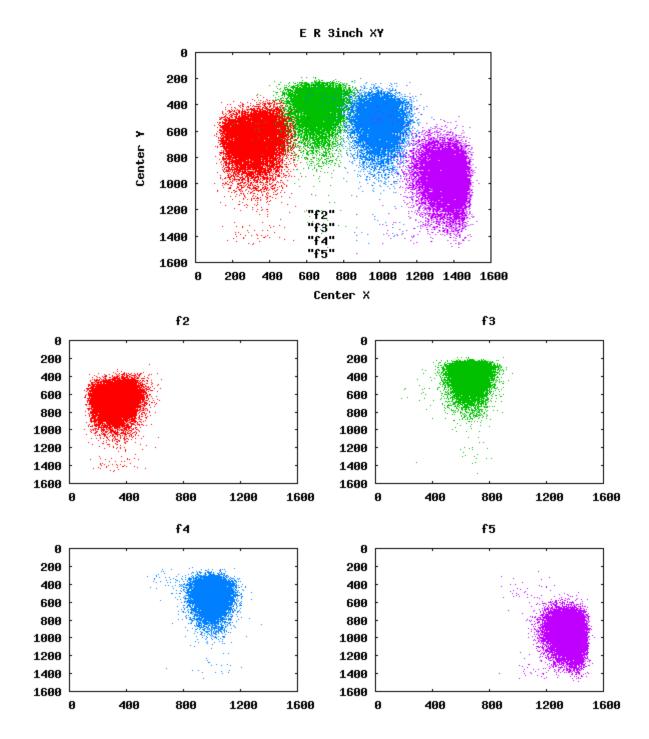
The last three rows show the total count for each bin, the overall average difference value and the standard deviation of all the difference values.

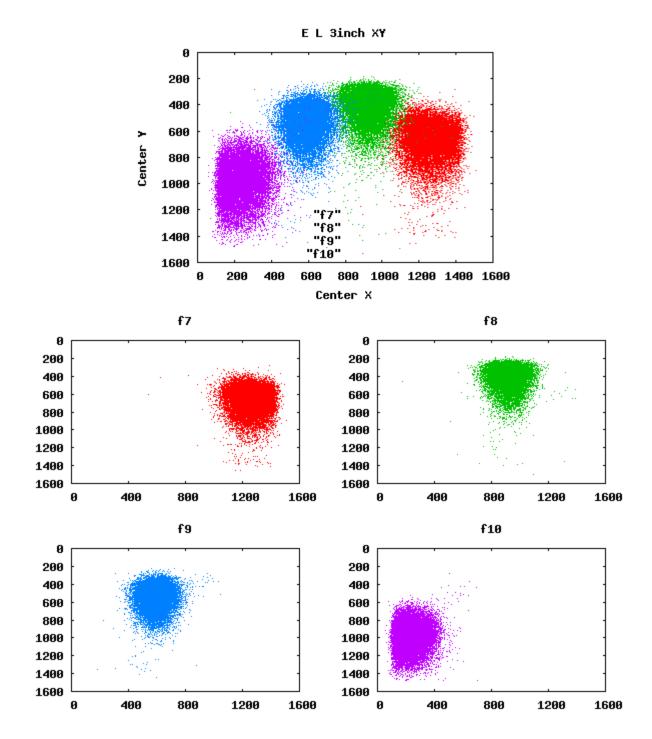
Ε

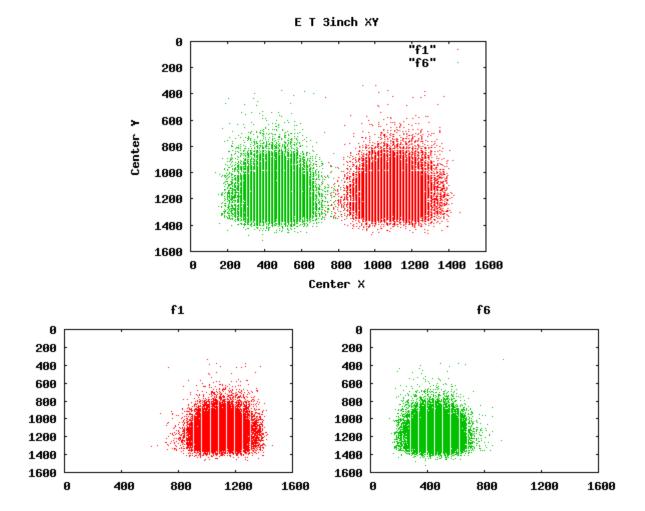
No Finger Found	R. Thumb 15				R. Index 63				R Middle 30				R. Ring 21				R. Little 77			
	L	R	T	В	L	R	Т	В	L	R	Т	В	L	R	T	В	L	R	T	В
MN <= d < 0	-4.31	-5.44	-10.48	-12.86	-4.55	-6.16	-10.12	-11.19	-2.68	-6.59	-10.35	-12.65	-3.15	-7.74	-10.54	-11.75	-4.44	-4.50	-10.61	-11.81
#	508	450	15905	6242	780	185	16537	691	819	222	15757	1157	356	658	15161	891	511	1062	14814	235
0 <= d <= MX	18.97	20.31	5.62	22.99	22.98	28.02	10.88	35.88	23.27	26.02	11.55	35.31	23.76	24.47	11.68	36.91	20.98	20.87	11.50	44.15
#	23883	23803	8441	17021	23813	24257	8296	23602	23702	24338	9130	22881	24371	23942	9728	23067	24192	23556	9913	23936
MN-32 <= d < MN	-45.00	-43.50	-78.42	-77.31	-44.88	-40.90	-74.94	-74.63	-49.00	-35.50	-74.80	-78.80	-48.50	-37.50	-67.00	-76.75	-46.36	-44.50	-72.46	-72.33
#	2	13	33 #DIV/0!	149	4	5	9	16	2	2	5	79	3	1 75.00	6	64	32	2	24	6 142.17
MX < d <= MX+32 #	69.83 3	74.25 110	#DIV/U!	143.76	73.70 274	75.24 399	68.33 3	144.71 160	74.30 347	75.72 281	75.17 9	143.30 268	76.04 156	75.82 262	85.00 3	144.32 368	74.16 81	75.06 166	77.50 1	142.17
#	3	110	U	349	2/4	399	3	100	347	201	9	208	156	202	3	300	91	100	1	113
d < MN-32	-435.97	-640.64	-291.91	-220.50	-302.92	-437.45	-771.69	-729.27	-444.00	-533.21	-506.05	-350.57	-195.18	-540.65	-784.56	-257.37	-87.11	-880.75	-410.97	-759.55
#	17	14	34	108	6	57	61	62	4	49	46	45	11	47	25	63	23	118	118	96
d > MX+32	589.17	390.59	788.17	219.11	176.73	160.23	373.44	285.56	296.27	142.57	186.45	235.08	417.15	153.87	221.18	223.98	790.09	136.00	596.32	270.89
#	9	32	9	553	91	65	62	437	94	76	21	538	71	58	45	515	129	64	98	582
Total #	24422	24422	24422	24422	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968
Average	18.38	20.15	-5.10	18.30	23.15	27.79	-4.07	37.68	24.08	25.54	-3.07	37.49	24.72	23.40	-2.24	39.58	24.42	16.18	-1.40	46.23
Std Dev	20.25	30.18	23.96	55.57	18.36	28.39	45.65	62.89	26.05	31.96	29.60	48.24	29.45	34.36	30.76	46.44	64.90	75.33	50.80	70.13
			humb			L. In				L. M					Ring			L. L		
No Finger Found		:	12	_		58	8			1	.8	_			21	_		7	0	_
	L	R	12 T	B	L	58 R	8 T	В	L	1 R	8 T	B	L 2.40	R	21 T	B	L	7 R	′0 T	B
MN <= d < 0	-2.68	R -6.59	12 T -10.35	-12.65	-2.90	58 R -8.46	8 T -10.18	-9.90	-2.26	R -7.06	.8 T -10.50	-12.84	-2.49	R -8.27	21 T -10.39	-10.55	-7.82	7 R -8.77	70 T -10.88	-11.40
MN <= d < 0 #	-2.68 819	R -6.59 222	T -10.35 15757	-12.65 1157	-2.90 568	-8.46 648	T -10.18 16181	-9.90 658	-2.26 852	7.06 335	8 T -10.50 15211	-12.84 1272	-2.49 1022	R -8.27 235	T -10.39 14177	-10.55 1241	-7.82 2308	7 R -8.77 358	T -10.88 13711	-11.40 369
MN <= d < 0 # 0 <= d <= MX	-2.68 819 23.27	R -6.59 222 26.02	T -10.35 15757 11.55	-12.65 1157 35.31	-2.90 568 23.66	R -8.46 648 27.73	T -10.18 16181 11.41	-9.90 658 35.57	-2.26 852 22.63	R -7.06 335 28.57	T -10.50 15211 11.63	-12.84 1272 34.00	-2.49 1022 22.06	R -8.27 235 29.10	T -10.39 14177 12.34	-10.55 1241 33.94	-7.82 2308 20.66	R -8.77 358 27.20	70 T -10.88 13711 11.99	-11.40 369 41.04
MN <= d < 0 #	-2.68 819	R -6.59 222	T -10.35 15757	-12.65 1157	-2.90 568	-8.46 648	T -10.18 16181	-9.90 658	-2.26 852	7.06 335	8 T -10.50 15211	-12.84 1272	-2.49 1022	R -8.27 235	T -10.39 14177	-10.55 1241	-7.82 2308	7 R -8.77 358	T -10.88 13711	-11.40 369
MN <= d < 0 # 0 <= d <= MX #	-2.68 819 23.27 23702	R -6.59 222 26.02 24338	T -10.35 15757 11.55 9130	-12.65 1157 35.31 22881	-2.90 568 23.66 23947	846 648 27.73 23825	T -10.18 16181 11.41 8654	-9.90 658 35.57 23586	-2.26 852 22.63 23793	R -7.06 335 28.57 23968	8 T -10.50 15211 11.63 9689	-12.84 1272 34.00 22675	-2.49 1022 22.06 23579	R -8.27 235 29.10 24373	T -10.39 14177 12.34 10712	-10.55 1241 33.94 22663	-7.82 2308 20.66 22210	7 R -8.77 358 27.20 24293	T -10.88 13711 11.99 11002	-11.40 369 41.04 23590
MN <= d < 0 # 0 <= d <= MX	-2.68 819 23.27 23702	R -6.59 222 26.02 24338 -35.50	T -10.35 15757 11.55 9130 -74.80	-12.65 1157 35.31 22881 -78.80	-2.90 568 23.66 23947	R -8.46 648 27.73	T -10.18 16181 11.41 8654 -75.15	-9.90 658 35.57 23586	-2.26 852 22.63	R -7.06 335 28.57 23968	8 T -10.50 15211 11.63 9689 -70.50	-12.84 1272 34.00 22675 -76.76	-2.49 1022 22.06	R -8.27 235 29.10 24373	T -10.39 14177 12.34 10712 -80.83	-10.55 1241 33.94 22663	-7.82 2308 20.66 22210	7 R -8.77 358 27.20 24293	T -10.88 13711 11.99 11002 -71.70	-11.40 369 41.04 23590 -78.25
MN <= d < 0 # 0 <= d <= MX #	-2.68 819 23.27 23702	R -6.59 222 26.02 24338	T -10.35 15757 11.55 9130	-12.65 1157 35.31 22881 -78.80 79	-2.90 568 23.66 23947	58 R -8.46 648 27.73 23825	T -10.18 16181 11.41 8654	-9.90 658 35.57 23586	-2.26 852 22.63 23793	R -7.06 335 28.57 23968	8 T -10.50 15211 11.63 9689	-12.84 1272 34.00 22675	-2.49 1022 22.06 23579 #DIV/0!	R -8.27 235 29.10 24373	T -10.39 14177 12.34 10712	-10.55 1241 33.94 22663 -76.44 50	-7.82 2308 20.66 22210	R -8.77 358 27.20 24293 -47.13 34	T -10.88 13711 11.99 11002 -71.70 33	-11.40 369 41.04 23590 -78.25 8
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN	-2.68 819 23.27 23702 -49.00 2	R -6.59 222 26.02 24338 -35.50 2	T -10.35 15757 11.55 9130 -74.80 5	-12.65 1157 35.31 22881 -78.80	-2.90 568 23.66 23947 -33.50	54 R -8.46 648 27.73 23825 -36.36 7	8 T -10.18 16181 11.41 8654 -75.15 10	-9.90 658 35.57 23586 -81.36 21	-2.26 852 22.63 23793 -33.50	R -7.06 335 28.57 23968 -42.83 3	8 T -10.50 15211 11.63 9689 -70.50 6	-12.84 1272 34.00 22675 -76.76 80	-2.49 1022 22.06 23579 #DIV/0! 0	R -8.27 235 29.10 24373 -50.00 8	21 T -10.39 14177 12.34 10712 -80.83 3	-10.55 1241 33.94 22663	-7.82 2308 20.66 22210	7 R -8.77 358 27.20 24293	T -10.88 13711 11.99 11002 -71.70	-11.40 369 41.04 23590
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32	-2.68 819 23.27 23702 -49.00 2 74.30	R -6.59 222 26.02 24338 -35.50 2 75.72	12 T -10.35 15757 11.55 9130 -74.80 5	-12.65 1157 35.31 22881 -78.80 79 143.30	-2.90 568 23.66 23947 -33.50 1 74.98	-8.46 648 27.73 23825 -36.36 7 74.33	8 T -10.18 16181 11.41 8654 -75.15 10 73.67	-9.90 658 35.57 23586 -81.36 21 143.00	-2.26 852 22.63 23793 -33.50 1 75.67	R -7.06 335 28.57 23968 -42.83 3 74.78	8 T -10.50 15211 11.63 9689 -70.50 6 73.94	-12.84 1272 34.00 22675 -76.76 80 144.03	-2.49 1022 22.06 23579 #DIV/0! 0 74.85	R -8.27 235 29.10 24373 -50.00 8 73.59	21 T -10.39 14177 12.34 10712 -80.83 3 82.67	-10.55 1241 33.94 22663 -76.44 50 144.28	-7.82 2308 20.66 22210 -36.83 3 74.75	R -8.77 358 27.20 24293 -47.13 34 74.67	T -10.88 13711 11.99 11002 -71.70 33 #DIV/0!	-11.40 369 41.04 23590 -78.25 8 143.50
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32	-2.68 819 23.27 23702 -49.00 2 74.30	R -6.59 222 26.02 24338 -35.50 2 75.72	12 T -10.35 15757 11.55 9130 -74.80 5	-12.65 1157 35.31 22881 -78.80 79 143.30	-2.90 568 23.66 23947 -33.50 1 74.98	-8.46 648 27.73 23825 -36.36 7 74.33	8 T -10.18 16181 11.41 8654 -75.15 10 73.67	-9.90 658 35.57 23586 -81.36 21 143.00	-2.26 852 22.63 23793 -33.50 1 75.67	R -7.06 335 28.57 23968 -42.83 3 74.78	8 T -10.50 15211 11.63 9689 -70.50 6 73.94	-12.84 1272 34.00 22675 -76.76 80 144.03	-2.49 1022 22.06 23579 #DIV/0! 0 74.85	R -8.27 235 29.10 24373 -50.00 8 73.59	21 T -10.39 14177 12.34 10712 -80.83 3 82.67	-10.55 1241 33.94 22663 -76.44 50 144.28	-7.82 2308 20.66 22210 -36.83 3 74.75	R -8.77 358 27.20 24293 -47.13 34 74.67	T -10.88 13711 11.99 11002 -71.70 33 #DIV/0!	-11.40 369 41.04 23590 -78.25 8 143.50
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 # d < MN-32	-2.68 819 23.27 23702 -49.00 2 74.30 347	R -6.59 222 26.02 24338 -35.50 2 75.72 281	T -10.35 15757 11.55 9130 -74.80 5 75.17 9	-12.65 1157 35.31 22881 -78.80 79 143.30 268	-2.90 568 23.66 23947 -33.50 1 74.98 339	-8.46 648 27.73 23825 -36.36 7 74.33 382	T -10.18 16181 11.41 8654 -75.15 10 73.67 6	-9,90 658 35.57 23586 -81.36 21 143.00 162	-2.26 852 22.63 23793 -33.50 1 75.67 234	R -7.06 335 28.57 23968 -42.83 3 74.78 540	8 T -10.50 15211 11.63 9689 -70.50 6 73.94 9	-12.84 1272 34.00 22675 -76.76 80 144.03 311 -295.81 36	-2.49 1022 22.06 23579 #DIV/0! 0 74.85 272	R -8.27 235 29.10 24373 -50.00 8 73.59 270	T T -10.39 14177 12.34 10712 -80.83 3 82.67 3	-10.55 1241 33.94 22663 -76.44 50 144.28 408	-7.82 2308 20.66 22210 -36.83 3 74.75 260	R -8.77 358 27.20 24293 -47.13 34 74.67 150	T -10.88 13711 11.99 11002 -71.70 33 #DIV/0! 0	-11.40 369 41.04 23590 -78.25 8 143.50 122
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 #	-2.68 819 23.27 23702 -49.00 2 74.30 347 -444.00 4 296.27	R -6.59 222 26.02 24338 -35.50 2 75.72 281 -533.21 49 142.57	T -10.35 15757 11.55 9130 -74.80 5 75.17 9 -506.05 46 186.45	-12.65 1157 35.31 22881 -78.80 79 143.30 268	-2.90 568 23.66 23947 -33.50 1 74.98 339	8 46 648 27.73 23825 -36.36 7 74.33 382 -1280.12 53 171.80	8 T -10.18 16181 11.41 8654 -75.15 10 73.67 6 -698.51 57 352.35	-9.90 658 35.57 23586 -81.36 21 143.00 162 -701.03 55 267.87	-2.26 852 22.63 23793 -33.50 1 75.67 234 -338.55 21 285.77	R -7.06 335 28.57 23968 -42.83 3 74.78 540 -795.10 20 193.97	8 T -10.50 15211 11.63 9689 -70.50 6 73.94 9 -617.13 39 232.10	-12.84 1272 34.00 22675 -76.76 80 144.03 311 -295.81 36 233.10	-2.49 1022 22.06 23579 #DIV/0! 0 74.85 272 -281.98 22 213.26	R -8.27 -235 -29.10 -24373 -50.00 -8 -73.59 -270 -547.52 -22 -246.42	21 T -10.39 14177 12.34 10712 -80.83 3 82.67 3 -737.25 36 293.71	-10.55 1241 33.94 22663 -76.44 50 144.28 408	-7.82 2308 20.66 22210 -36.83 3 74.75 260	R -8.77 358 27.20 24293 -47.13 34 74.67 150 -320.05	T -10.88 13711 11.99 11002 -71.70 33 #DIV/O! 0	-11.40 369 41.04 23590 -78.25 8 143.50 122
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 # d < MN-32	-2.68 819 23.27 23702 -49.00 2 74.30 347 -444.00 4	R -6.59 222 26.02 24338 -35.50 2 75.72 281 -533.21 49	T -10.35 15757 11.55 9130 -74.80 5 75.17 9 -506.05 46	-12.65 1157 35.31 22881 -78.80 79 143.30 268	-2.90 568 23.66 23947 -33.50 1 74.98 339 -481.10 5	-8.46 648 27.73 23825 -36.36 7 74.33 382 -1280.12 53	T -10.18 16181 11.41 8654 -75.15 10 73.67 6 -698.51 57	-9.90 658 35.57 23586 -81.36 21 143.00 162 -701.03 55	-2.26 852 22.63 23793 -33.50 1 75.67 234 -338.55 21	R -7.06 335 28.57 23968 -42.83 3 74.78 540 -795.10 20	8 T -10.50 15211 11.63 9689 -70.50 6 73.94 9 -617.13 39	-12.84 1272 34.00 22675 -76.76 80 144.03 311 -295.81 36	-2.49 1022 22.06 23579 #DIV/0! 0 74.85 272 -281.98	R -8.27 235 29.10 24373 -50.00 8 73.59 270 -547.52 22	21 T -10.39 14177 12.34 10712 -80.83 3 82.67 3 -737.25 36	-10.55 1241 33.94 22663 -76.44 50 144.28 408	-7.82 2308 20.66 22210 -36.83 3 74.75 260	R -8.77 358 27.20 24293 -47.13 34 74.67 150 -320.05 78	T -10.88 13711 11.99 11002 -71.70 33 #DIV/0! 0 -440.40 137	-11.40 369 41.04 23590 -78.25 8 143.50 122 -834.96 85
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 # d < MN-32 # d > MX+32 #	-2.68 819 23.27 23702 -49.00 2 74.30 347 -444.00 4 296.27 94	R -6.59 222 26.02 24338 -35.50 2 75.72 281 -533.21 49 142.57 76	T T -10.35 15757 11.55 9130 -74.80 5 75.17 9 -506.05 46 186.45 21	-12.65 1157 35.31 22881 -78.80 79 143.30 268 -350.57 45 235.08 538	-2.90 568 23.66 23947 -33.50 1 74.98 339 -481.10 5 606.40 104	8	T -10.18 16181 11.41 8654 -75.15 10 73.67 6 -698.51 57 352.35 56	-9.90 658 35.57 23586 -81.36 21 143.00 162 -701.03 55 267.87 482	-2.26 852 22.63 23793 -33.50 1 75.67 234 -338.55 21 285.77 63	R -7.06 -335 -28.57 -23968 -42.83 -3 74.78 -540 -795.10 -0 193.97 98	8 T -10.50 15211 11.63 9689 -70.50 6 73.94 9 232.10 10	-12.84 1272 34.00 22675 -76.76 80 144.03 311 -295.81 36 233.10 590	-2.49 1022 22.06 23579 #DIV/0! 0 74.85 272 -281.98 22 213.26 69	R -8.27 235 29.10 24373 -50.00 8 73.59 270 -547.52 22 246.42 56	21 T T -10.39 14177 12.34 10712 -80.83 3 82.67 3 -737.25 36 293.71 33	-10.55 1241 33.94 22663 -76.44 50 144.28 408 -271.04 70 232.46 532	-7.82 2308 20.66 22210 -36.83 3 74.75 260 -305.05 33 160.41 150	R 8 -8.77 358 27.20 24293 -47.13 34 74.67 150 -320.05 78 350.51 51	T -10.88 13711 11.99 11002 -71.70 33 #DIV/0! 0 -440.40 137 641.55 81	-11.40 369 41.04 23590 -78.25 8 143.50 122 -834.96 85 270.99 790
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 # d < MN-32 # d > MX+32 # Total #	-2.68 819 23.27 23.702 -49.00 2 74.30 347 -444.00 4 296.27 94	R R-6.59 222 26.02 24338 -35.50 2 75.72 281 -533.21 49 142.57 76	T T -10.35 15757 11.55 9130 -74.80 5 75.17 9 -506.05 46 186.45 21 24968	-12.65 1157 35.31 22881 -78.80 79 143.30 268 -350.57 45 235.08 538	-2.90 568 23.66 23947 -33.50 1 74.98 339 -481.10 5 606.40 104 24964	8	T -10.18 16181 11.41 8654 -75.15 10 73.67 6 -698.51 57 352.35 56 24964	-9.90 658 35.57 23586 -81.36 21 143.00 162 -701.03 55 267.87 482	-2.26 852 22.63 23.793 -33.50 1 75.67 234 -338.55 21 285.77 63	1 R R -7.06 335 28.57 23968 -42.83 3 74.78 540 -795.10 20 193.97 98 24964	8 T -10.50 15211 11.63 9689 -70.50 6 73.94 9 -617.13 39 232.10 10 24964	-12.84 1272 34.00 22675 -76.76 80 144.03 311 -295.81 36 233.10 590	-2.49 1022 22.06 23579 #DIV/0! 0 74.85 272 -281.98 22 213.26 69	R -8.27 235 29.10 24373 -50.00 8 73.59 270 -547.52 22 246.42 56 24964	T T -10.39 14177 12.34 10712 -80.83 3 82.67 3 -737.25 36 293.71 33 24964	-10.55 1241 33.94 22663 -76.44 50 144.28 408 -271.04 70 232.46 532	-7.82 2308 20.66 22210 -36.83 3 74.75 260 -305.05 33 160.41 150	R -8.77 358 27.20 24293 -47.13 34 74.67 150 -320.05 78 350.51 51	T -10.88 13711 11.99 11002 -71.70 33 #DIV/0! 0 -440.40 137 641.55 81 24964	-11.40 369 41.04 23590 -78.25 8 143.50 122 -834.96 85 270.99 790
MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 # d < MN-32 # d > MX+32 #	-2.68 819 23.27 23702 -49.00 2 74.30 347 -444.00 4 296.27 94	R -6.59 222 26.02 24338 -35.50 2 75.72 281 -533.21 49 142.57 76	T T -10.35 15757 11.55 9130 -74.80 5 75.17 9 -506.05 46 186.45 21	-12.65 1157 35.31 22881 -78.80 79 143.30 268 -350.57 45 235.08 538	-2.90 568 23.66 23947 -33.50 1 74.98 339 -481.10 5 606.40 104	8	T -10.18 16181 11.41 8654 -75.15 10 73.67 6 -698.51 57 352.35 56	-9.90 658 35.57 23586 -81.36 21 143.00 162 -701.03 55 267.87 482	-2.26 852 22.63 23793 -33.50 1 75.67 234 -338.55 21 285.77 63	R -7.06 -335 -28.57 -23968 -42.83 -3 74.78 -540 -795.10 -0 193.97 98	8 T -10.50 15211 11.63 9689 -70.50 6 73.94 9 232.10 10	-12.84 1272 34.00 22675 -76.76 80 144.03 311 -295.81 36 233.10 590	-2.49 1022 22.06 23579 #DIV/0! 0 74.85 272 -281.98 22 213.26 69	R -8.27 235 29.10 24373 -50.00 8 73.59 270 -547.52 22 246.42 56	21 T T -10.39 14177 12.34 10712 -80.83 3 82.67 3 -737.25 36 293.71 33	-10.55 1241 33.94 22663 -76.44 50 144.28 408 -271.04 70 232.46 532	-7.82 2308 20.66 22210 -36.83 3 74.75 260 -305.05 33 160.41 150	R 8 -8.77 358 27.20 24293 -47.13 34 74.67 150 -320.05 78 350.51 51	T -10.88 13711 11.99 11002 -71.70 33 #DIV/0! 0 -440.40 137 641.55 81	-11.40 369 41.04 23590 -78.25 8 143.50 122 -834.96 85 270.99 790

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.

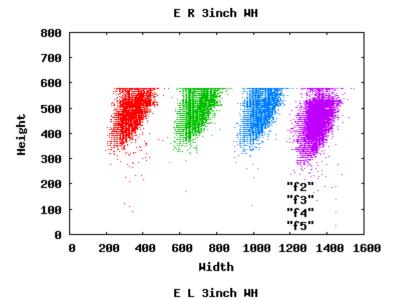


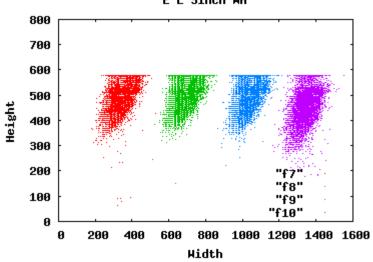


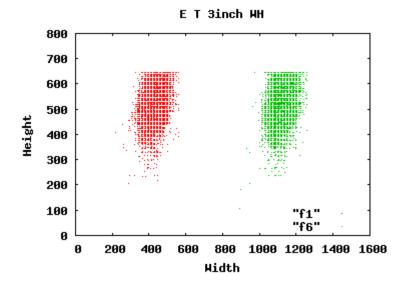


Appendix E. Plots of 3-inch segmentation box widths and heights.

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 2nd, 3rd, and 4th 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.

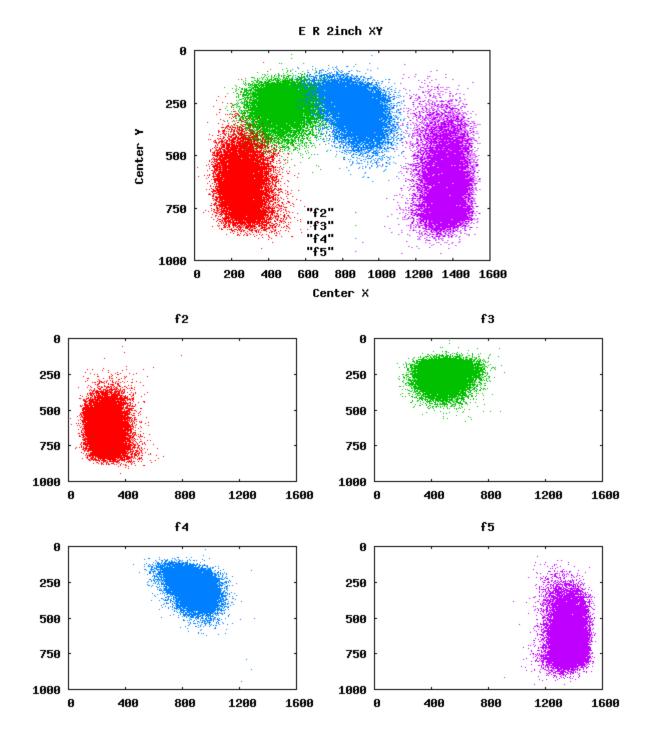


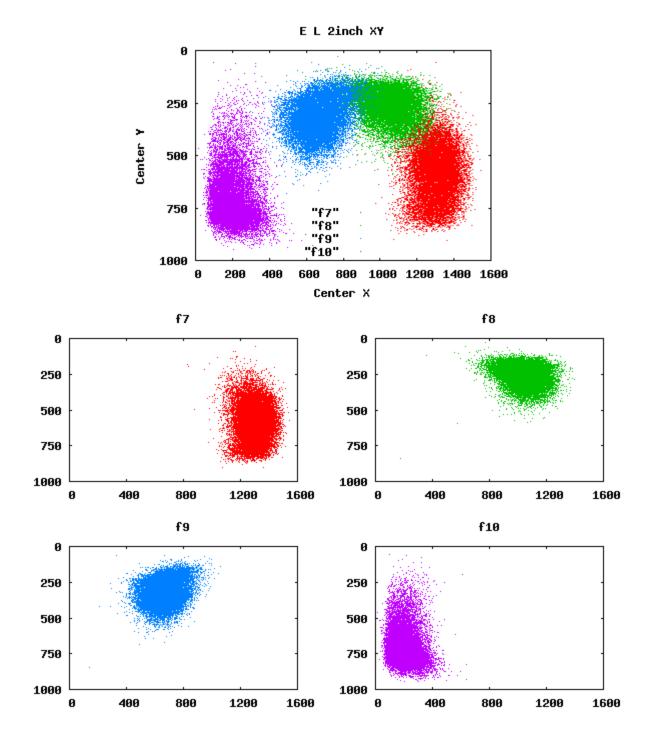




Appendix F. Plots of 2-inch segmentation box centers.

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 2nd, 3rd, and 4th 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.

