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.

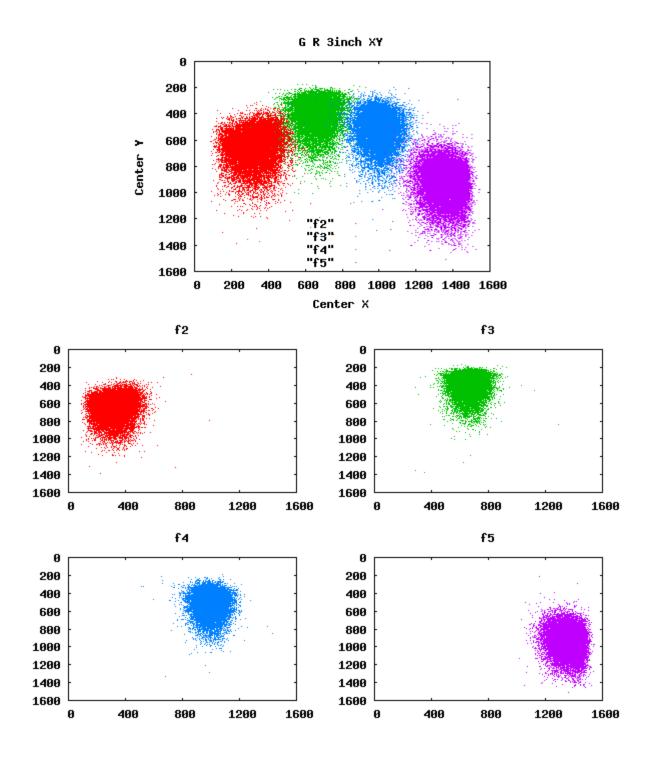
Rows 6-9 also show average difference values and bin counts but for ranges MN-32 <= d < MN and MX < d <= MX+32, which are just outside the accepted tolerance ranges. Rows 10-13 tally everything greater than 32 pixels away from the accepted tolerance range, d < MN-32 and d > MX+32.

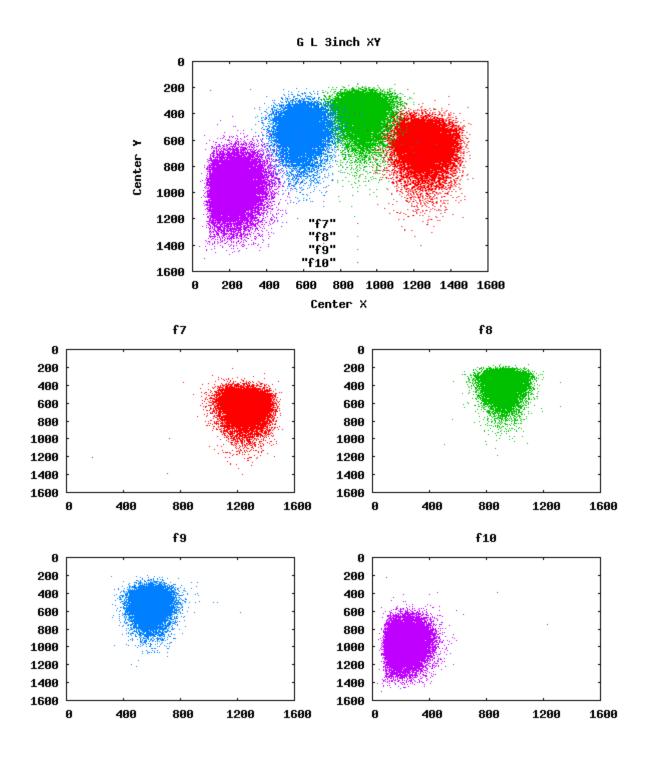
The last three rows show the total count for each bin, the overall average difference value and the standard deviation of all the difference values.

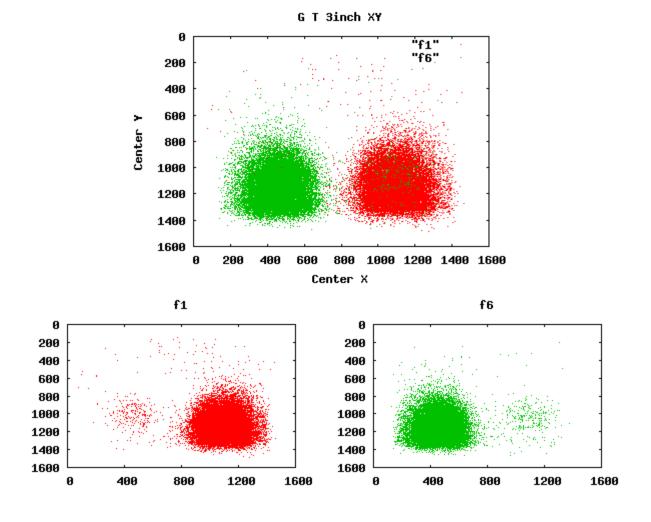
		D T	hah			D I-	dov			G	تططام				Ding			P 13	ttla.	
No Finger Found	R. Thumb 40				R. Index 14				R Middle 12				R. Ring 11				R. Little 26			
	L	R	т	в	L	R	Τ	в	L	R	т	В	L	R	т	в	L	R	T	В
MN <= d < 0	-7.07	-7.59	-11.52	-19.57	-6.54	-5.57	-15.80	-17.18	-7.26	-5.71	-15.88	-17.82	-5.33	-6.82	-15.73	-17.92	-6.43	-6.64	-16.85	-17.25
#	12096	12616	17457	14475	15629	7876	20638	11678	15179	9863	19934	8839	9667	11220	20074	10471	13164	11074	20111	14043
0 <= d <= MX	6.13	8.62	4.81	35.33	5.29	6.98	6.57	16.67	5.91	6.44	6.47	20.28	6.06	6.50	6.31	22.44	5.37	6.27	6.04	19.20
#	11914	11257	6741	8368	9269	17040	4293	13139	9749	15053	5001	15852	15268	13556	4854	14231	11722	13701	4736	10740
	20.04	40.52	70.00	77.67	20.57	44.00	70.00	77.05	20.42	20.40	70.00	76.40	20.22	20 74	72.00	76.62	10.10	20.40	74.00	75.44
MN-32 <= d < MN	-39.94 36	-40.53 87	-79.98 45	-77.67 426	-38.57 53	-41.00 33	-73.93 15	-77.35 99	-38.13 24	-38.40	-73.92 13	-76.12 178	-39.33	-38.71 172	-73.09 22	-76.63	-40.49 43	-38.10 154	-74.89 67	-75.14 65
# MX < d <= MX+32	70.50	76.53	45 77.65	144.35	#DIV/0!	35 #DIV/0!	#DIV/0!	143.93	#DIV/0!	35 72.50	#DIV/0!	140.11	12 69.50	86.00	#DIV/0!	163 140.62	80.00	82.14	#DIV/0!	144.17
#	2	66	23	328	0	0	#DIV/0:	145.55	0	2	0	27	2	1	0	34	1	7	0	144.17
	-	00	20	520	Ū	Ū	Ū	10	Ū	-	Ū		-	-	Ū	5.	-	•	Ū	10
d < MN-32	-280.06	-639.22	-353.47	-420.53	-287.55	-351.25	-527.42	-383.55	-340.50	-684.83	-303.96	-183.38	-436.90	-735.79	-304.93	-204.23	-279.41	-1081.20	-422.29	-577.61
#	36	350	48	325	11	8	13	20	7	9	13	49	5	12	7	49	17	20	34	31
d > MX+32	616.22	314.28	778.77	233.31	226.08	421.32	483.44	574.56	499.83	445.25	240.36	308.11	622.04	435.07	338.32	261.58	943.62	427.46	674.50	332.39
#	338	46	108	500	6	11	9	17	9	6	7	23	14	7	11	20	21	12	20	71
Total #	24422	24422	24422	24422	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968	24968
Average Std Dev	7.55 77.58	-8.45	-4.23	0.27	-2.28	3.02 14.47	-12.07 21.24	0.60 33.42	-2.06 14.41	1.44 17.32	-11.51 14.90	6.10 30.01	1.89 19.45	-0.03 22.84	-11.42 15.06	4.77 32.11	-0.33 33.40	-0.38 38.06	-12.66 29.76	-1.31 40.71
Stubev	//.56	86.80	60.75	92.21	11.01	14.47	21.24	33.42	14.41	17.52	14.90	30.01	15.45	22.04	15.00	52.11	55.40	38.00	25.70	40.71
Stu Dev	/7.56			92.21	11.01			55.42	14.41			50.01	15.45			52.11	55.40			40.71
No Finger Found	//.58	L. Tİ	60.75 humb 31	92.21	11.01	14.47 L. In 1	ıdex	33.42	14.41	L. Mi	iddle 3	50.01	15.45		Ring 8	52.11	55.40	58.00 L. Li 31	ttle	40.71
	L	L. Tİ	humb	92.21 B	11.01 L	L. In	ıdex	B	L	L. Mi	iddle	<u>в</u>	15.43 L		Ring	52.11 B	L	L. Lit	ttle	в
	L -7.46	L. TI 3 R -6.74	humb 31 T -12.94	В -19.02	L -6.24	L. In 1 R -7.30	idex 2 T -16.09	B -17.25	L -7.74	L. Mi 1 R -6.68	iddle .3 T -15.97	B -18.38	L -7.79	L. R -6.20	Ring 8 T -15.79	B -18.70	L -7.47	L. Li ^r 3(R -7.19	ttle) T - <u>16.67</u>	B -18.21
No Finger Found MN <= d < 0 #	L -7.46 13070	L. Th R -6.74 11703	humb 31 -12.94 18953	B -19.02 13174	L -6.24 13252	L. In 1 R -7.30 8533	idex 2 T -16.09 20054	B -17.25 11636	L -7.74 15378	L. Mi 1 R -6.68 7484	iddle 3 T -15.97 19142	B -18.38 8999	L -7.79 14868	L. R -6.20 5185	Ring 8 T -15.79 18235	B -18.70 11293	L -7.47 13754	L. Lit 30 R -7.19 6722	ttle) -16.67 18141	B -18.21 14167
No Finger Found MN <= d < 0 # 0 <= d <= MX	L -7.46 13070 9.84	L. TH R -6.74 11703 6.64	humb 31 -12.94 18953 4.41	B -19.02 13174 34.18	L -6.24 13252 6.23	L. In 1 R -7.30 8533 6.92	dex 2 T -16.09 20054 5.92	B -17.25 11636 16.41	L -7.74 15378 5.72	L. Mi 1 R -6.68 7484 7.61	iddle 3 T -15.97 19142 5.52	B -18.38 8999 18.89	L -7.79 14868 6.10	L. R -6.20 5185 8.54	Ring 8 -15.79 18235 6.01	B -18.70 11293 18.76	L -7.47 13754 6.35	L. Li 30 R -7.19 6722 7.71	ttle T -16.67 18141 5.62	B -18.21 14167 17.32
No Finger Found MN <= d < 0 #	L -7.46 13070	L. Th R -6.74 11703	humb 31 -12.94 18953	B -19.02 13174	L -6.24 13252	L. In 1 R -7.30 8533	idex 2 T -16.09 20054	B -17.25 11636	L -7.74 15378	L. Mi 1 R -6.68 7484	iddle 3 T -15.97 19142	B -18.38 8999	L -7.79 14868	L. R -6.20 5185	Ring 8 T -15.79 18235	B -18.70 11293	L -7.47 13754	L. Lit 30 R -7.19 6722	ttle) -16.67 18141	B -18.21 14167
No Finger Found MN <= d < 0 # 0 <= d <= MX #	L -7.46 13070 9.84 10764	L. TI R -6.74 11703 6.64 12306	T -12.94 18953 4.41 5266	B -19.02 13174 34.18 9423	L -6.24 13252 6.23 11685	L. In 1 R -7.30 8533 6.92 16194	dex 2 -16.09 20054 5.92 4876	B -17.25 11636 16.41 13200	L -7.74 15378 5.72 9548	L. M 1 R -6.68 7484 7.61 17396	iddle 3 T -15.97 19142 5.52 5787	B -18.38 8999 18.89 15605	L -7.79 14868 6.10 10042	R -6.20 5185 8.54 19700	Ring 8 -15.79 18235 6.01 6704	B -18.70 11293 18.76 13349	L -7.47 13754 6.35 11095	L. Lir 31 7.19 6722 7.71 18077	ttle T -16.67 18141 5.62 6675	B -18.21 14167 17.32 10555
No Finger Found MN <= d < 0 # 0 <= d <= MX	L -7.46 13070 9.84 10764 -41.60	L. TH R -6.74 11703 6.64 12306 -43.49	T -12.94 18953 4.41 5266 -77.00	B -19.02 13174 34.18 9423 -76.29	L -6.24 13252 6.23 11685 -40.36	L. In 1 R -7.30 8533 6.92 16194 -39.04	dex 2 -16.09 20054 5.92 4876	B -17.25 11636 16.41 13200 -75.35	L -7.74 15378 5.72 9548 -39.24	L. M 1 R -6.68 7484 7.61 17396	iddle .3 T -15.97 19142 5.52 5787 -72.08	B -18.38 8999 18.89 15605 -76.34	L -7.79 14868 6.10 10042 -37.86	L. R -6.20 5185 8.54 19700 -37.73	Ring 8 T -15.79 18235 6.01 6704 -73.60	B -18.70 11293 18.76 13349 -78.38	L -7.47 13754 6.35 11095 -39.66	L. Li 30 R -7.19 6722 7.71 18077 -40.30	rttle -16.67 18141 5.62 6675 -74.01	B -18.21 14167 17.32 10555 -75.18
No Finger Found MN <= d < 0 # 0 <= d <= MX #	L -7.46 13070 9.84 10764	L. TI R -6.74 11703 6.64 12306	T -12.94 18953 4.41 5266	B -19.02 13174 34.18 9423	L -6.24 13252 6.23 11685	L. In 1 R -7.30 8533 6.92 16194	dex 2 -16.09 20054 5.92 4876	B -17.25 11636 16.41 13200	L -7.74 15378 5.72 9548	L. M 1 R -6.68 7484 7.61 17396	iddle 3 T -15.97 19142 5.52 5787	B -18.38 8999 18.89 15605	L -7.79 14868 6.10 10042	R -6.20 5185 8.54 19700	Ring 8 -15.79 18235 6.01 6704	B -18.70 11293 18.76 13349	L -7.47 13754 6.35 11095	L. Lir 31 7.19 6722 7.71 18077	ttle T -16.67 18141 5.62 6675	B -18.21 14167 17.32 10555
No Finger Found MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN #	L -7.46 13070 9.84 10764 -41.60 62	L. TH 3 R -6.74 11703 6.64 12306 -43.49 49	humb 31 -12.94 18953 4.41 5266 -77.00 74	B -19.02 13174 34.18 9423 -76.29 324	L -6.24 13252 6.23 11685 -40.36 14	L. In 1 R -7.30 8533 6.92 16194 -39.04 226	ndex 2 T -16.09 20054 5.92 4876 -73.75 20	B -17.25 11636 16.41 13200 -75.35 85	L -7.74 15378 5.72 9548 -39.24 17	L. M 1 R -6.68 7484 7.61 17396	iddle 3 T 15.97 19142 5.52 5787 -72.08 12	B -18.38 8999 18.89 15605 -76.34 246	L -7.79 14868 6.10 10042 -37.86 36	R -6.20 5185 8.54 19700 -37.73 60	Ring 8 T -15.79 18235 6.01 6704 -73.60 10	B -18.70 11293 18.76 13349 -78.38 207	L -7.47 133754 6.35 11095 -39.66 58	L. Lin 34 7.19 6722 7.71 18077 -40.30 119	rttle -16.67 18141 5.62 6675 -74.01 72	B -18.21 14167 17.32 10555 -75.18 87
No Finger Found MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN #	L -7.46 13070 9.84 10764 -41.60 62 76.77	L. TH 3 R -6.74 11703 6.64 12306 -43.49 49 76.67	humb 31 -12.94 18953 4.41 5266 -77.00 74 78.60	B -19.02 13174 34.18 9423 -76.29 324 144.15	L -6.24 13252 6.23 11685 -40.36 14 84.00	L. In 1 R -7.30 8533 6.92 16194 -39.04 226 #DIV/0!	dex 2 -16.09 20054 5.92 4876 -73.75 20 #DIV/0!	B -17.25 11636 16.41 13200 -75.35 85 143.50	L -7.74 15378 5.72 9548 -39.24 17 66.67	L. M 1 R -6.68 7484 7.61 17396 -36.69 65 74.00	iddle 3 T -15.97 19142 5.52 5787 -72.08 12 76.50	B -18.38 8999 18.89 15605 -76.34 246 144.12	L -7.79 14868 6.10 10042 -37.86 36 90.00	L. R -6.20 5185 8.54 19700 -37.73 60 76.50	Ring 8 T -15.79 18235 6.01 6704 -73.60 10 #DIV/0!	B -18.70 11293 18.76 13349 -78.38 207 142.19	L -7.47 13754 6.35 11095 -39.66 58 84.70	L. Li 34 R -7.19 6722 7.71 18077 -40.30 119 78.50	T -16.67 18141 5.62 6675 -74.01 72 #DIV/0!	B -18.21 14167 17.32 10555 -75.18 87 144.00
No Finger Found MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN #	L -7.46 13070 9.84 10764 -41.60 62 76.77	L. TH 3 R -6.74 11703 6.64 12306 -43.49 49 76.67	humb 31 -12.94 18953 4.41 5266 -77.00 74 78.60 5 -276.29	B -19.02 13174 34.18 9423 -76.29 324 144.15 505 -367.31	L -6.24 13252 6.23 11685 -40.36 14 84.00 3 -876.50	L. In 1 R -7.30 8533 6.92 16194 -39.04 226 #DIV/0! 0	dex T 20054 5.92 4876 -73.75 200 #DIV/01 0 -508.75	B -17.25 11636 16.41 13200 -75.35 85 14350 -297.53	L -7.74 15378 5.72 9548 -39.24 17 66.67	L. M 1 R -6.68 7484 7.61 17396 -36.69 65 74.00	iddle 3 T -15.97 19142 5.52 5787 -72.08 12 76.50	B -18.38 8999 18.89 15605 -76.34 246 144.12 26 -197.61	L -7.79 14868 6.10 10042 -37.86 36 90.00 1 -437.75	L. R -6.20 5185 8.54 19700 -37.73 60 76.50	Ring 8 7 -15.79 18235 6.01 6704 -73.60 10 #DIV/0! 0 -516.39	B -18.70 11293 18.76 13349 -78.38 207 142.19 32 -178.47	L -7.47 13754 6.35 11095 -39.66 58 84.70 20 -470.58	L. Li: 33 R -7.19 6722 7.71 18077 -40.30 119 78.50 4 -273.77	ttle T -16.67 18141 5.62 6675 -74.01 72 #DIV/0! 0 -356.31	B -18.21 14167 17.32 10555 -75.18 87 144.00 16 -626.18
No Finger Found MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 # d < MN-32 #	L -7.46 13070 9.84 10764 -41.60 62 76.77 142 -609.11 317	L. TH R -6.74 11703 6.64 12306 -43.49 49 76.67 3 76.67 3	humb 31 -12.94 18953 4.41 5266 -77.00 74 78.60 5 -77.02 61	B -19.02 13174 34.18 9423 -76.29 324 144.15 505 -367.31 232	L -6.24 13252 6.23 11685 -40.36 14 84.00 3 -876.50 2	L. In R 8533 6.92 16194 226 #DIV/0! 0 -697.81 8	dex 2 -16.09 20054 5.92 4876 -73.75 20 #DIV/0! 0 -508.75 8	B -17.25 11636 16.41 13200 -75.35 85 143.50 14 -297.53 18	L -7.74 15378 5.72 9548 -39.24 17 66.67 3 -521.83 6	L. M 1 R -6.68 7484 7.61 17396 -36.69 65 74.00 1 -874.41 11	iddle 3 T 19142 5.52 5787 -72.08 12 76.50 3 -367.00 14	8 -18.38 8999 18.89 15605 -76.34 246 144.12 26 -197.61 52	L -7.79 14868 6.10 10042 -37.86 36 90.00 1 -437.75 10	R -6.20 5185 8.54 19700 -37.73 60 76.50 2 -576.33 6	Ring 8 7 15.79 18235 6.01 6704 -73.60 10 #DIV/0! 0 \$ 516.39 9	B -18.70 11293 18.76 13349 -78.38 207 142.19 32 -178.47 60	L -7.47 13754 6.35 11095 -39.66 58 84.70 20 -470.58 6	L. Lit 34 7.19 6722 7.71 18077 -40.30 119 78.50 4 -273.77 33	ttle T -16.67 18141 5.62 6675 -74.01 72 #DIV/01 0 -356.31 48	B -18.21 14167 17.32 10555 -75.18 87 144.00 16 -626.18 42
No Finger Found MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 #	L -7.46 13070 9.84 10764 -41.60 62 76.77 142 -609.11 317 219.88	L. TI R -6.74 11703 6.64 12306 -43.49 49 76.67 3 -447.46 53 641.40	humb 31 -12.94 18953 4.41 5266 -77.00 74 78.60 5 -276.29 61 743.33	B -19.02 13174 34.18 9423 -76.29 324 144.15 505 -367.31 232 225.49	L -6.24 13252 6.23 11685 -40.36 14 84.00 3 -876.50 2 603.94	L. In 1 8 -7.30 8533 6.92 16194 -39.04 226 #DIV/0! 0 -697.81 8 836.67	dex T -16.09 20054 5.92 4876 -73.75 20 #DIV/0! 0 #DIV/0! 0 -508.75 8 462.75	8 -17.25 11636 16.41 13200 -75.35 85 143.50 14 -297.53 18 542.73	L -7.74 15378 5.72 9548 -39.24 17 66.67 3 -521.83 6 627.33	L. M 1 R -6.68 7484 7.61 17396 -36.69 65 74.00 1 -874.41 11 620.86	iddle 3 -15.97 19142 5.52 5787 -72.08 12 76.50 3 -367.00 14 248.50	B -18.38 8999 18.89 15605 -76.34 246 144.12 26 -197.61 52 345.22 345.22	L -7.79 14868 6.10 10042 -37.86 36 90.00 1 -437.75 10 376.43	L. R -6.20 5185 8.54 19700 -37.73 60 76.50 2 -576.33 6 545.14	Ring 8 T -15.79 18235 6.01 6704 -73.60 10 #DIV/0! 0 -516.39 9 462.83	B -18.70 11293 18.76 13349 -78.38 207 142.19 32 -178.47 60 411.20	L -7.47 13754 6.35 11095 -39.66 58 84.70 20 -470.58 6 183.26	L. Li 30 R -7.19 6722 7.71 18077 -40.30 119 78.50 4 -273.77 33 423.00	ttle T -16.67 18141 5.62 6675 -74.01 72 #DIV/0! 0 -356.31 48 669.02	B -18.21 14167 17.32 10555 -75.18 87 144.00 16 -626.18 42 314.73
No Finger Found MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 # d < MN-32 #	L -7.46 13070 9.84 10764 -41.60 62 76.77 142 -609.11 317	L. TH R -6.74 11703 6.64 12306 -43.49 49 76.67 3 76.67 3	humb 31 -12.94 18953 4.41 5266 -77.00 74 78.60 5 -77.02 61	B -19.02 13174 34.18 9423 -76.29 324 144.15 505 -367.31 232	L -6.24 13252 6.23 11685 -40.36 14 84.00 3 -876.50 2	L. In R 8533 6.92 16194 226 #DIV/0! 0 -697.81 8	dex 2 -16.09 20054 5.92 4876 -73.75 20 #DIV/0! 0 -508.75 8	B -17.25 11636 16.41 13200 -75.35 85 143.50 14 -297.53 18	L -7.74 15378 5.72 9548 -39.24 17 66.67 3 -521.83 6	L. M 1 R -6.68 7484 7.61 17396 -36.69 65 74.00 1 -874.41 11	iddle 3 T 19142 5.52 5787 -72.08 12 76.50 3 -367.00 14	8 -18.38 8999 18.89 15605 -76.34 246 144.12 26 -197.61 52	L -7.79 14868 6.10 10042 -37.86 36 90.00 1 -437.75 10	R -6.20 5185 8.54 19700 -37.73 60 76.50 2 -576.33 6	Ring 8 7 15.79 18235 6.01 6704 -73.60 10 #DIV/0! 0 \$ 516.39 9	B -18.70 11293 18.76 13349 -78.38 207 142.19 32 -178.47 60	L -7.47 13754 6.35 11095 -39.66 58 84.70 20 -470.58 6	L. Lit 34 7.19 6722 7.71 18077 -40.30 119 78.50 4 -273.77 33	ttle T -16.67 18141 5.62 6675 -74.01 72 #DIV/01 0 -356.31 48	8 -18.21 14167 17.32 10555 -75.18 87 144.00 16 -626.18 42
No Finger Found MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 # d < MN-32 # d > MX+32 #	L -7.46 13070 9.84 10764 -41.60 62 76.77 142 -609.11 317 219.88 67	L. TI R -6.74 11703 6.64 12306 -43.49 49 76.67 3 -447.46 53 641.40 308	humb 31 -12.94 18953 4.41 5266 -77.00 74 78.60 5 -276.29 61 743.33 63	B -19.02 13174 34.18 9423 -76.29 324 144.15 505 -367.31 232 225.49 764	L -6.24 13252 6.23 11685 -40.36 14 84.00 3 -876.50 2 603.94 8	L. In R 7,30 8533 6.92 16194 226 #DIV/01 0 -697.81 8 836.67 3	dex 2 T 20054 5.92 4876 7.3.75 20 #DIV/01 0 ↓ 508.75 8 462.75 6	B -17.25 11636 16.41 13200 -75.35 85 143.50 14 -297.53 18 542.73 11	L -7.74 15378 5.72 9548 -39.24 17 66.67 3 -521.83 6 627.33 12	L. M 7 8 -6.68 7484 7.61 17396 -36.69 65 74.00 1 -874.41 11 620.86 7	iddle 3 T 19142 5.52 5787 -72.08 12 76.50 3 -367.00 14 248.50 6	B -18.38 8999 18.89 15605 -76.34 246 144.12 26 -197.61 52 345.22 36	L -7.79 14868 6.10 10042 -37.86 36 90.00 1 -437.75 10 376.43 7	R -6.20 5185 8.54 19700 -37.73 60 76.50 2 -576.33 6 545.14 11	Ring 8 T -15.79 18235 6.01 6704 -73.60 10 #DIV/0! 0 -516.39 9 462.83 6	B -18.70 11293 18.76 13349 -78.38 207 142.19 32 -178.47 60 411.20 23	L -7.47 13754 6.35 11095 -39.66 58 84.70 20 -470.58 6 183.26 31	L Li R 7.19 6722 7.71 18077 -40.30 119 78.50 4 -273.77 33 423.00 9	ttle T -16.67 18141 5.62 6675 -74.01 72 #DIV/0! 0 -356.31 48 669.02 28	8 -18.21 14167 17.32 10555 -75.18 87 144.00 16 -626.18 42 314.73 97
No Finger Found MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 # d < MN-32 # d < MX+32 # Total #	L -7.46 13070 9.84 10764 -41.60 62 76.77 142 -609.11 317 219.88 67 24422	L. TI R -6.74 11703 6.64 12306 -43.49 49 76.67 3 -447.46 53 641.40 308 24422	humb 31 T -12.94 18953 4.41 5266 -77.00 74 78.60 5 -276.29 61 743.33 63 24422	B -19.02 13174 34.18 9423 -76.29 324 144.15 505 -367.31 232 225.49 764	L -6.24 13252 6.23 11685 -40.36 14 84.00 3 -876.50 2 603.94 8 24964	L. In 1 R 8533 6.92 16194 226 #DIV/0! 0 -697.81 8 836.67 3 24964	dex 2 T 20054 5.92 4876 -73.75 20 #DIV/01 0 -508.75 8 462.75 6 24964	B -17.25 11636 16.41 13200 -75.35 85 143.50 14 -297.53 18 542.73 11 24964	L -7.74 15378 5.72 9548 -39.24 17 66.67 3 -521.83 6 627.33 12 24964	L. M 1 R -6.68 7484 7.61 17396 -36.69 65 74.00 1 -874.41 11 620.86 7 24964	iddle 3 T 19142 5.52 5787 -12.08 12 76.50 3 -367.00 14 248.50 6 24964	8 -18.38 8999 18.89 15605 -76.34 246 144.12 26 -197.61 52 345.22 36 24964	L -7.79 14868 6.10 10042 -37.86 36 90.00 1 -437.75 10 376.43 7 24964	L. R -6.20 5185 8.54 19700 -37.73 60 76.50 2 -576.33 6 545.14 11 24964	Ring 8 7 -15.79 18235 6.01 6704 -73.60 10 #DIV/0! 0 #DIV/0! 0 -516.39 9 462.83 6 24964	B -18.70 11293 18.76 13349 -78.38 207 142.19 32 -178.47 60 411.20 23 24964	L -7.47 13754 6.35 11095 -39.66 58 84.70 20 -470.58 6 183.26 31 24964	L. Li, R -7.19 6722 7.71 18077 -40.30 119 78.50 4 -273.77 33 423.00 9 24964	ttle T -16.67 18141 5.62 6675 -74.01 72 #DIV/0! 0 -356.31 48 669.02 28 24964	B -18.21 14167 17.32 10555 -75.18 87 144.00 16 -626.18 42 314.73 97 24964
No Finger Found MN <= d < 0 # 0 <= d <= MX # MN-32 <= d < MN # MX < d <= MX+32 # d < MN-32 # d > MX+32 #	L -7.46 13070 9.84 10764 -41.60 62 76.77 142 -609.11 317 219.88 67	L. TI R -6.74 11703 6.64 12306 -43.49 49 76.67 3 -447.46 53 641.40 308	humb 31 -12.94 18953 4.41 5266 -77.00 74 78.60 5 -276.29 61 743.33 63	B -19.02 13174 34.18 9423 -76.29 324 144.15 505 -367.31 232 225.49 764	L -6.24 13252 6.23 11685 -40.36 14 84.00 3 -876.50 2 603.94 8	L. In R 7,30 8533 6.92 16194 226 #DIV/01 0 -697.81 8 836.67 3	dex 2 T 20054 5.92 4876 7.3.75 20 #DIV/01 0 ↓ 508.75 8 462.75 6	B -17.25 11636 16.41 13200 -75.35 85 143.50 14 -297.53 18 542.73 11	L -7.74 15378 5.72 9548 -39.24 17 66.67 3 -521.83 6 627.33 12	L. M 7 8 -6.68 7484 7.61 17396 -36.69 65 74.00 1 -874.41 11 620.86 7	iddle 3 T 19142 5.52 5787 -72.08 12 76.50 3 -367.00 14 248.50 6	B -18.38 8999 18.89 15605 -76.34 246 144.12 26 -197.61 52 345.22 36	L -7.79 14868 6.10 10042 -37.86 36 90.00 1 -437.75 10 376.43 7	R -6.20 5185 8.54 19700 -37.73 60 76.50 2 -576.33 6 545.14 11	Ring 8 T -15.79 18235 6.01 6704 -73.60 10 #DIV/0! 0 -516.39 9 462.83 6	B -18.70 11293 18.76 13349 -78.38 207 142.19 32 -178.47 60 411.20 23	L -7.47 13754 6.35 11095 -39.66 58 84.70 20 -470.58 6 183.26 31	L Li R 7.19 6722 7.71 18077 -40.30 119 78.50 4 -273.77 33 423.00 9	ttle T -16.67 18141 5.62 6675 -74.01 72 #DIV/0! 0 -356.31 48 669.02 28	8 -18.21 14167 17.32 10555 -75.18 87 144.00 16 -626.18 42 314.73 97

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.

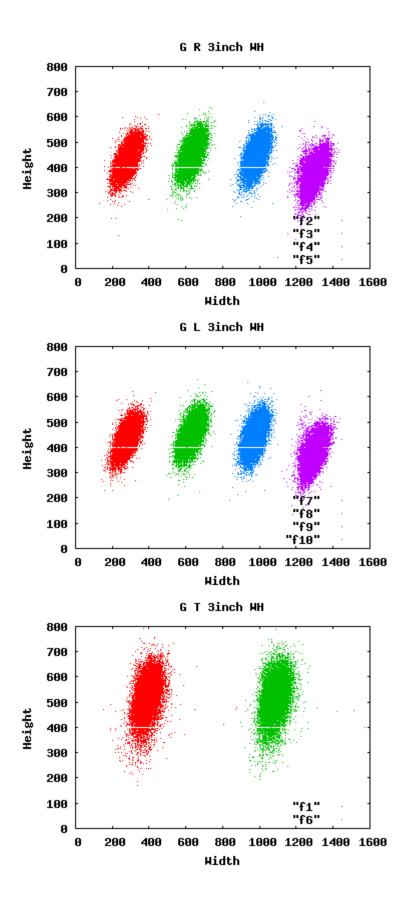






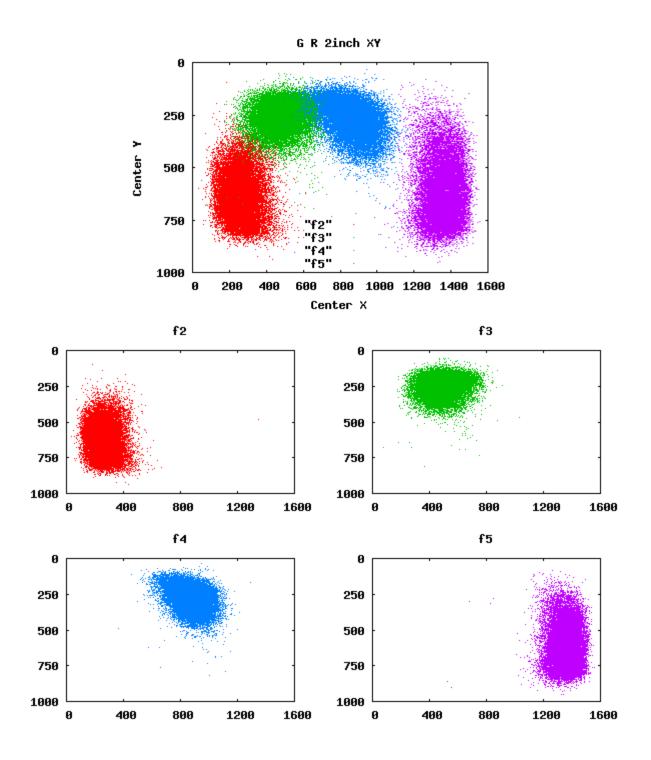
Appendix E. Plots of 3-inch segmentation box widths and heights.

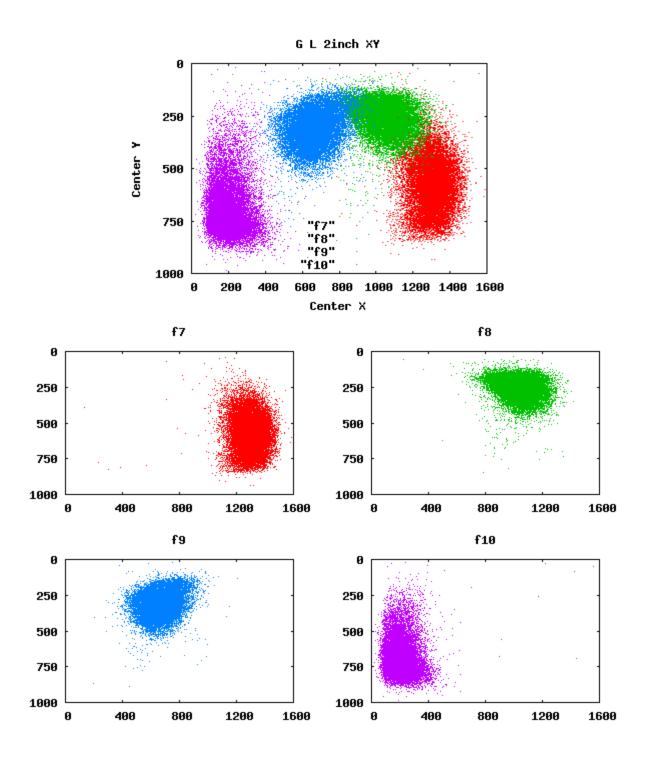
The plots in this appendix show the distribution of the segmentation box widths and heights for the 3-inch data. There is a combined plot for each slap image and then a smaller plot for each finger position. The individual finger plots are better for seeing the full "spread" of widths and heights detected. 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.

