C:\Users\yaels\anaconda3\envs\Gymmy\python.exe "C:\Users\yaels\יעל פרוייקט גמר\zedcheck\TrainingNew.py"

pygame 2.5.2 (SDL 2.28.3, Python 3.11.9)

Hello from the pygame community. https://www.pygame.org/contribute.html

screen start

CAMERA INITIALIZATION

ROBOT INITIALIZATION

CAMERA START

MP INITIALIZATION

Training: start exercises

ROBOT STARTMP START

CAMERA: Exercise hello\_waving start

CAMERA: Exercise hello\_waving done

TRAINING: Exercise switch\_with\_stick start

CAMERA: Exercise switch\_with\_stick start

ROBOT: Exercise switch\_with\_stick start

155.9 151.55

123.17 109.65

left shoulder L\_shoulder 3.115356 -119.68531 1979.558

right shoulder R\_shoulder -306.5054 -105.762 2106.1667

309.62076

first angle mean: 155.9

first angle stdev: 0.0

second angle mean: 123.17

second angle stdev: 0.0

113.44 70.17

112.95 117.47

left shoulder L\_shoulder -11.9806 -113.612656 2023.0806

right shoulder R\_shoulder -284.6309 -100.78042 2047.3113

272.6503

first angle mean: 134.67

first angle stdev: 21.229996

second angle mean: 118.06

second angle stdev: 5.1100006

160.25 65.43

116.25 115.78

left shoulder L\_shoulder -11.971525 -113.536064 2021.663

right shoulder R\_shoulder -284.68555 -100.80399 2047.7155

272.71402

first angle mean: 143.19667

first angle stdev: 21.115948

second angle mean: 117.456665

second angle stdev: 4.258649

158.3 68.61

116.72 118.59

left shoulder L\_shoulder -1.0564178 -118.875595 2000.9368

right shoulder R\_shoulder -302.85962 -103.23179 2085.4683

301.8032

first angle mean: 146.9725

first angle stdev: 19.421206

second angle mean: 117.2725

second angle stdev: 3.701867

154.94 70.66

116.74 118.5

left shoulder L\_shoulder 0.3521445 -116.67697 1987.9064

right shoulder R\_shoulder -301.79346 -99.73149 2070.423

302.1456

first angle mean: 148.56601

first angle stdev: 17.660791

second angle mean: 117.166

second angle stdev: 3.3178947

152.85 72.68

116.42 118.56

left shoulder L\_shoulder 1.193076 -116.56905 1992.7299

right shoulder R\_shoulder -302.51782 -98.46287 2067.6482

303.7109

first angle mean: 149.28001

first angle stdev: 16.200884

second angle mean: 117.041664

second angle stdev: 3.0415425

145.73 76.64

116.68 119.0

left shoulder L\_shoulder -1.3421631 -116.25348 2007.1211

right shoulder R\_shoulder -304.4729 -98.8561 2069.1204

303.13074

first angle mean: 148.77286

first angle stdev: 15.050457

second angle mean: 116.99

second angle stdev: 2.8187637

141.07 82.55

117.16 118.66

left shoulder L\_shoulder -4.9207063 -115.86694 2012.7488

right shoulder R\_shoulder -304.3981 -99.37971 2063.8225

299.4774

first angle mean: 147.81

first angle stdev: 14.307039

second angle mean: 117.011246

second angle stdev: 2.6373115

137.9 87.85

117.78 118.05

left shoulder L\_shoulder -6.904125 -116.82122 2019.6943

right shoulder R\_shoulder -303.034 -100.51756 2066.1013

296.12988

first angle mean: 146.7089

first angle stdev: 13.84368

second angle mean: 117.096664

second angle stdev: 2.4981906

135.83 100.08

117.79 117.49

left shoulder L\_shoulder -8.478269 -116.1977 2028.5507

right shoulder R\_shoulder -297.35675 -102.77066 2065.0398

288.87848

first angle mean: 145.621

first angle stdev: 13.53271

second angle mean: 117.166

second angle stdev: 2.3791018

133.78 106.23

117.39 117.63

left shoulder L\_shoulder -5.734279 -116.61489 2034.8363

right shoulder R\_shoulder -292.08798 -106.734764 2064.1848

286.3537

first angle mean: 144.54454

first angle stdev: 13.344408

second angle mean: 117.18637

second angle stdev: 2.2692983

126.95 121.42

117.12 118.61

left shoulder L\_shoulder -2.7607088 -114.176285 2043.1779

right shoulder R\_shoulder -287.0168 -109.45229 2067.1348

284.2561

first angle mean: 143.07832

first angle stdev: 13.670455

second angle mean: 117.18084

second angle stdev: 2.172765

123.48 129.76

116.86 120.08

left shoulder L\_shoulder -1.6555037 -111.34865 2043.6289

right shoulder R\_shoulder -284.91785 -110.66734 2062.8347

283.26233

first angle mean: 141.57077

first angle stdev: 14.1343155

second angle mean: 117.15616

second angle stdev: 2.0892751

124.96 133.4

116.41 118.93

left shoulder L\_shoulder -2.2455602 -110.14701 2042.6416

right shoulder R\_shoulder -285.20334 -110.41012 2056.5322

282.95776

first angle mean: 140.38428

first angle stdev: 14.27619

second angle mean: 117.10286

second angle stdev: 2.022426

128.45 134.22

116.57 117.72

left shoulder L\_shoulder -3.0925572 -108.89942 2041.6482

right shoulder R\_shoulder -285.905 -108.938644 2054.0205

282.81244

first angle mean: 139.58865

first angle stdev: 14.109728

second angle mean: 117.06734

second angle stdev: 1.9583648

131.89 137.56

116.07 116.15

left shoulder L\_shoulder -3.8905592 -103.935394 2036.7406

right shoulder R\_shoulder -286.111 -105.51801 2042.3162

282.22043

first angle mean: 139.10751

first angle stdev: 13.7882

second angle mean: 117.005005

second angle stdev: 1.9114851

132.71 139.68

116.78 114.12

left shoulder L\_shoulder -8.386568 -106.48648 2034.6029

right shoulder R\_shoulder -289.63684 -107.47793 2037.1902

281.25027

first angle mean: 138.73119

first angle stdev: 13.46095

second angle mean: 116.99177

second angle stdev: 1.8551685

131.78 138.79

117.16 114.11

left shoulder L\_shoulder -10.943517 -106.10913 2029.3922

right shoulder R\_shoulder -291.24133 -106.36152 2030.3958

280.29782

first angle mean: 138.34502

first angle stdev: 13.178237

second angle mean: 117.001114

second angle stdev: 1.8033115

132.65 140.44

117.7 112.94

left shoulder L\_shoulder -12.780786 -107.6974 2033.9663

right shoulder R\_shoulder -293.01797 -106.32047 2038.6648

280.23718

first angle mean: 138.04527

first angle stdev: 12.889638

second angle mean: 117.037895

second angle stdev: 1.7621386

133.3 138.45

117.61 113.99

left shoulder L\_shoulder -9.412571 -107.777916 2037.1094

right shoulder R\_shoulder -289.3647 -106.49766 2046.9913

279.95212

first angle mean: 137.80801

first angle stdev: 12.605762

second angle mean: 117.066505

second angle stdev: 1.7220403

133.12 136.6

117.37 115.09

left shoulder L\_shoulder -6.3149185 -107.31953 2040.734

right shoulder R\_shoulder -286.00906 -106.98359 2054.9944

279.69415

first angle mean: 137.58478

first angle stdev: 12.342407

second angle mean: 117.08096

second angle stdev: 1.6817816

132.58 137.3

116.88 115.42

left shoulder L\_shoulder -2.9245317 -106.59043 2044.2333

right shoulder R\_shoulder -282.31006 -108.24291 2058.5396

279.38553

first angle mean: 137.35728

first angle stdev: 12.103614

second angle mean: 117.07182

second angle stdev: 1.643648

132.65 139.08

116.56 114.18

left shoulder L\_shoulder -2.2502394 -107.93131 2044.8396

right shoulder R\_shoulder -281.5154 -110.33386 2057.5713

279.26517

first angle mean: 137.15262

first angle stdev: 11.876428

second angle mean: 117.04957

second angle stdev: 1.6109043

132.03 138.15

116.79 113.13

left shoulder L\_shoulder -3.3169687 -109.90407 2045.3651

right shoulder R\_shoulder -282.49933 -111.707634 2056.618

279.18237

first angle mean: 136.93916

first angle stdev: 11.671345

second angle mean: 117.03876

second angle stdev: 1.5778396

133.1 137.42

117.53 112.71

left shoulder L\_shoulder -3.5737605 -111.28375 2038.1562

right shoulder R\_shoulder -282.4292 -111.76135 2052.521

278.85544

first angle mean: 136.7856

first angle stdev: 11.460256

second angle mean: 117.05841

second angle stdev: 1.5489551

132.05 135.09

117.85 113.18

left shoulder L\_shoulder -2.5389788 -112.832596 2030.1752

right shoulder R\_shoulder -280.49582 -113.027435 2047.5533

277.95685

first angle mean: 136.60347

first angle stdev: 11.274546

second angle mean: 117.08886

second angle stdev: 1.5264851

137.33 140.93

116.47 113.82

left shoulder L\_shoulder -1.315206 -113.70793 2028.6985

right shoulder R\_shoulder -279.48965 -114.82692 2040.9451

278.17444

first angle mean: 136.63039

first angle stdev: 11.064639

second angle mean: 117.06593

second angle stdev: 1.5025023

147.23 147.9

112.77 109.39

left shoulder L\_shoulder -4.248262 -114.64983 2024.7893

right shoulder R\_shoulder -283.24728 -117.07158 2022.2583

278.99902

first angle mean: 137.00894

first angle stdev: 11.041881

second angle mean: 116.91251

second angle stdev: 1.6770377

146.07 146.46

115.27 111.1

left shoulder L\_shoulder -5.8175626 -114.65545 2038.1825

right shoulder R\_shoulder -284.74557 -116.663124 2036.7704

278.928

first angle mean: 137.3214

first angle stdev: 10.9750805

second angle mean: 116.85587

second angle stdev: 1.6749014

138.62 141.54

116.77 113.05

left shoulder L\_shoulder -6.438121 -113.79761 2046.0635

right shoulder R\_shoulder -284.10046 -115.38601 2050.4138

277.66235

first angle mean: 137.36469

first angle stdev: 10.79313

second angle mean: 116.85301

second angle stdev: 1.6468217

133.89 144.45

115.53 111.43

left shoulder L\_shoulder -6.951496 -113.84289 2046.4573

right shoulder R\_shoulder -284.2479 -115.620316 2053.422

277.2964

first angle mean: 137.2526

first angle stdev: 10.635355

second angle mean: 116.81033

second angle stdev: 1.6368196

134.71 147.31

114.03 110.59

left shoulder L\_shoulder -8.317739 -114.67 2044.96

right shoulder R\_shoulder -285.39017 -116.1952 2050.3408

277.07242

first angle mean: 137.17313

first angle stdev: 10.477202

second angle mean: 116.723434

second angle stdev: 1.6821041

138.2 146.18

113.55 110.35

left shoulder L\_shoulder -7.8709126 -115.5529 2044.4241

right shoulder R\_shoulder -284.70947 -116.033585 2051.8455

276.83856

first angle mean: 137.20425

first angle stdev: 10.318737

second angle mean: 116.62727

second angle stdev: 1.7434613

137.33 145.79

113.74 110.28

left shoulder L\_shoulder -8.696421 -115.60323 2044.0026

right shoulder R\_shoulder -285.4528 -115.599785 2051.4878

276.75638

first angle mean: 137.20795

first angle stdev: 10.165881

second angle mean: 116.54235

second angle stdev: 1.7855617

134.2 140.82

114.76 110.99

left shoulder L\_shoulder -11.376963 -117.5287 2045.6326

right shoulder R\_shoulder -285.3018 -116.012 2056.3203

273.92484

first angle mean: 137.12201

first angle stdev: 10.0321245

second angle mean: 116.491425

second angle stdev: 1.7847437

130.6 135.75

115.41 112.31

left shoulder L\_shoulder -12.019008 -119.88085 2045.49

right shoulder R\_shoulder -285.7402 -117.84364 2058.575

273.7212

first angle mean: 136.94086

first angle stdev: 9.949704

second angle mean: 116.46139

second angle stdev: 1.7687318

127.46 135.8

115.42 113.18

left shoulder L\_shoulder -12.286441 -120.40497 2043.9844

right shoulder R\_shoulder -286.02005 -118.12578 2057.3818

273.7336

first angle mean: 136.68462

first angle stdev: 9.934019

second angle mean: 116.433235

second angle stdev: 1.7528204

128.89 141.73

115.32 112.65

left shoulder L\_shoulder -10.821879 -118.832664 2040.8468

right shoulder R\_shoulder -284.53705 -116.77931 2053.9966

273.71518

first angle mean: 136.47949

first angle stdev: 9.881524

second angle mean: 116.40394

second angle stdev: 1.7387588

130.21 146.31

115.0 112.3

left shoulder L\_shoulder -9.246931 -117.49928 2038.2407

right shoulder R\_shoulder -282.55435 -115.76884 2052.207

273.30743

first angle mean: 136.31874

first angle stdev: 9.804225

second angle mean: 116.367935

second angle stdev: 1.7306087

129.35 143.29

115.28 113.24

left shoulder L\_shoulder -8.154228 -116.70447 2042.2354

right shoulder R\_shoulder -280.9932 -115.38604 2058.7988

272.83896

first angle mean: 136.1445

first angle stdev: 9.741841

second angle mean: 116.340744

second angle stdev: 1.7172601

129.41 142.15

115.02 111.84

left shoulder L\_shoulder -7.4143405 -116.40814 2042.5377

right shoulder R\_shoulder -279.90442 -115.57754 2061.3555

272.49008

first angle mean: 135.98026

first angle stdev: 9.678222

second angle mean: 116.30853

second angle stdev: 1.7083806

131.05 144.06

115.15 110.58

left shoulder L\_shoulder -7.359356 -115.5962 2045.1279

right shoulder R\_shoulder -279.7208 -115.2068 2065.5264

272.36145

first angle mean: 135.86287

first angle stdev: 9.591805

second angle mean: 116.280945

second angle stdev: 1.6971362

134.0 142.68

114.78 109.28

left shoulder L\_shoulder -5.5778475 -115.53209 2046.5262

right shoulder R\_shoulder -277.94547 -115.92952 2065.654

272.3676

first angle mean: 135.81953

first angle stdev: 9.483774

second angle mean: 116.24604

second angle stdev: 1.6924721

137.8 135.13

115.21 110.76

left shoulder L\_shoulder -4.392162 -116.90495 2047.0269

right shoulder R\_shoulder -276.67267 -117.408775 2066.5195

272.28052

first angle mean: 135.86455

first angle stdev: 9.38003

second angle mean: 116.22249

second angle stdev: 1.6802384

138.47 127.51

116.0 112.42

left shoulder L\_shoulder -3.3627744 -117.39338 2047.2584

right shoulder R\_shoulder -275.4356 -117.958305 2066.2673

272.07285

first angle mean: 135.92245

first angle stdev: 9.283169

second angle mean: 116.217545

second angle stdev: 1.6617879

135.78 129.96

116.59 112.32

left shoulder L\_shoulder -2.496943 -116.21064 2045.7587

right shoulder R\_shoulder -274.19296 -117.36313 2064.7844

271.696

first angle mean: 135.91934

first angle stdev: 9.181734

second angle mean: 116.22564

second angle stdev: 1.644523

137.65 137.64

116.56 110.2

left shoulder L\_shoulder -1.0620356 -110.64958 2043.8903

right shoulder R\_shoulder -272.85596 -113.9054 2058.303

271.7939

first angle mean: 135.95616

first angle stdev: 9.086964

second angle mean: 116.23276

second angle stdev: 1.6276492

143.28 126.64

118.56 109.26

left shoulder L\_shoulder 3.3564267 -105.459175 2045.1736

right shoulder R\_shoulder -268.41803 -110.16831 2058.228

271.77444

first angle mean: 136.10875

first angle stdev: 9.052448

second angle mean: 116.28125

second angle stdev: 1.6445462

148.76 111.12

121.27 105.17

left shoulder L\_shoulder 8.6243 -105.35363 2051.5322

right shoulder R\_shoulder -263.06903 -112.16938 2062.318

271.69333

first angle mean: 136.36693

first angle stdev: 9.136421

second angle mean: 116.383064

second angle stdev: 1.7739455

146.0 110.15

124.8 94.19

left shoulder L\_shoulder 13.770966 -109.85454 2072.0164

right shoulder R\_shoulder -257.9183 -117.505714 2072.8845

271.68927

first angle mean: 136.55959

first angle stdev: 9.144588

second angle mean: 116.5514

second angle stdev: 2.1148298

152.67 123.26

126.15 83.74

left shoulder L\_shoulder 9.789885 -113.644745 2058.2664

right shoulder R\_shoulder -263.15222 -122.03495 2040.9618

272.9421

first angle mean: 136.87547

first angle stdev: 9.325939

second angle mean: 116.7396

second angle stdev: 2.4811125

158.4 134.54

127.66 76.25

left shoulder L\_shoulder 16.214558 -129.06354 2069.0566

right shoulder R\_shoulder -266.0713 -138.00363 2021.9271

282.28586

first angle mean: 137.28941

first angle stdev: 9.697369

second angle mean: 116.949615

second angle stdev: 2.8786802

158.03 144.77

129.6 71.51

left shoulder L\_shoulder 17.506311 -134.0488 2069.8054

right shoulder R\_shoulder -262.4805 -140.71321 2000.6829

279.98682

first angle mean: 137.68074

first angle stdev: 10.011391

second angle mean: 117.1883

second angle stdev: 3.3306084

152.82 153.18

131.51 69.17

left shoulder L\_shoulder 18.730715 -134.19565 2053.882

right shoulder R\_shoulder -255.40373 -138.64001 1965.9038

274.13446

first angle mean: 137.96109

first angle stdev: 10.126087

second angle mean: 117.453514

second angle stdev: 3.8230274

151.52 165.14

132.26 66.24

left shoulder L\_shoulder 16.535894 -140.63913 2054.325

right shoulder R\_shoulder -241.76456 -140.85971 1927.2164

258.30045

first angle mean: 138.20761

first angle stdev: 10.195841

second angle mean: 117.72272

second angle stdev: 4.2735653

150.95 169.0

135.64 63.76

left shoulder L\_shoulder 8.336268 -145.56903 2024.2172

right shoulder R\_shoulder -217.82205 -139.01332 1880.281

226.15833

first angle mean: 138.43518

first angle stdev: 10.244338

second angle mean: 118.04268

second angle stdev: 4.8546386

118.31 169.07

128.86 60.83

left shoulder L\_shoulder -1.4390204 -148.08844 2005.3981

right shoulder R\_shoulder -203.89307 -134.69685 1862.2573

202.45404

first angle mean: 138.0821

first angle stdev: 10.492203

second angle mean: 118.23245

second angle stdev: 5.0170627

107.74 169.15

134.14 59.29

left shoulder L\_shoulder -7.868737 -147.10464 2018.4095

right shoulder R\_shoulder -195.89104 -128.38197 1863.0546

188.0223

first angle mean: 137.55898

first angle stdev: 11.125995

second angle mean: 118.50673

second angle stdev: 5.387452

107.76 168.17

130.71 57.03

left shoulder L\_shoulder -22.678572 -146.53577 2025.3534

right shoulder R\_shoulder -190.30345 -126.89312 1874.5072

167.62488

first angle mean: 137.0539

first angle stdev: 11.682681

second angle mean: 118.71356

second angle stdev: 5.5690207

108.42 165.91

129.33 55.34

left shoulder L\_shoulder -35.502487 -143.77498 2025.7788

right shoulder R\_shoulder -189.47055 -122.88221 1881.9558

153.96806

first angle mean: 136.57668

first angle stdev: 12.151031

second angle mean: 118.8905

second angle stdev: 5.6872015

116.18 164.34

131.49 52.53

left shoulder L\_shoulder -46.652554 -140.25587 2024.4098

right shoulder R\_shoulder -190.49884 -116.520805 1882.9236

143.84628

first angle mean: 136.2423

first angle stdev: 12.326206

second angle mean: 119.09705

second angle stdev: 5.862916

108.43 163.46

128.18 51.5

left shoulder L\_shoulder -51.09082 -138.26491 2018.9176

right shoulder R\_shoulder -191.2239 -112.733734 1880.0017

140.13309

first angle mean: 135.79372

first angle stdev: 12.718481

second angle mean: 119.24356

second angle stdev: 5.9269342

105.72 163.65

126.42 52.3

left shoulder L\_shoulder -52.74395 -138.24715 2015.5146

right shoulder R\_shoulder -190.8414 -112.754654 1879.3434

138.09744

first angle mean: 135.31635

first angle stdev: 13.165115

second angle mean: 119.35747

second angle stdev: 5.947727

110.64 164.55

127.35 53.68

left shoulder L\_shoulder -50.474148 -142.1627 2012.7723

right shoulder R\_shoulder -188.3018 -117.42472 1879.15

137.82765

first angle mean: 134.93079

first angle stdev: 13.415584

second angle mean: 119.482346

second angle stdev: 5.98375

107.77 164.86

129.08 56.31

left shoulder L\_shoulder -48.233917 -143.68568 2029.398

right shoulder R\_shoulder -187.65874 -119.97858 1889.9489

139.42482

first angle mean: 134.51292

first angle stdev: 13.725296

second angle mean: 119.630005

second angle stdev: 6.053905

104.63 165.17

126.97 56.19

left shoulder L\_shoulder -46.886234 -143.19193 2021.4384

right shoulder R\_shoulder -190.63814 -120.141624 1886.6945

143.7519

first angle mean: 134.06015

first angle stdev: 14.101581

second angle mean: 119.74122

second angle stdev: 6.0744047

127.18 164.83

112.3 57.67

left shoulder L\_shoulder -42.588432 -147.94095 2048.5317

right shoulder R\_shoulder -198.47011 -127.25277 1906.924

155.88168

first angle mean: 133.95746

first angle stdev: 14.02079

second angle mean: 119.63015

second angle stdev: 6.096046

153.75 164.18

107.25 57.63

left shoulder L\_shoulder -34.9655 -148.01363 2057.8167

right shoulder R\_shoulder -210.76189 -129.24815 1917.4191

175.79639

first angle mean: 134.24852

first angle stdev: 14.119769

second angle mean: 119.44809

second angle stdev: 6.23186

161.81 164.69

116.09 58.68

left shoulder L\_shoulder -34.739452 -144.50168 2058.5598

right shoulder R\_shoulder -226.58344 -127.6471 1921.3182

191.84398

first angle mean: 134.64795

first angle stdev: 14.398894

second angle mean: 119.39943

second angle stdev: 6.19954

164.66 163.9

122.11 57.18

left shoulder L\_shoulder -24.375772 -140.705 2038.8617

right shoulder R\_shoulder -244.24457 -127.66086 1926.1393

219.86879

first angle mean: 135.0767

first angle stdev: 14.732615

second angle mean: 119.438156

second angle stdev: 6.163497

158.36 161.27

133.05 61.54

left shoulder L\_shoulder -19.310654 -138.38 2050.871

right shoulder R\_shoulder -258.85843 -126.64421 1946.0826

239.54778

first angle mean: 135.40465

first angle stdev: 14.883573

second angle mean: 119.62987

second angle stdev: 6.32665

156.53 152.06

137.21 62.47

left shoulder L\_shoulder -15.9871 -137.50456 2056.1697

right shoulder R\_shoulder -279.77393 -126.862076 1968.9775

263.78683

first angle mean: 135.69806

first angle stdev: 14.985203

second angle mean: 119.87402

second angle stdev: 6.610861

157.55 149.85

137.87 65.33

left shoulder L\_shoulder -11.8326235 -143.87029 2052.5654

right shoulder R\_shoulder -295.91965 -134.03133 2001.5466

284.08704

first angle mean: 135.9974

first angle stdev: 15.097409

second angle mean: 120.120544

second angle stdev: 6.890602

153.99 139.55

136.83 71.66

left shoulder L\_shoulder -10.641873 -144.95967 2024.7585

right shoulder R\_shoulder -302.13693 -135.68343 2009.9165

291.49506

first angle mean: 136.24055

first angle stdev: 15.138272

second angle mean: 120.34635

second angle stdev: 7.1106143

148.04 135.82

134.44 80.55

left shoulder L\_shoulder -11.266514 -138.92076 2032.6783

right shoulder R\_shoulder -303.88412 -130.72887 2025.8229

292.6176

first angle mean: 136.39787

first angle stdev: 15.097793

second angle mean: 120.53427

second angle stdev: 7.245674

147.08 130.72

131.48 87.25

left shoulder L\_shoulder -7.5661683 -137.01183 2047.9884

right shoulder R\_shoulder -300.15482 -131.83395 2048.3523

292.58865

first angle mean: 136.53844

first angle stdev: 15.047449

second angle mean: 120.6783

second angle stdev: 7.3051147

147.25 129.26

125.68 91.4

left shoulder L\_shoulder -3.5042768 -138.61487 2055.9868

right shoulder R\_shoulder -295.79202 -137.27084 2054.8782

292.28775

first angle mean: 136.67755

first angle stdev: 14.99853

second angle mean: 120.743256

second angle stdev: 7.279583

150.86 121.08

122.63 92.55

left shoulder L\_shoulder 0.8035009 -132.75374 2043.346

right shoulder R\_shoulder -290.5497 -133.00252 2057.9597

291.3532

first angle mean: 136.85938

first angle stdev: 14.987245

second angle mean: 120.76744

second angle stdev: 7.2358823

151.67 124.54

123.19 97.03

left shoulder L\_shoulder 1.0410107 -126.41445 2037.8483

right shoulder R\_shoulder -288.73245 -128.35164 2049.6755

289.77347

first angle mean: 137.04684

first angle stdev: 14.98385

second angle mean: 120.79811

second angle stdev: 7.1950383

149.27 110.24

127.82 101.36

left shoulder L\_shoulder -0.26081538 -123.29101 2041.5275

right shoulder R\_shoulder -288.87326 -125.207794 2060.0354

288.61246

first angle mean: 137.19963

first angle stdev: 14.951708

second angle mean: 120.88588

second angle stdev: 7.192365

146.68 52.29

128.81 105.73

left shoulder L\_shoulder -3.594279 -122.750435 2036.3107

right shoulder R\_shoulder -291.335 -122.7469 2061.9019

287.74072

first angle mean: 137.31667

first angle stdev: 14.895957

second angle mean: 120.9837

second angle stdev: 7.201188

145.32 44.14

127.51 106.18

left shoulder L\_shoulder -6.7123766 -127.15213 2025.7616

right shoulder R\_shoulder -293.99268 -124.58336 2052.8762

287.2803

first angle mean: 137.41428

first angle stdev: 14.830887

second angle mean: 121.063286

second angle stdev: 7.1928983

143.26 56.43

126.77 107.31

left shoulder L\_shoulder -5.323947 -128.23337 2019.6304

right shoulder R\_shoulder -290.96167 -124.90594 2049.3398

285.63773

first angle mean: 137.48471

first angle stdev: 14.755062

second angle mean: 121.132034

second angle stdev: 7.1764956

139.92 78.53

126.09 108.03

left shoulder L\_shoulder -2.4462495 -129.9547 2017.777

right shoulder R\_shoulder -285.2295 -126.33064 2054.661

282.78323

first angle mean: 137.5137

first angle stdev: 14.66935

second angle mean: 121.191055

second angle stdev: 7.1538877

137.91 93.25

125.18 108.91

left shoulder L\_shoulder -4.6677885 -134.11446 2017.5402

right shoulder R\_shoulder -286.80206 -128.84547 2057.624

282.13428

first angle mean: 137.51836

first angle stdev: 14.582867

second angle mean: 121.23798

second angle stdev: 7.124676

134.15 114.65

122.53 110.77

left shoulder L\_shoulder -11.434973 -136.07547 2020.5751

right shoulder R\_shoulder -291.40198 -129.32207 2059.4773

279.967

first angle mean: 137.4792

first angle stdev: 14.502332

second angle mean: 121.253006

second angle stdev: 7.084486

144.23 136.26

118.46 112.71

left shoulder L\_shoulder -18.36945 -134.63889 2029.5133

right shoulder R\_shoulder -297.44156 -125.06596 2068.0708

279.0721

first angle mean: 137.5568

first angle stdev: 14.436688

second angle mean: 121.2209

second angle stdev: 7.0499425

155.27 142.22

115.06 116.94

left shoulder L\_shoulder -25.867496 -132.20033 2038.2593

right shoulder R\_shoulder -303.36414 -117.92022 2083.7083

277.49664

first angle mean: 137.75807

first angle stdev: 14.476689

second angle mean: 121.15091

second angle stdev: 7.040122

156.83 143.14

111.7 119.07

left shoulder L\_shoulder -34.61136 -132.61415 2035.362

right shoulder R\_shoulder -311.01816 -113.905876 2085.0198

276.4068

first angle mean: 137.97237

first angle stdev: 14.534812

second angle mean: 121.04472

second angle stdev: 7.070979

154.44 144.33

107.5 120.85

left shoulder L\_shoulder -45.498154 -133.7746 2032.8699

right shoulder R\_shoulder -320.8131 -111.454544 2086.3718

275.31494

first angle mean: 138.15535

first angle stdev: 14.556548

second angle mean: 120.894226

second angle stdev: 7.1734924

135.48 150.37

102.33 122.05

left shoulder L\_shoulder -53.69249 -137.25551 2008.3864

right shoulder R\_shoulder -325.92978 -113.11524 2077.9216

272.2373

first angle mean: 138.12596

first angle stdev: 14.479034

second angle mean: 120.69022

second angle stdev: 7.391823

123.78 156.33

96.38 122.37

left shoulder L\_shoulder -53.141335 -136.25604 1973.676

right shoulder R\_shoulder -326.3125 -115.420746 2057.8555

273.17117

first angle mean: 137.97002

first angle stdev: 14.476754

second angle mean: 120.42598

second angle stdev: 7.771685

130.83 161.41

91.47 120.58

left shoulder L\_shoulder -56.689785 -133.94203 1947.175

right shoulder R\_shoulder -333.01526 -117.19753 2041.3263

276.32547

first angle mean: 137.89325

first angle stdev: 14.417528

second angle mean: 120.114624

second angle stdev: 8.286633

146.38 163.79

83.45 121.38

left shoulder L\_shoulder -59.354874 -137.9857 1923.3677

right shoulder R\_shoulder -337.97366 -129.2916 2021.8525

278.61877

first angle mean: 137.98354

first angle stdev: 14.367042

second angle mean: 119.72458

second angle stdev: 9.060167

153.42 165.14

78.57 122.34

left shoulder L\_shoulder -61.150414 -145.27203 1901.055

right shoulder R\_shoulder -339.65366 -143.01144 1998.5834

278.50323

first angle mean: 138.14603

first angle stdev: 14.377795

second angle mean: 119.291374

second angle stdev: 9.943003

156.45 164.75

76.35 123.71

left shoulder L\_shoulder -70.97648 -149.34314 1913.2372

right shoulder R\_shoulder -345.0482 -147.89789 2022.8059

274.07172

first angle mean: 138.33667

first angle stdev: 14.422942

second angle mean: 118.84406

second angle stdev: 10.809317

156.9 165.51

70.96 125.23

left shoulder L\_shoulder -81.768234 -145.05464 1909.0405

right shoulder R\_shoulder -346.7843 -147.49268 2039.1045

265.01605

first angle mean: 138.52805

first angle stdev: 14.470406

second angle mean: 118.35042

second angle stdev: 11.791142

157.67 161.68

70.02 127.49

left shoulder L\_shoulder -95.13179 -139.97273 1893.7607

right shoulder R\_shoulder -344.39062 -147.99025 2056.8337

249.25883

first angle mean: 138.72337

first angle stdev: 14.524349

second angle mean: 117.85724

second angle stdev: 12.69662

158.29 144.2

68.05 114.82

left shoulder L\_shoulder -108.48436 -134.00026 1886.5127

right shoulder R\_shoulder -333.3631 -151.45444 2088.2031

224.87874

first angle mean: 138.92102

first angle stdev: 14.582662

second angle mean: 117.35413

second angle stdev: 13.578693

156.48 145.17

67.68 95.55

left shoulder L\_shoulder -121.31276 -129.53001 1873.4211

right shoulder R\_shoulder -323.5153 -155.4183 2110.863

202.20253

first angle mean: 139.09662

first angle stdev: 14.614369

second angle mean: 116.85739

second angle stdev: 14.386297

158.24 141.46

62.48 95.92

left shoulder L\_shoulder -135.54054 -128.55853 1867.2614

right shoulder R\_shoulder -314.89337 -161.41368 2141.7917

179.35283

first angle mean: 139.28615

first angle stdev: 14.6648445

second angle mean: 116.31901

second angle stdev: 15.29388

counter:1

160.03 145.67

65.62 107.21

left shoulder L\_shoulder -140.0393 -123.674995 1869.8014

right shoulder R\_shoulder -310.20236 -144.43762 2177.7117

170.16306

first angle mean: 139.48953

first angle stdev: 14.735216

second angle mean: 115.82196

second angle stdev: 16.017567

157.02 149.24

57.12 105.6

left shoulder L\_shoulder -124.04847 -130.55779 1894.2115

right shoulder R\_shoulder -324.2174 -136.89865 2178.5024

200.16895

first angle mean: 139.65971

first angle stdev: 14.763918

second angle mean: 115.25204

second angle stdev: 16.947042

155.64 143.63

56.38 105.66

left shoulder L\_shoulder -116.97353 -134.88354 1914.371

right shoulder R\_shoulder -328.38474 -135.12984 2190.9019

211.4112

first angle mean: 139.81337

first angle stdev: 14.775291

second angle mean: 114.68596

second angle stdev: 17.817024

155.32 142.25

58.46 112.84

left shoulder L\_shoulder -102.743126 -132.6674 1890.315

right shoulder R\_shoulder -328.47595 -139.79381 2151.2996

225.73282

first angle mean: 139.96106

first angle stdev: 14.78169

second angle mean: 114.150475

second angle stdev: 18.553827

156.59 141.05

61.76 109.35

left shoulder L\_shoulder -88.96079 -133.48988 1881.9028

right shoulder R\_shoulder -325.3546 -144.74985 2133.1343

236.39383

first angle mean: 140.11794

first angle stdev: 14.799362

second angle mean: 113.65622

second angle stdev: 19.14802

158.21 137.38

60.6 121.48

left shoulder L\_shoulder -78.678734 -131.58215 1880.3717

right shoulder R\_shoulder -324.92865 -146.0842 2110.467

246.24991

first angle mean: 140.28702

first angle stdev: 14.832556

second angle mean: 113.16037

second angle stdev: 19.730236

162.31 145.47

56.46 127.96

left shoulder L\_shoulder -67.353806 -127.45419 1876.8541

right shoulder R\_shoulder -322.82852 -141.6456 2073.288

255.47472

first angle mean: 140.49094

first angle stdev: 14.913648

second angle mean: 112.63536

second angle stdev: 20.375721

157.73 155.91

65.02 130.24

left shoulder L\_shoulder -49.899418 -130.60896 1896.4492

right shoulder R\_shoulder -325.65277 -138.73747 2063.0098

275.75336

first angle mean: 140.6491

first angle stdev: 14.935791

second angle mean: 112.19852

second angle stdev: 20.7839

144.54 160.07

64.57 133.38

left shoulder L\_shoulder -34.64769 -134.90509 1932.3917

right shoulder R\_shoulder -328.36572 -141.41103 2071.4077

293.71802

first angle mean: 140.68446

first angle stdev: 14.872333

second angle mean: 111.76553

second angle stdev: 21.177313

139.74 156.44

70.15 133.01

left shoulder L\_shoulder -22.201508 -134.72382 1941.8368

right shoulder R\_shoulder -323.3256 -145.10791 2066.4773

301.12408

first angle mean: 140.67596

first angle stdev: 14.805456

second angle mean: 111.390625

second angle stdev: 21.445278

143.4 161.32

79.22 132.15

left shoulder L\_shoulder -11.538835 -139.79709 1964.186

right shoulder R\_shoulder -324.9016 -147.30457 2055.28

313.36276

first angle mean: 140.70027

first angle stdev: 14.741439

second angle mean: 111.10339

second angle stdev: 21.562742

132.53 160.53

86.31 133.78

left shoulder L\_shoulder -12.470037 -153.60568 1977.0472

right shoulder R\_shoulder -328.70926 -154.89157 2036.7484

316.23923

first angle mean: 140.62798

first angle stdev: 14.696002

second angle mean: 110.88398

second angle stdev: 21.592335

120.96 158.04

93.62 133.92

left shoulder L\_shoulder -12.175024 -152.28589 1988.9702

right shoulder R\_shoulder -327.97168 -146.3652 2034.3823

315.79666

first angle mean: 140.45544

first angle stdev: 14.745895

second angle mean: 110.732544

second angle stdev: 21.557615

109.83 154.2

102.09 133.29

left shoulder L\_shoulder -18.90722 -150.54985 2002.8046

right shoulder R\_shoulder -328.47153 -137.55363 2044.1494

309.5643

first angle mean: 140.18913

first angle stdev: 14.954449

second angle mean: 110.65739

second angle stdev: 21.478674

121.71 150.33

111.02 127.99

left shoulder L\_shoulder -25.559412 -146.91756 2001.1592

right shoulder R\_shoulder -331.55435 -125.70131 2042.2294

305.99493

first angle mean: 140.02983

first angle stdev: 14.987529

second angle mean: 110.66051

second angle stdev: 21.385921

135.83 143.41

117.87 124.08

left shoulder L\_shoulder -28.209818 -141.14226 2004.652

right shoulder R\_shoulder -330.8896 -116.31191 2045.5127

302.67978

first angle mean: 139.99394

first angle stdev: 14.9283495

second angle mean: 110.72213

second angle stdev: 21.304672

141.02 133.07

122.0 120.46

left shoulder L\_shoulder -27.92786 -133.72287 2010.0303

right shoulder R\_shoulder -324.14316 -109.0201 2046.3715

296.2153

first angle mean: 140.00262

first angle stdev: 14.865255

second angle mean: 110.8177

second angle stdev: 21.239378

139.47 127.13

124.74 116.74

left shoulder L\_shoulder -21.826998 -126.57422 2016.7974

right shoulder R\_shoulder -314.25613 -104.8632 2044.263

292.42914

first angle mean: 139.99817

first angle stdev: 14.802746

second angle mean: 110.9347

second angle stdev: 21.188097

138.91 133.88

124.74 114.74

left shoulder L\_shoulder -21.073284 -127.95773 2019.8662

right shoulder R\_shoulder -309.97455 -108.05817 2039.9868

288.90128

first angle mean: 139.98909

first angle stdev: 14.74127

second angle mean: 111.04975

second angle stdev: 21.136919

142.41 141.39

125.07 109.73

left shoulder L\_shoulder -25.41834 -129.85312 2021.9812

right shoulder R\_shoulder -312.9467 -111.50909 2028.2218

287.52835

first angle mean: 140.00911

first angle stdev: 14.681865

second angle mean: 111.16562

second angle stdev: 21.08763

146.03 142.48

122.01 104.88

left shoulder L\_shoulder -30.224186 -131.31302 2023.2606

right shoulder R\_shoulder -317.677 -115.38468 2015.3813

287.45282

first angle mean: 140.05846

first angle stdev: 14.631644

second angle mean: 111.25451

second angle stdev: 21.023777

151.87 144.52

116.24 102.02

left shoulder L\_shoulder -33.801586 -131.4207 2023.3617

right shoulder R\_shoulder -320.0203 -117.306145 1999.3253

286.21872

first angle mean: 140.15446

first angle stdev: 14.610597

second angle mean: 111.295044

second angle stdev: 20.942926

153.92 125.35

123.81 99.79

left shoulder L\_shoulder -34.71004 -131.00012 2035.5232

right shoulder R\_shoulder -318.42307 -118.54206 2010.458

283.713

first angle mean: 140.26549

first angle stdev: 14.603555

second angle mean: 111.395966

second angle stdev: 20.888319

152.69 114.66

128.04 100.53

left shoulder L\_shoulder -31.561047 -130.2966 2043.9666

right shoulder R\_shoulder -313.61456 -119.22736 2022.7797

282.05353

first angle mean: 140.36487

first angle stdev: 14.587074

second angle mean: 111.52911

second angle stdev: 20.857368

150.43 117.15

128.8 99.93

left shoulder L\_shoulder -29.234632 -128.34903 2050.3657

right shoulder R\_shoulder -309.43555 -119.64396 2028.1145

280.20093

first angle mean: 140.44475

first angle stdev: 14.556499

second angle mean: 111.66618

second angle stdev: 20.830883

149.59 123.04

128.62 98.24

left shoulder L\_shoulder -26.887102 -127.968025 2051.3872

right shoulder R\_shoulder -306.17978 -121.98757 2027.482

279.29266

first angle mean: 140.51677

first angle stdev: 14.52159

second angle mean: 111.79968

second angle stdev: 20.802748

150.77 127.23

126.75 96.21

left shoulder L\_shoulder -21.919859 -126.50433 2045.9142

right shoulder R\_shoulder -299.3899 -124.50653 2010.1731

277.47003

first angle mean: 140.59688

first angle stdev: 14.492895

second angle mean: 111.91648

second angle stdev: 20.763094

149.56 121.56

128.95 92.29

left shoulder L\_shoulder -13.168245 -129.94173 2058.0908

right shoulder R\_shoulder -289.6951 -133.77437 2018.0437

276.52686

first angle mean: 140.66637

first angle stdev: 14.457998

second angle mean: 112.04852

second angle stdev: 20.736341

150.48 128.28

130.18 88.71

left shoulder L\_shoulder -8.825063 -135.35495 2061.649

right shoulder R\_shoulder -282.94247 -144.65729 2009.4624

274.1174

first angle mean: 140.74185

first angle stdev: 14.427781

second angle mean: 112.188

second angle stdev: 20.717085

153.89 134.02

130.87 84.13

left shoulder L\_shoulder -5.1961985 -137.65634 2073.764

right shoulder R\_shoulder -277.16772 -150.70432 2009.6418

271.97153

first angle mean: 140.84221

first angle stdev: 14.418094

second angle mean: 112.33061

second angle stdev: 20.701817

154.07 148.44

131.82 82.27

left shoulder L\_shoulder -1.8437357 -139.1433 2079.0918

right shoulder R\_shoulder -274.22183 -152.61746 2002.4569

272.37808

first angle mean: 140.94243

first angle stdev: 14.409098

second angle mean: 112.478264

second angle stdev: 20.692371

158.45robot count: 1

162.99

131.83 75.8

left shoulder L\_shoulder 7.6348176 -136.76924 2069.6526

right shoulder R\_shoulder -261.2266 -151.09303 1980.5546

268.86142

first angle mean: 141.07407

first angle stdev: 14.434277

second angle mean: 112.623764

second angle stdev: 20.682104

160.2 164.92

131.86 63.55

left shoulder L\_shoulder 17.667645 -132.65779 2047.5249

right shoulder R\_shoulder -248.02077 -145.63719 1952.37

265.68842

first angle mean: 141.2168

first angle stdev: 14.474217

second angle mean: 112.76732

second angle stdev: 20.67119

161.64 161.62

132.64 61.49

left shoulder L\_shoulder 31.154623 -130.12164 2043.3375

right shoulder R\_shoulder -234.3579 -145.84996 1948.2659

265.5125

first angle mean: 141.36809

first angle stdev: 14.526456

second angle mean: 112.91453

second angle stdev: 20.664864

159.9 159.67

134.02 52.6

left shoulder L\_shoulder 38.22634 -132.06844 2032.5558

right shoulder R\_shoulder -228.7792 -149.0721 1942.6711

267.00555

first angle mean: 141.50433

first angle stdev: 14.559292

second angle mean: 113.06971

second angle stdev: 20.667555

150.06 159.4

133.75 51.17

left shoulder L\_shoulder 42.519405 -133.12334 2024.5171

right shoulder R\_shoulder -209.27736 -151.29558 1937.9667

251.79677

first angle mean: 141.56677

first angle stdev: 14.524328

second angle mean: 113.22066

second angle stdev: 20.667097

120.76 159.15

129.09 52.37

left shoulder L\_shoulder 41.36059 -135.10219 2034.1766

right shoulder R\_shoulder -181.51468 -154.02321 1943.6018

222.87527

first angle mean: 141.41602

first angle stdev: 14.5788145

second angle mean: 113.335655

second angle stdev: 20.636024

114.44 160.53

139.66 56.2

left shoulder L\_shoulder 28.627085 -138.21011 2038.1184

right shoulder R\_shoulder -160.08437 -151.62256 1932.129

188.71146

first angle mean: 141.22194

first angle stdev: 14.704094

second angle mean: 113.52504

second angle stdev: 20.681667

96.31 161.73

128.55 54.84

left shoulder L\_shoulder 16.19234 -140.93773 2049.0896

right shoulder R\_shoulder -146.94713 -148.60555 1930.3064

163.13947

first angle mean: 140.90114

first angle stdev: 15.131783

second angle mean: 113.63236

second angle stdev: 20.646479

90.76 161.83

123.05 53.74

left shoulder L\_shoulder 11.40225 -142.02467 2058.4377

right shoulder R\_shoulder -139.4686 -145.31859 1927.5236

150.87085

first angle mean: 140.54552

first angle stdev: 15.654112

second angle mean: 113.69915

second angle stdev: 20.588306

91.03 161.5

122.68 52.32

left shoulder L\_shoulder 9.98484 -143.88339 2060.4885

right shoulder R\_shoulder -133.98816 -145.6433 1924.7867

143.97299

first angle mean: 140.19682

first angle stdev: 16.139084

second angle mean: 113.76239

second angle stdev: 20.529427

91.91 161.08

123.26 51.01

left shoulder L\_shoulder 9.773768 -145.29675 2062.0146

right shoulder R\_shoulder -129.96092 -146.07031 1924.6792

139.7347

first angle mean: 139.85916

first angle stdev: 16.578285

second angle mean: 113.82881

second angle stdev: 20.472824

93.47 160.35

124.27 49.88

left shoulder L\_shoulder 5.218022 -145.03204 2060.1958

right shoulder R\_shoulder -131.3959 -144.8361 1924.3694

136.61392

first angle mean: 139.53703

first angle stdev: 16.963823

second angle mean: 113.90131

second angle stdev: 20.42003

95.92 161.35

125.73 49.08

left shoulder L\_shoulder -4.6641016 -143.84824 2062.0166

right shoulder R\_shoulder -138.45674 -142.83105 1928.0892

133.79263

first angle mean: 139.2362

first angle stdev: 17.28631

second angle mean: 113.982895

second angle stdev: 20.373028

96.55 162.75

126.23 49.08

left shoulder L\_shoulder -15.777305 -144.10088 2069.12

right shoulder R\_shoulder -149.88867 -142.76204 1936.496

134.11137

first angle mean: 138.94385

first angle stdev: 17.583076

second angle mean: 114.06678

second angle stdev: 20.328249

98.27 163.17

127.4 48.33

left shoulder L\_shoulder -27.109928 -142.88295 2073.8691

right shoulder R\_shoulder -162.42236 -140.2548 1942.729

135.31244

first angle mean: 138.66714

first angle stdev: 17.839254

second angle mean: 114.15747

second angle stdev: 20.288607

99.27 163.06

127.91 48.16

left shoulder L\_shoulder -35.227486 -138.19011 2065.413

right shoulder R\_shoulder -172.95041 -134.47443 1937.1995

137.72293

first angle mean: 138.40094

first angle stdev: 18.069456

second angle mean: 114.2504

second angle stdev: 20.251314

103.71 162.81

128.64 47.21

left shoulder L\_shoulder -35.7124 -135.35258 2069.9734

right shoulder R\_shoulder -183.32814 -134.49883 1953.365

147.61574

first angle mean: 138.16812

first angle stdev: 18.230103

second angle mean: 114.34698

second angle stdev: 20.217407

106.26 165.55

130.69 47.46

left shoulder L\_shoulder -25.590933 -134.64285 2070.979

right shoulder R\_shoulder -196.66867 -135.51756 1957.9929

171.07774

first angle mean: 137.95538

first angle stdev: 18.353838

second angle mean: 114.45594

second angle stdev: 20.193745

121.88 166.93

135.47 47.32

left shoulder L\_shoulder -14.240897 -133.85599 2068.1733

right shoulder R\_shoulder -207.68973 -136.37917 1962.2622

193.44884

first angle mean: 137.84894

first angle stdev: 18.33937

second angle mean: 114.59509

second angle stdev: 20.198807

141.42 167.68

137.43 44.7

left shoulder L\_shoulder -3.9714956 -128.5259 2041.9626

right shoulder R\_shoulder -227.09828 -133.74872 1970.6583

223.12679

first angle mean: 137.87244

first angle stdev: 18.281223

second angle mean: 114.74532

second angle stdev: 20.216715

154.1 166.36

138.91 47.58

left shoulder L\_shoulder -5.3046646 -125.09579 2030.2689

right shoulder R\_shoulder -235.76407 -130.34218 1974.7025

230.45941

first angle mean: 137.9785

first angle stdev: 18.268242

second angle mean: 114.90326

second angle stdev: 20.244404

159.11 165.96

129.84 52.33

left shoulder L\_shoulder -11.151322 -124.6449 2029.4712

right shoulder R\_shoulder -246.70454 -127.29478 1973.1146

235.55322

first angle mean: 138.11572

first angle stdev: 18.287766

second angle mean: 115.00025

second angle stdev: 20.214201

160.42 154.14

134.67 69.83

left shoulder L\_shoulder -11.996477 -123.58818 2036.509

right shoulder R\_shoulder -257.5112 -125.24142 1981.7296

245.51472

first angle mean: 138.25963

first angle stdev: 18.315937

second angle mean: 115.12715

second angle stdev: 20.210337

159.99 151.8

138.61 75.43

left shoulder L\_shoulder -8.482143 -123.183334 2041.9994

right shoulder R\_shoulder -269.8612 -126.140564 2002.5287

261.37906

first angle mean: 138.39891

first angle stdev: 18.339321

second angle mean: 115.277695

second angle stdev: 20.232439

159.36 144.45

138.38 76.62

left shoulder L\_shoulder -7.7900596 -123.117424 2039.5833

right shoulder R\_shoulder -280.43314 -125.573845 2018.3635

272.64307

first angle mean: 138.53242

first angle stdev: 18.35672

second angle mean: 115.424835

second angle stdev: 20.251472

154.36 144.66

138.12 81.68

left shoulder L\_shoulder -11.024774 -123.14986 2060.2483

right shoulder R\_shoulder -289.43765 -124.46295 2038.2118

278.41287

first angle mean: 138.63261

first angle stdev: 18.341536

second angle mean: 115.56848

second angle stdev: 20.267357

151.25 142.81

135.88 89.51

left shoulder L\_shoulder -12.31727 -130.64679 2087.9126

right shoulder R\_shoulder -291.4501 -134.04712 2064.295

279.13284

first angle mean: 138.71198

first angle stdev: 18.310955

second angle mean: 115.69622

second angle stdev: 20.267231

149.28 142.35

132.53 96.27

left shoulder L\_shoulder -14.501959 -131.30415 2094.8777

right shoulder R\_shoulder -293.0734 -135.38234 2064.9565

278.57144

first angle mean: 138.778

first angle stdev: 18.272635

second angle mean: 115.80144

second angle stdev: 20.247307

153.57 144.36

128.59 101.99

left shoulder L\_shoulder -15.360653 -127.77981 2080.2036

right shoulder R\_shoulder -295.52496 -129.101 2061.4297

280.1643

first angle mean: 138.86987

first angle stdev: 18.252832

second angle mean: 115.880875

second angle stdev: 20.209322

148.16 115.89

124.0 111.09

left shoulder L\_shoulder -16.92924 -120.30439 2071.1987

right shoulder R\_shoulder -298.08795 -119.85451 2072.8281

281.15872

first angle mean: 138.92723

first angle stdev: 18.21095

second angle mean: 115.93099

second angle stdev: 20.156883

144.76 118.53

121.48 121.28

left shoulder L\_shoulder -20.680355 -118.97007 2058.7346

right shoulder R\_shoulder -301.35608 -115.66044 2080.0842

280.67572

first angle mean: 138.96303

first angle stdev: 18.160717

second angle mean: 115.965034

second angle stdev: 20.09963

142.3 130.58

117.64 125.65

left shoulder L\_shoulder -24.53588 -116.152885 2039.1798

right shoulder R\_shoulder -303.86264 -108.72877 2072.7703

279.32675

first angle mean: 138.98337

first angle stdev: 18.107128

second angle mean: 115.97525

second angle stdev: 20.03868

146.76 135.15

116.24 126.27

left shoulder L\_shoulder -28.092846 -116.194855 2025.0714

right shoulder R\_shoulder -306.4199 -105.28677 2064.512

278.32706

first angle mean: 139.03049

first angle stdev: 18.062262

second angle mean: 115.976845

second angle stdev: 19.977875

149.19 128.85

118.42 125.14

left shoulder L\_shoulder -35.223766 -124.97741 2014.8182

right shoulder R\_shoulder -312.80994 -109.51336 2057.6438

277.58618

first angle mean: 139.0917

first angle stdev: 18.024927

second angle mean: 115.99158

second angle stdev: 19.918509

152.81 103.87

119.3 119.68

left shoulder L\_shoulder -39.281128 -127.867134 1989.6003

right shoulder R\_shoulder -314.45233 -109.51196 2051.756

275.1712

first angle mean: 139.17384

first angle stdev: 18.00202

second angle mean: 116.01138

second angle stdev: 19.860422

151.87 100.11

118.17 119.43

left shoulder L\_shoulder -41.68144 -125.42365 1988.7135

right shoulder R\_shoulder -316.1216 -105.32986 2053.5913

274.4402

first angle mean: 139.24942

first angle stdev: 17.97491

second angle mean: 116.02423

second angle stdev: 19.80192

146.27 123.53

113.34 125.66

left shoulder L\_shoulder -45.13813 -125.87938 1988.6543

right shoulder R\_shoulder -317.8391 -104.39425 2048.3154

272.701

first angle mean: 139.29095

first angle stdev: 17.929739

second angle mean: 116.00835

second angle stdev: 19.744322

143.44 139.1

108.01 128.45

left shoulder L\_shoulder -49.829166 -132.4886 2002.7566

right shoulder R\_shoulder -321.92456 -109.18661 2055.5398

272.0954

first angle mean: 139.31535

first angle stdev: 17.879742

second angle mean: 115.961296

second angle stdev: 19.695665

137.15 144.98

101.85 129.41

left shoulder L\_shoulder -49.48663 -144.74545 2017.3492

right shoulder R\_shoulder -322.77966 -121.32139 2063.2732

273.29303

first angle mean: 139.3027

first angle stdev: 17.82815

second angle mean: 115.87877

second angle stdev: 19.667444

125.0 146.88

95.11 130.09

left shoulder L\_shoulder -50.376015 -156.3539 2017.2529

right shoulder R\_shoulder -324.0182 -132.85593 2061.0

273.64218

first angle mean: 139.21954

first angle stdev: 17.809475

second angle mean: 115.75802

second angle stdev: 19.673655

146.85 147.14

96.64 130.52

left shoulder L\_shoulder -54.235687 -161.78773 1995.7495

right shoulder R\_shoulder -325.57324 -140.73651 2050.7842

271.33755

first angle mean: 139.26366

first angle stdev: 17.767347

second angle mean: 115.647514

second angle stdev: 19.670177

124.78 155.19

80.32 131.13

left shoulder L\_shoulder -43.735798 -167.67552 2002.6738

right shoulder R\_shoulder -326.13016 -150.54489 2047.3347

282.39435

first angle mean: 139.1804

first angle stdev: 17.750015

second angle mean: 115.44448

second angle stdev: 19.794535

142.36 157.22

74.93 132.81

left shoulder L\_shoulder -33.240646 -153.76767 1980.0558

right shoulder R\_shoulder -319.7269 -144.24219 2028.0457

286.48627

first angle mean: 139.19858

first angle stdev: 17.70085

second angle mean: 115.21297

second angle stdev: 19.972746

152.84 159.44

73.48 134.8

left shoulder L\_shoulder -28.24868 -143.6581 1968.8442

right shoulder R\_shoulder -313.96713 -140.56871 2023.7732

285.71844

first angle mean: 139.27608

first angle stdev: 17.68025

second angle mean: 114.97585

second angle stdev: 20.161436

153.71 159.69

70.88 134.63

left shoulder L\_shoulder -30.945953 -138.42833 1946.7979

right shoulder R\_shoulder -314.81363 -139.07751 2007.837

283.86768

first angle mean: 139.35764

first angle stdev: 17.663397

second angle mean: 114.726715

second angle stdev: 20.37426

153.88 156.22

69.6 133.13

left shoulder L\_shoulder -42.168144 -134.80724 1936.5244

right shoulder R\_shoulder -319.67865 -136.18741 2014.1624

277.5105

first angle mean: 139.43921

first angle stdev: 17.647123

second angle mean: 114.473206

second angle stdev: 20.595015

157.72 150.56

64.12 130.47

left shoulder L\_shoulder -57.176353 -132.10835 1926.4978

right shoulder R\_shoulder -318.10303 -136.826 2033.3472

260.92667

first angle mean: 139.54134

first angle stdev: 17.65043

second angle mean: 114.191895

second angle stdev: 20.877512

161.79 133.3

62.94 126.9

left shoulder L\_shoulder -67.10197 -125.88201 1898.3406

right shoulder R\_shoulder -307.05365 -138.23387 2028.6958

239.95169

first angle mean: 139.66495

first angle stdev: 17.678848

second angle mean: 113.90716

second angle stdev: 21.165089

168.65 100.81

56.72 125.63

left shoulder L\_shoulder -78.01681 -116.29073 1864.1084

right shoulder R\_shoulder -293.80554 -141.84937 2027.3995

215.78873

first angle mean: 139.82509

first angle stdev: 17.760374

second angle mean: 113.59122

second angle stdev: 21.527996

170.8 93.62

54.62 123.61

left shoulder L\_shoulder -92.3564 -111.50491 1845.9556

right shoulder R\_shoulder -283.40314 -148.67418 2036.8882

191.04674

first angle mean: 139.99529

first angle stdev: 17.858906

second angle mean: 113.26719

second angle stdev: 21.906868

counter:2

170.1 147.6

55.44 124.83

left shoulder L\_shoulder -104.79333 -111.1408 1871.1661

right shoulder R\_shoulder -276.9107 -146.1032 2079.4475

172.11737

first angle mean: 140.15979

first angle stdev: 17.947788

second angle mean: 112.9512

second angle stdev: 22.258968

165.93 147.95

63.43 111.59

left shoulder L\_shoulder -113.21358 -116.501236 1872.3569

right shoulder R\_shoulder -272.6256 -149.52605 2103.8987

159.41203

first angle mean: 140.29985

first angle stdev: 17.998945

second angle mean: 112.68207

second angle stdev: 22.49499

162.89 138.11

59.22 105.14

left shoulder L\_shoulder -115.46489 -120.974014 1875.1182

right shoulder R\_shoulder -271.64023 -148.94719 2136.818

156.17534

first angle mean: 140.42197

first angle stdev: 18.026491

second angle mean: 112.393074

second angle stdev: 22.774008

165.2 105.0

54.9 113.66

left shoulder L\_shoulder -106.860985 -122.460205 1858.9349

right shoulder R\_shoulder -280.8743 -149.11185 2167.2727

174.0133

first angle mean: 140.55518

first angle stdev: 18.069044

second angle mean: 112.083984

second angle stdev: 23.098543

160.36 101.09

51.73 114.56

left shoulder L\_shoulder -96.80493 -128.15138 1870.3119

right shoulder R\_shoulder -289.79993 -149.64291 2190.4292

192.995

first angle mean: 140.66107

first angle stdev: 18.07846

second angle mean: 111.76124

second angle stdev: 23.453453

158.71 118.64

55.8 111.8

left shoulder L\_shoulder -81.548134 -130.85167 1880.1327

right shoulder R\_shoulder -293.96643 -148.73198 2191.6548

212.4183

first angle mean: 140.75708

first angle stdev: 18.078049

second angle mean: 111.46357

second angle stdev: 23.74253

155.55 149.35

58.69 125.33

left shoulder L\_shoulder -60.269653 -131.64714 1888.0198

right shoulder R\_shoulder -300.2608 -146.05768 2173.8083

239.99115

first angle mean: 140.83536

first angle stdev: 18.06207

second angle mean: 111.18434

second angle stdev: 23.98714

154.6 161.24

47.44 138.26

left shoulder L\_shoulder -35.894512 -130.26228 1909.5149

right shoulder R\_shoulder -305.7846 -138.40309 2143.9128

269.8901

first angle mean: 140.90779

first angle stdev: 18.041986

second angle mean: 110.84885

second angle stdev: 24.364483

155.88 167.12

47.9 140.23

left shoulder L\_shoulder -7.869779 -125.927956 1920.4978

right shoulder R\_shoulder -308.10193 -131.2615 2099.7568

300.23215

first angle mean: 140.98619

first angle stdev: 18.027105

second angle mean: 110.51927

second angle stdev: 24.721605

159.42 167.18

52.77 140.31

left shoulder L\_shoulder 11.793196 -115.18052 1935.893

right shoulder R\_shoulder -306.02228 -120.762245 2036.0637

317.81546

first angle mean: 141.0822

first angle stdev: 18.028992

second angle mean: 110.21848

second angle stdev: 25.005077

153.92 166.11

70.6 141.02

left shoulder L\_shoulder 22.986265 -116.206474 1968.0027

right shoulder R\_shoulder -300.40195 -119.296425 2016.6399

323.3882

first angle mean: 141.14871

first angle stdev: 18.005829

second angle mean: 110.013214

second angle stdev: 25.101889

75.79 161.3

75.02 140.72

left shoulder L\_shoulder 32.360718 -124.95288 2013.0015

right shoulder R\_shoulder -294.03052 -129.47798 2028.613

326.39124

first angle mean: 140.81181

first angle stdev: 18.559217

second angle mean: 109.83284

second angle stdev: 25.162203

32.99 158.25

86.12 139.23

left shoulder L\_shoulder 27.384518 -120.77814 2037.3716

right shoulder R\_shoulder -296.19775 -125.4801 2046.8292

323.58228

first angle mean: 140.25888

first angle stdev: 20.049704

second angle mean: 109.71123

second angle stdev: 25.154688

9.53 153.23

96.4 136.36

left shoulder L\_shoulder 18.419445 -123.36311 2043.1106

right shoulder R\_shoulder -297.05338 -125.26079 2052.4531

315.4728

first angle mean: 139.5919

first angle stdev: 22.061026

second angle mean: 109.64332

second angle stdev: 25.10835

4.88 150.82

99.02 134.19

left shoulder L\_shoulder 17.663256 -119.382965 2035.7726

right shoulder R\_shoulder -297.61002 -121.32336 2045.2535

315.2733

first angle mean: 138.90808

first angle stdev: 23.99727

second angle mean: 109.589386

second angle stdev: 25.05592

47.4 139.76

113.99 130.96

left shoulder L\_shoulder 16.072048 -114.82552 2050.2437

right shoulder R\_shoulder -297.50125 -118.16385 2054.0352

313.5733

first angle mean: 138.44592

first angle stdev: 24.799969

second angle mean: 109.61161

second angle stdev: 24.994514

136.6 121.21

121.8 123.53

left shoulder L\_shoulder 15.362174 -114.81146 2064.8433

right shoulder R\_shoulder -289.41666 -119.286835 2050.9922

304.77884

first angle mean: 138.43663

first angle stdev: 24.737925

second angle mean: 109.67286

second angle stdev: 24.946527

148.62 119.31

124.68 120.22

left shoulder L\_shoulder 16.471104 -116.26125 2067.797

right shoulder R\_shoulder -282.58582 -123.358376 2046.1824

299.05692

first angle mean: 138.48756

first angle stdev: 24.686453

second angle mean: 109.7479

second angle stdev: 24.906586

143.67 122.0

122.76 117.08

left shoulder L\_shoulder 18.362968 -113.9129 2073.4324

right shoulder R\_shoulder -273.28653 -124.86673 2042.071

291.6495

first angle mean: 138.51334

first angle stdev: 24.627668

second angle mean: 109.81264

second angle stdev: 24.861416

144.68 133.85

120.56 115.31

left shoulder L\_shoulder 19.997498 -108.21075 2079.7747

right shoulder R\_shoulder -265.46396 -122.644714 2041.0269

285.46146

first angle mean: 138.54387

first angle stdev: 24.570442

second angle mean: 109.86584

second angle stdev: 24.811268

149.17 146.72

118.72 114.21

left shoulder L\_shoulder 19.946672 -103.70665 2076.9802

right shoulder R\_shoulder -262.16336 -119.60083 2034.5974

282.11005

first angle mean: 138.5962

first angle stdev: 24.521141

second angle mean: 109.909454

second angle stdev: 24.757843

151.11 150.36

124.62 113.89

left shoulder L\_shoulder 20.92321 -100.56546 2077.907

right shoulder R\_shoulder -259.76056 -117.19999 2047.9598

280.68378

first angle mean: 138.65755

first angle stdev: 24.476574

second angle mean: 109.98156

second angle stdev: 24.718449

149.17 139.16

126.05 112.63

left shoulder L\_shoulder 20.683931 -100.341835 2078.6555

right shoulder R\_shoulder -257.08545 -115.65794 2063.3386

277.76938

first angle mean: 138.70885

first angle stdev: 24.427784

second angle mean: 110.059944

second angle stdev: 24.683487

149.7 134.84

124.74 104.6

left shoulder L\_shoulder 19.395403 -101.45237 2078.7505

right shoulder R\_shoulder -255.49686 -118.37194 2065.9688

274.89227

first angle mean: 138.76219

first angle stdev: 24.380392

second angle mean: 110.13121

second angle stdev: 24.644634

150.08 139.18

123.49 97.44

left shoulder L\_shoulder 17.68364 -107.257324 2080.112

right shoulder R\_shoulder -255.91316 -126.555176 2057.8

273.5968

first angle mean: 138.81686

first angle stdev: 24.334091

second angle mean: 110.19575

second angle stdev: 24.602478

149.71 126.4

124.99 88.54

left shoulder L\_shoulder 18.053455 -122.71586 2083.1355

right shoulder R\_shoulder -254.25545 -144.38844 2057.323

272.3089

first angle mean: 138.86923

first angle stdev: 24.287212

second angle mean: 110.26688

second angle stdev: 24.56459

149.41 123.89

126.75 84.46

left shoulder L\_shoulder 14.24096 -126.21731 2078.5615

right shoulder R\_shoulder -256.2963 -148.45464 2041.1387

270.53726

first angle mean: 138.91966

first angle stdev: 24.239956

second angle mean: 110.34574

second angle stdev: 24.532135

146.86 153.32

130.25 84.02

left shoulder L\_shoulder 0.86757565 -136.96259 2068.4656

right shoulder R\_shoulder -265.74008 -153.76369 2002.6443

266.60767

first angle mean: 138.95747

first angle stdev: 24.18835

second angle mean: 110.44052

second angle stdev: 24.511984

141.32 167.58

133.63 79.59

left shoulder L\_shoulder -4.9545465 -138.35437 2055.9648

right shoulder R\_shoulder -265.01306 -147.14952 1961.0511

260.0585

first angle mean: 138.96867

first angle stdev: 24.13151

second angle mean: 110.55043

second angle stdev: 24.50564

131.68 166.93

134.88 66.88

left shoulder L\_shoulder -0.8555504 -135.64912 2063.3904

right shoulder R\_shoulder -254.87622 -139.56734 1947.3317

254.02068

first angle mean: 138.9343

first angle stdev: 24.079708

second angle mean: 110.665184

second angle stdev: 24.504541

115.91 167.9

134.33 60.87

left shoulder L\_shoulder 7.783853 -132.71895 2074.6755

right shoulder R\_shoulder -240.27213 -135.6046 1940.2728

248.05598

first angle mean: 138.8262

first angle stdev: 24.074617

second angle mean: 110.77629

second angle stdev: 24.500414

140.98 168.17

138.61 50.9

left shoulder L\_shoulder 5.35576 -134.2731 2017.8838

right shoulder R\_shoulder -216.72751 -135.71036 1910.2052

222.08327

first angle mean: 138.83627

first angle stdev: 24.018751

second angle mean: 110.90636

second angle stdev: 24.5167

117.9 164.9

132.2 47.76

left shoulder L\_shoulder -4.488684 -138.12889 2012.4879

right shoulder R\_shoulder -203.31996 -137.53215 1911.2275

198.83128

first angle mean: 138.73889

first angle stdev: 24.005135

second angle mean: 111.005394

second angle stdev: 24.50249

99.17 163.35

128.91 46.49

left shoulder L\_shoulder -13.793373 -140.1351 2012.7716

right shoulder R\_shoulder -195.22609 -134.55975 1904.4714

181.43271

first angle mean: 138.5557

first angle stdev: 24.099663

second angle mean: 111.08829

second angle stdev: 24.475903

101.0 164.52

129.83 47.01

left shoulder L\_shoulder -28.069088 -140.04993 2035.5194

right shoulder R\_shoulder -191.07953 -132.63734 1917.7936

163.01044

first angle mean: 138.38263

first angle stdev: 24.178234

second angle mean: 111.174644

second angle stdev: 24.45241

108.38 166.16

129.57 46.97

left shoulder L\_shoulder -36.470383 -138.32913 2035.4479

right shoulder R\_shoulder -186.97052 -130.7052 1921.3383

150.50014

first angle mean: 138.245

first angle stdev: 24.207758

second angle mean: 111.25903

second angle stdev: 24.427908

109.12 168.18

129.64 46.83

left shoulder L\_shoulder -40.921944 -138.28246 2035.1978

right shoulder R\_shoulder -187.33714 -130.15498 1919.4501

146.41519

first angle mean: 138.11201

first angle stdev: 24.232117

second angle mean: 111.342964

second angle stdev: 24.403559

107.1 168.84

130.22 45.93

left shoulder L\_shoulder -44.73825 -140.14398 2040.4641

right shoulder R\_shoulder -188.92712 -131.45354 1922.5721

144.18887

first angle mean: 137.97104

first angle stdev: 24.266811

second angle mean: 111.428764

second angle stdev: 24.38112

113.21 168.81

131.61 47.54

left shoulder L\_shoulder -48.814026 -139.5415 2059.5955

right shoulder R\_shoulder -192.3083 -132.17828 1939.4445

143.49428

first angle mean: 137.85901

first angle stdev: 24.268808

second angle mean: 111.52009

second angle stdev: 24.363575

104.79 167.78

129.29 47.32

left shoulder L\_shoulder -53.02965 -136.08676 2074.0571

right shoulder R\_shoulder -196.91187 -130.3222 1950.2434

143.88222

first angle mean: 137.71004

first angle stdev: 24.315134

second angle mean: 111.600136

second angle stdev: 24.337748

104.48 164.69

126.59 47.31

left shoulder L\_shoulder -43.129807 -131.00818 2068.2334

right shoulder R\_shoulder -206.73468 -128.1369 1952.966

163.60487

first angle mean: 137.56104

first angle stdev: 24.36194

second angle mean: 111.66736

second angle stdev: 24.303762

110.85 163.69

129.69 44.58

left shoulder L\_shoulder -31.282309 -132.0612 2070.2427

right shoulder R\_shoulder -229.11987 -131.50272 1967.5732

197.83757

first angle mean: 137.44179

first angle stdev: 24.372639

second angle mean: 111.74781

second angle stdev: 24.2792

151.46 166.27

140.35 44.15

left shoulder L\_shoulder -27.752518 -130.61719 2052.1829

right shoulder R\_shoulder -248.88109 -128.10516 1971.2825

221.12857

first angle mean: 137.5041

first angle stdev: 24.336287

second angle mean: 111.87493

second angle stdev: 24.299782

157.95 167.97

140.94 44.05

left shoulder L\_shoulder -36.529266 -131.01079 2016.7417

right shoulder R\_shoulder -264.90845 -123.86905 1955.4581

228.37918

first angle mean: 137.59456

first angle stdev: 24.320276

second angle mean: 112.00354

second angle stdev: 24.322584

159.57 150.62

139.44 54.31

left shoulder L\_shoulder -38.98267 -132.91495 2010.74

right shoulder R\_shoulder -289.94962 -122.80385 1984.0465

250.96695

first angle mean: 137.69138

first angle stdev: 24.31025

second angle mean: 112.124405

second angle stdev: 24.336876

robot count: 2

154.0 154.34

137.43 68.01

left shoulder L\_shoulder -37.552895 -136.15054 2013.5703

right shoulder R\_shoulder -299.45856 -124.1497 1999.7396

261.90567

first angle mean: 137.7629

first angle stdev: 24.280806

second angle mean: 112.2354

second angle stdev: 24.340956

142.83 156.57

134.27 83.79

left shoulder L\_shoulder -34.54235 -134.14296 2038.0795

right shoulder R\_shoulder -303.6917 -121.13532 2018.0123

269.14935

first angle mean: 137.78503

first angle stdev: 24.230038

second angle mean: 112.33161

second angle stdev: 24.331171

142.71 147.05

131.86 89.24

left shoulder L\_shoulder -28.37652 -131.13435 2066.3567

right shoulder R\_shoulder -303.87628 -120.60164 2045.0261

275.49976

first angle mean: 137.80644

first angle stdev: 24.179478

second angle mean: 112.41653

second angle stdev: 24.312193

146.84 142.87

127.81 96.89

left shoulder L\_shoulder -23.316025 -126.910385 2088.6375

right shoulder R\_shoulder -299.50433 -120.33849 2070.3474

276.1883

first angle mean: 137.84554

first angle stdev: 24.134373

second angle mean: 112.483154

second angle stdev: 24.280556

153.38 148.06

120.68 103.21

left shoulder L\_shoulder -15.932098 -123.347824 2091.0125

right shoulder R\_shoulder -292.6619 -121.14184 2079.6533

276.7298

first angle mean: 137.9125

first angle stdev: 24.103796

second angle mean: 112.518486

second angle stdev: 24.234118

151.38 141.12

121.28 115.23

left shoulder L\_shoulder -6.9488587 -123.39407 2092.2131

right shoulder R\_shoulder -283.92313 -123.18901 2093.0637

276.97427

first angle mean: 137.9703

first angle stdev: 24.068125

second angle mean: 112.5561

second angle stdev: 24.18884

149.22 140.43

118.2 117.07

left shoulder L\_shoulder -1.3365744 -122.819725 2087.4895

right shoulder R\_shoulder -278.40048 -125.314995 2092.2996

277.0639

first angle mean: 138.01839

first angle stdev: 24.027851

second angle mean: 112.580215

second angle stdev: 24.139908

142.6 138.37

117.71 120.02

left shoulder L\_shoulder -1.1644511 -122.05128 2078.551

right shoulder R\_shoulder -277.96542 -125.87662 2088.856

276.80096

first angle mean: 138.03789

first angle stdev: 23.978525

second angle mean: 112.60204

second angle stdev: 24.090805

137.87 140.2

117.17 120.89

left shoulder L\_shoulder -4.7754197 -121.56965 2069.3994

right shoulder R\_shoulder -281.4295 -124.599335 2080.3813

276.65408

first angle mean: 138.03716

first angle stdev: 23.927673

second angle mean: 112.62139

second angle stdev: 24.04154

133.67 142.45

116.77 119.7

left shoulder L\_shoulder -11.002765 -119.72268 2056.7568

right shoulder R\_shoulder -287.9661 -120.35395 2064.9575

276.96332

first angle mean: 138.01874

first angle stdev: 23.878819

second angle mean: 112.63889

second angle stdev: 23.992277

136.83 142.18

116.92 118.53

left shoulder L\_shoulder -15.482635 -118.71674 2052.0847

right shoulder R\_shoulder -293.19705 -117.07157 2056.2666

277.71442

first angle mean: 138.01373

first angle stdev: 23.828724

second angle mean: 112.65689

second angle stdev: 23.943419

145.58 140.44

117.83 120.15

left shoulder L\_shoulder -20.403685 -119.19351 2051.79

right shoulder R\_shoulder -298.6423 -116.78415 2058.3164

278.23862

first angle mean: 138.04541

first angle stdev: 23.783836

second angle mean: 112.67853

second angle stdev: 23.895609

145.35 144.33

115.15 123.62

left shoulder L\_shoulder -26.978464 -125.60754 2056.77

right shoulder R\_shoulder -305.14325 -119.366806 2066.697

278.1648

first angle mean: 138.07585

first angle stdev: 23.738897

second angle mean: 112.688835

second angle stdev: 23.846306

143.85 147.63

110.96 125.38

left shoulder L\_shoulder -29.374392 -129.756 2058.3008

right shoulder R\_shoulder -307.3536 -120.04997 2071.9941

277.97922

first angle mean: 138.0998

first angle stdev: 23.692503

second angle mean: 112.681656

second angle stdev: 23.79704

129.83 150.86

101.93 127.68

left shoulder L\_shoulder -30.062881 -137.4779 2057.519

right shoulder R\_shoulder -307.38507 -124.86102 2080.1233

277.3222

first angle mean: 138.06563

first angle stdev: 23.649452

second angle mean: 112.63723

second angle stdev: 23.757837

138.04 155.49

91.56 129.97

left shoulder L\_shoulder -21.650597 -146.09868 2046.3662

right shoulder R\_shoulder -302.65836 -133.19093 2083.7603

281.00775

first angle mean: 138.06552

first angle stdev: 23.600742

second angle mean: 112.55049

second angle stdev: 23.747267

147.12 158.21

87.74 130.17

left shoulder L\_shoulder -15.581786 -149.78531 2028.0024

right shoulder R\_shoulder -298.48822 -139.65985 2082.7444

282.90643

first angle mean: 138.10262

first angle stdev: 23.559431

second angle mean: 112.4488

second angle stdev: 23.751505

133.81 161.71

79.46 132.98

left shoulder L\_shoulder -16.666903 -146.65782 2003.6836

right shoulder R\_shoulder -299.9598 -141.81064 2058.8464

283.2929

first angle mean: 138.08511

first angle stdev: 23.512894

second angle mean: 112.314156

second angle stdev: 23.796116

140.06 161.77

79.62 135.34

left shoulder L\_shoulder -19.817947 -134.91916 1965.7623

right shoulder R\_shoulder -302.6313 -135.3547 2024.2527

282.81335

first angle mean: 138.09312

first angle stdev: 23.465391

second angle mean: 112.18126

second angle stdev: 23.838638

151.2 159.1

70.3 135.41

left shoulder L\_shoulder -24.407848 -126.17718 1954.477

right shoulder R\_shoulder -304.68005 -129.69379 2017.2014

280.27222

first angle mean: 138.1462

first angle stdev: 23.432627

second angle mean: 112.011696

second angle stdev: 23.938517

161.2 152.46

60.77 135.07

left shoulder L\_shoulder -35.573143 -124.97393 1943.2678

right shoulder R\_shoulder -308.2285 -129.63307 2028.3956

272.65533

first angle mean: 138.23917

first angle stdev: 23.430927

second angle mean: 111.805084

second angle stdev: 24.10989

170.13 114.71

54.05 129.24

left shoulder L\_shoulder -50.9117 -122.54637 1910.3538

right shoulder R\_shoulder -300.9912 -136.82916 2048.0537

250.07951

first angle mean: 138.36723

first angle stdev: 23.470652

second angle mean: 111.573135

second angle stdev: 24.337105

172.75 92.6

53.54 124.21

left shoulder L\_shoulder -67.735725 -112.938644 1865.177

right shoulder R\_shoulder -286.42532 -141.9299 2043.5906

218.6896

first angle mean: 138.50476

first angle stdev: 23.523983

second angle mean: 111.341

second angle stdev: 24.56304

165.77 105.72

61.21 123.52

left shoulder L\_shoulder -84.837 -103.534 1841.099

right shoulder R\_shoulder -275.30377 -141.66444 2039.8492

190.46677

first angle mean: 138.61339

first angle stdev: 23.53982

second angle mean: 111.14128

second angle stdev: 24.716629

counter:3

162.59 142.01

64.85 106.73

left shoulder L\_shoulder -96.91601 -102.1914 1838.1692

right shoulder R\_shoulder -267.47852 -140.91524 2105.7507

170.5625

first angle mean: 138.70854

first angle stdev: 23.541376

second angle mean: 110.95757

second angle stdev: 24.838625

165.84 134.71

57.99 106.23

left shoulder L\_shoulder -97.641655 -110.807724 1875.33

right shoulder R\_shoulder -271.27786 -132.44597 2183.5444

173.6362

first angle mean: 138.81578

first angle stdev: 23.556398

second angle mean: 110.74822

second angle stdev: 25.011278

163.34 124.49

58.77 113.87

left shoulder L\_shoulder -91.0838 -122.29485 1888.0366

right shoulder R\_shoulder -271.80215 -132.43767 2197.609

180.71835

first angle mean: 138.91232

first angle stdev: 23.560091

second angle mean: 110.54359

second angle stdev: 25.17332

162.1 133.83

56.81 126.17

left shoulder L\_shoulder -81.67829 -128.67311 1887.7441

right shoulder R\_shoulder -277.55457 -136.50658 2188.3271

195.87628

first angle mean: 139.00327

first angle stdev: 23.558466

second angle mean: 110.332855

second angle stdev: 25.347374

161.66 149.9

62.15 139.87

left shoulder L\_shoulder -58.698177 -132.67058 1884.1259

right shoulder R\_shoulder -294.48224 -138.23076 2136.2253

235.78406

first angle mean: 139.09177

first angle stdev: 23.554844

second angle mean: 110.144646

second angle stdev: 25.47573

157.03 162.58

59.07 143.39

left shoulder L\_shoulder -33.569023 -132.81142 1897.0717

right shoulder R\_shoulder -307.5106 -134.78404 2091.6382

273.94156

first angle mean: 139.16158

first angle stdev: 23.535484

second angle mean: 109.94591

second angle stdev: 25.624174

152.1 167.64

61.62 143.53

left shoulder L\_shoulder -11.729807 -134.69135 1924.3263

right shoulder R\_shoulder -320.68436 -134.25554 2047.3163

308.95456

first angle mean: 139.21172

first angle stdev: 23.503582

second angle mean: 109.7586

second angle stdev: 25.750149

150.33 165.94

70.53 143.16

left shoulder L\_shoulder -0.72553796 -138.15407 1961.0706

right shoulder R\_shoulder -323.57352 -134.00494 2033.0386

322.848

first angle mean: 139.25464

first angle stdev: 23.468294

second angle mean: 109.60714

second angle stdev: 25.815283

144.58 158.17

82.89 141.91

left shoulder L\_shoulder 4.477948 -150.66318 1996.6439

right shoulder R\_shoulder -323.64548 -143.7543 2032.3906

328.1234

first angle mean: 139.27512

first angle stdev: 23.425442

second angle mean: 109.50439

second angle stdev: 25.818605

136.73 151.54

95.0 134.71

left shoulder L\_shoulder 6.9543705 -144.16997 2007.256

right shoulder R\_shoulder -318.29492 -134.38495 2024.451

325.2493

first angle mean: 139.26537

first angle stdev: 23.38105

second angle mean: 109.448814

second angle stdev: 25.784674

134.45 151.26

101.65 132.52

left shoulder L\_shoulder 0.5513871 -136.46164 2019.571

right shoulder R\_shoulder -316.92224 -122.30329 2029.155

317.47363

first angle mean: 139.247

first angle stdev: 23.338278

second angle mean: 109.419044

second angle stdev: 25.739912

140.03 147.29

113.41 131.74

left shoulder L\_shoulder -7.047415 -133.02014 2027.301

right shoulder R\_shoulder -316.8751 -115.5017 2044.0068

309.82767

first angle mean: 139.24997

first angle stdev: 23.293915

second angle mean: 109.43422

second angle stdev: 25.692102

150.45 135.82

122.23 128.11

left shoulder L\_shoulder -5.567029 -124.39704 2034.0333

right shoulder R\_shoulder -310.94302 -110.3482 2042.2468

305.376

first angle mean: 139.29239

first angle stdev: 23.259933

second angle mean: 109.48269

second angle stdev: 25.655443

156.02 99.95

123.98 118.11

left shoulder L\_shoulder -2.4950209 -119.36338 2050.6672

right shoulder R\_shoulder -305.35248 -113.24516 2039.9628

302.85745

first angle mean: 139.35551

first angle stdev: 23.238647

second angle mean: 109.5374

second angle stdev: 25.622412

155.69 66.59

123.86 108.25

left shoulder L\_shoulder -2.9866397 -120.55736 2060.98

right shoulder R\_shoulder -305.1267 -118.316124 2037.7467

302.14008

first angle mean: 139.41692

first angle stdev: 23.216457

second angle mean: 109.59124

second angle stdev: 25.58922

156.09 55.11

126.59 104.08

left shoulder L\_shoulder -4.855289 -128.79552 2068.303

right shoulder R\_shoulder -304.68945 -127.839966 2034.9767

299.83417

first angle mean: 139.47937

first angle stdev: 23.19531

second angle mean: 109.65491

second angle stdev: 25.562355

154.22 47.15

128.16 97.89

left shoulder L\_shoulder -4.8366637 -135.86902 2067.3865

right shoulder R\_shoulder -303.0824 -133.68105 2026.1183

298.24573

first angle mean: 139.53436

first angle stdev: 23.169432

second angle mean: 109.72395

second angle stdev: 25.539553

153.43 44.73

130.22 98.07

left shoulder L\_shoulder -4.6903033 -137.92583 2071.162

right shoulder R\_shoulder -300.8187 -134.88806 2018.1852

296.1284

first angle mean: 139.58603

first angle stdev: 23.141783

second angle mean: 109.80014

second angle stdev: 25.522535

152.75 44.76

131.12 100.27

left shoulder L\_shoulder -2.0367205 -135.13911 2077.869

right shoulder R\_shoulder -294.22537 -134.6217 2018.0562

292.18866

first angle mean: 139.63478

first angle stdev: 23.112724

second angle mean: 109.87911

second angle stdev: 25.508125

153.22 45.52

131.68 101.83

left shoulder L\_shoulder 0.61830896 -132.12971 2080.5647

right shoulder R\_shoulder -289.01776 -132.7846 2022.0468

289.63608

first angle mean: 139.6849

first angle stdev: 23.084742

second angle mean: 109.95956

second angle stdev: 25.49531

154.03 47.25

131.99 102.96

left shoulder L\_shoulder 3.3431199 -132.15324 2080.1829

right shoulder R\_shoulder -284.64346 -135.02325 2023.8164

287.98657

first angle mean: 139.73766

first angle stdev: 23.058619

second angle mean: 110.04056

second angle stdev: 25.483307

153.31 39.94

132.08 103.15

left shoulder L\_shoulder 3.4596171 -129.24336 2079.3208

right shoulder R\_shoulder -284.4046 -134.10518 2026.9685

287.86423

first angle mean: 139.78735

first angle stdev: 23.030949

second angle mean: 110.12128

second angle stdev: 25.471413

150.41 32.12

131.83 102.07

left shoulder L\_shoulder 2.5926378 -124.58689 2073.24

right shoulder R\_shoulder -285.41077 -130.73393 2025.3873

288.00342

first angle mean: 139.82613

first angle stdev: 22.997805

second angle mean: 110.200516

second angle stdev: 25.458569

147.37 30.14

131.44 101.51

left shoulder L\_shoulder 2.5037816 -121.88817 2069.6072

right shoulder R\_shoulder -285.34686 -128.87431 2023.3059

287.85065

first angle mean: 139.85356

first angle stdev: 22.960443

second angle mean: 110.27775

second angle stdev: 25.444376

148.09 25.78

132.04 99.41

left shoulder L\_shoulder 2.8480299 -123.58174 2071.5583

right shoulder R\_shoulder -285.0339 -128.97748 2027.0198

287.88193

first angle mean: 139.8834

first angle stdev: 22.924152

second angle mean: 110.3566

second angle stdev: 25.431873

149.2 20.19

131.98 97.78

left shoulder L\_shoulder 2.211049 -124.06539 2070.3105

right shoulder R\_shoulder -285.49002 -127.440605 2025.5499

287.70108

first angle mean: 139.91704

first angle stdev: 22.889559

second angle mean: 110.43466

second angle stdev: 25.419033

149.79 19.0

131.57 98.17

left shoulder L\_shoulder 5.773276 -125.802475 2066.0625

right shoulder R\_shoulder -282.09207 -129.47878 2024.0336

287.86536

first angle mean: 139.95255

first angle stdev: 22.855997

second angle mean: 110.5107

second angle stdev: 25.404804

148.24 15.81

131.03 96.93

left shoulder L\_shoulder 7.6455173 -128.0459 2062.5547

right shoulder R\_shoulder -280.12997 -132.15758 2019.9868

287.77548

first angle mean: 139.98225

first angle stdev: 22.820374

second angle mean: 110.584236

second angle stdev: 25.388865

149.19 19.2

130.08 90.68

left shoulder L\_shoulder 6.872461 -126.96818 2045.8062

right shoulder R\_shoulder -275.57443 -130.846 1977.3704

282.4469

first angle mean: 140.01515

first angle stdev: 22.786207

second angle mean: 110.653854

second angle stdev: 25.37016

150.82 43.16

128.38 78.06

left shoulder L\_shoulder -2.095878 -128.21902 2048.9084

right shoulder R\_shoulder -280.382 -129.29987 1962.5892

278.2861

first angle mean: 140.0536

first angle stdev: 22.754726

second angle mean: 110.71694

second angle stdev: 25.346966

152.11 54.73

127.63 73.86

left shoulder L\_shoulder -4.7102723 -137.81277 2041.4374

right shoulder R\_shoulder -277.35767 -134.69876 1926.3848

272.6474

first angle mean: 140.09636

first angle stdev: 22.725649

second angle mean: 110.77692

second angle stdev: 25.32195

151.33 63.96

130.28 69.77

left shoulder L\_shoulder -2.0270495 -150.10303 2011.177

right shoulder R\_shoulder -272.6624 -142.62001 1891.6688

270.63538

first angle mean: 140.13605

first angle stdev: 22.695251

second angle mean: 110.84583

second angle stdev: 25.303652

153.13 138.36

133.74 67.87

left shoulder L\_shoulder 1.7892567 -147.14618 2021.3533

right shoulder R\_shoulder -277.826 -144.23119 1926.3141

279.61523

first angle mean: 140.18181

first angle stdev: 22.668331

second angle mean: 110.926445

second angle stdev: 25.29544

157.37 152.56

130.44 63.58

left shoulder L\_shoulder 3.2842164 -142.3283 2063.172

right shoulder R\_shoulder -267.95312 -139.23964 1947.712

271.23734

first angle mean: 140.24211

first angle stdev: 22.65134

second angle mean: 110.99492

second angle stdev: 25.277372

163.01 166.42

123.07 56.03

left shoulder L\_shoulder 10.420753 -141.13683 2043.1008

right shoulder R\_shoulder -260.51694 -140.97647 1936.5616

270.93768

first angle mean: 140.32172

first angle stdev: 22.65161

second angle mean: 111.03714

second angle stdev: 25.243208

163.15 170.97

129.41 50.99

left shoulder L\_shoulder 6.736912 -147.23679 2040.1514

right shoulder R\_shoulder -253.26794 -147.7602 1937.1686

260.00485

first angle mean: 140.40126

first angle stdev: 22.652088

second angle mean: 111.10115

second angle stdev: 25.222439

144.77 169.39

125.71 48.18

left shoulder L\_shoulder 6.5053477 -152.71375 2060.6711

right shoulder R\_shoulder -240.68883 -154.25551 1945.0709

247.19417

first angle mean: 140.41644

first angle stdev: 22.614187

second angle mean: 111.15187

second angle stdev: 25.193272

133.39 167.57

113.83 48.39

left shoulder L\_shoulder 5.3027725 -155.51216 2100.1975

right shoulder R\_shoulder -224.6855 -157.7664 1953.725

229.98828

first angle mean: 140.3921

first angle stdev: 22.578798

second angle mean: 111.16114

second angle stdev: 25.150137

118.78 167.06

109.26 50.44

left shoulder L\_shoulder -6.779053 -150.17552 2134.082

right shoulder R\_shoulder -211.2409 -153.41364 1950.195

204.46185

first angle mean: 140.3176

first angle stdev: 22.575413

second angle mean: 111.15458

second angle stdev: 25.106985

116.05 167.29

108.75 51.18

left shoulder L\_shoulder -25.409618 -147.24637 2160.419

right shoulder R\_shoulder -202.14775 -152.87402 1945.3099

176.73813

first angle mean: 140.2342

first angle stdev: 22.581291

second angle mean: 111.14632

second angle stdev: 25.064205

117.55 168.44

108.19 50.85

left shoulder L\_shoulder -38.170456 -144.42395 2176.8362

right shoulder R\_shoulder -196.53854 -151.94865 1932.0391

158.36809

first angle mean: 140.15652

first angle stdev: 22.58151

second angle mean: 111.1362

second angle stdev: 25.021843

121.03 169.72

113.51 51.95

left shoulder L\_shoulder -43.700985 -144.31755 2195.9258

right shoulder R\_shoulder -192.591 -153.18774 1935.233

148.89001

first angle mean: 140.09125

first angle stdev: 22.570524

second angle mean: 111.144295

second angle stdev: 24.979494

122.97 169.85

114.35 51.74

left shoulder L\_shoulder -48.049965 -143.50154 2216.3254

right shoulder R\_shoulder -193.43367 -153.79803 1940.1991

145.3837

first angle mean: 140.033

first angle stdev: 22.554146

second angle mean: 111.1552

second angle stdev: 24.937672

129.03 166.62

114.2 50.62

left shoulder L\_shoulder -39.205723 -143.35847 2208.8008

right shoulder R\_shoulder -200.65651 -154.83344 1941.7257

161.45079

first angle mean: 139.99571

first angle stdev: 22.524967

second angle mean: 111.16552

second angle stdev: 24.895998

138.77 167.76

115.43 47.35

left shoulder L\_shoulder -17.643639 -141.81383 2187.2966

right shoulder R\_shoulder -214.14816 -156.01486 1948.3362

196.50452

first angle mean: 139.99156

first angle stdev: 22.486998

second angle mean: 111.179924

second angle stdev: 24.855143

120.19 170.98

132.9 44.59

left shoulder L\_shoulder 1.1395738 -142.29848 2138.2556

right shoulder R\_shoulder -232.45512 -154.54178 1954.0402

233.5947

first angle mean: 139.9249

first angle stdev: 22.478395

second angle mean: 111.25307

second angle stdev: 24.845142

118.4 173.52

138.45 41.69

left shoulder L\_shoulder 9.233453 -138.05836 2079.1536

right shoulder R\_shoulder -256.6221 -147.09549 1974.8644

265.85556

first angle mean: 139.85266

first angle stdev: 22.475147

second angle mean: 111.34433

second angle stdev: 24.853237

128.89 173.12

139.43 50.26

left shoulder L\_shoulder -1.2927053 -134.60927 2075.793

right shoulder R\_shoulder -271.05298 -140.29323 1989.3833

269.76028

first angle mean: 139.816

first angle stdev: 22.446457

second angle mean: 111.438255

second angle stdev: 24.86457

143.29 174.21

140.35 64.87

left shoulder L\_shoulder -7.2256923 -134.60382 2076.9563

right shoulder R\_shoulder -283.4045 -139.49452 2014.0924

276.17883

first angle mean: 139.82758

first angle stdev: 22.40991

second angle mean: 111.53464

second angle stdev: 24.87897

153.56 171.77

138.37 75.68

left shoulder L\_shoulder -9.4285 -139.71457 2069.852

right shoulder R\_shoulder -291.92526 -143.16197 2032.5658

282.49677

first angle mean: 139.8732

first angle stdev: 22.386604

second angle mean: 111.62378

second angle stdev: 24.885563

157.34 168.9

135.05 76.98

left shoulder L\_shoulder -8.962543 -145.52989 2061.15

right shoulder R\_shoulder -294.30328 -147.91727 2042.1865

285.34073

first angle mean: 139.93103

first angle stdev: 22.372025

second angle mean: 111.701355

second angle stdev: 24.880753

158.63 169.4

138.26 75.24

left shoulder L\_shoulder -12.014089 -146.15256 2051.17

right shoulder R\_shoulder -298.07086 -148.42021 2045.3074

286.05676

first angle mean: 139.99275

first angle stdev: 22.36081

second angle mean: 111.78901

second angle stdev: 24.886322

158.54 160.29

137.61 76.21

left shoulder L\_shoulder -13.703823 -137.89336 2058.416

right shoulder R\_shoulder -300.87897 -141.55833 2061.3494

287.17514

first angle mean: 140.05376

first angle stdev: 22.349249

second angle mean: 111.87395

second angle stdev: 24.889309

158.22 156.82

129.97 84.56

left shoulder L\_shoulder -14.634832 -124.6506 2061.858

right shoulder R\_shoulder -301.67697 -128.48567 2048.141

287.04214

first angle mean: 140.11333

first angle stdev: 22.336735

second angle mean: 111.93327

second angle stdev: 24.869997

157.55 154.44

126.9 89.25

left shoulder L\_shoulder -13.931544 -122.756195 2069.8667

right shoulder R\_shoulder -300.07727 -126.88348 2036.0743

286.14572

first angle mean: 140.17029

first angle stdev: 22.3224

second angle mean: 111.98218

second angle stdev: 24.844015

154.46 145.96

129.55 92.0

left shoulder L\_shoulder -19.917917 -125.264824 2097.6501

right shoulder R\_shoulder -301.53964 -130.94514 2035.4667

281.62173

first angle mean: 140.21684

first angle stdev: 22.300884

second angle mean: 112.039406

second angle stdev: 24.823711

153.57 144.6

130.29 94.07

left shoulder L\_shoulder -26.52548 -129.57346 2116.1912

right shoulder R\_shoulder -303.37512 -136.6538 2034.8501

276.84964

first angle mean: 140.2602

first angle stdev: 22.277605

second angle mean: 112.09867

second angle stdev: 24.805117

158.49 145.1

127.23 98.76

left shoulder L\_shoulder -25.877071 -125.263885 2113.812

right shoulder R\_shoulder -302.04645 -129.81148 2044.7268

276.16937

first angle mean: 140.3192

first angle stdev: 22.265615

second angle mean: 112.14763

second angle stdev: 24.779854

157.93 139.62

126.13 103.67

left shoulder L\_shoulder -18.293484 -120.513145 2096.675

right shoulder R\_shoulder -301.91162 -121.7204 2080.9905

283.61813

first angle mean: 140.376

first angle stdev: 22.252092

second angle mean: 112.19274

second angle stdev: 24.752556

158.34 141.14

122.87 106.19

left shoulder L\_shoulder -23.99597 -125.917404 2064.717

right shoulder R\_shoulder -302.99493 -121.9541 2118.2192

278.99896

first angle mean: 140.43376

first angle stdev: 22.239553

second angle mean: 112.227066

second angle stdev: 24.72012

161.06 151.48

113.78 109.84

left shoulder L\_shoulder -34.438698 -133.42647 2016.1128

right shoulder R\_shoulder -301.1483 -126.451164 2113.049

266.7096

first angle mean: 140.49988

first angle stdev: 22.234472

second angle mean: 112.23205

second angle stdev: 24.68063

159.17 157.34

94.54 117.39

left shoulder L\_shoulder -28.59594 -133.73186 1954.9244

right shoulder R\_shoulder -292.7215 -137.67409 2058.3474

264.12555

first angle mean: 140.55952

first angle stdev: 22.223913

second angle mean: 112.17552

second angle stdev: 24.66139

143.33 161.08

79.72 125.56

left shoulder L\_shoulder -29.681965 -139.64552 1954.2137

right shoulder R\_shoulder -298.1045 -145.66566 2047.3042

268.42252

first angle mean: 140.56834

first angle stdev: 22.189049

second angle mean: 112.07217

second angle stdev: 24.689901

137.49 162.59

77.29 131.22

left shoulder L\_shoulder -39.95504 -143.6004 1952.6074

right shoulder R\_shoulder -303.52252 -149.34235 2058.872

263.56747

first angle mean: 140.55858

first angle stdev: 22.154474

second angle mean: 111.96175

second angle stdev: 24.72821

158.44 149.21

59.29 128.4

left shoulder L\_shoulder -59.689976 -135.92203 1922.9382

right shoulder R\_shoulder -306.78912 -147.98697 2040.39

247.09915

first angle mean: 140.61516

first angle stdev: 22.142181

second angle mean: 111.79506

second angle stdev: 24.86566

165.61 144.23

61.0 135.97

left shoulder L\_shoulder -79.107124 -130.49925 1892.1942

right shoulder R\_shoulder -306.8785 -152.90495 2035.3298

227.7714

first angle mean: 140.694

first angle stdev: 22.151617

second angle mean: 111.63482

second angle stdev: 24.98928

167.79 144.2

66.49 140.65

left shoulder L\_shoulder -105.061905 -126.683655 1869.9283

right shoulder R\_shoulder -307.6056 -159.07654 2052.035

202.54369

first angle mean: 140.7792

first angle stdev: 22.16873

second angle mean: 111.49287

second angle stdev: 25.077665

robot count: 3

168.91 143.8

71.71 109.69

left shoulder L\_shoulder -123.74775 -120.51466 1856.8519

right shoulder R\_shoulder -298.79028 -161.06418 2089.3345

175.04254

first angle mean: 140.8674

first angle stdev: 22.189749

second angle mean: 111.36814

second angle stdev: 25.136898

168.89 150.99

71.43 109.27

left shoulder L\_shoulder -129.7964 -119.2194 1855.3439

right shoulder R\_shoulder -293.21808 -155.88232 2095.817

163.42168

first angle mean: 140.95497

first angle stdev: 22.210188

second angle mean: 111.24335

second angle stdev: 25.19639

169.65 149.31

70.06 112.01

left shoulder L\_shoulder -135.76991 -117.2381 1833.4283

right shoulder R\_shoulder -285.38947 -155.64673 2079.8318

149.61955

first angle mean: 141.04437

first angle stdev: 22.233149

second angle mean: 111.11504

second angle stdev: 25.261581

169.92 151.72

69.77 118.19

left shoulder L\_shoulder -128.31403 -121.096306 1838.7789

right shoulder R\_shoulder -291.20587 -151.27 2069.025

162.89185

first angle mean: 141.13403

first angle stdev: 22.256666

second angle mean: 110.98664

second angle stdev: 25.32702

counter:4

163.18 111.54

62.43 129.88

left shoulder L\_shoulder -104.00989 -127.67268 1865.4569

right shoulder R\_shoulder -306.79483 -151.20747 2062.078

202.78494

first angle mean: 141.20229

first angle stdev: 22.255913

second angle mean: 110.83631

second angle stdev: 25.43126

156.91 148.72

57.85 138.13

left shoulder L\_shoulder -70.15808 -145.05351 1935.1392

right shoulder R\_shoulder -325.78973 -146.66145 2085.4797

255.63165

first angle mean: 141.25078

first angle stdev: 22.238615

second angle mean: 110.67277

second angle stdev: 25.561522

149.66 160.67

52.36 138.69

left shoulder L\_shoulder -43.9857 -149.57408 1977.4716

right shoulder R\_shoulder -338.05917 -143.89464 2073.5862

294.0735

first angle mean: 141.27664

first angle stdev: 22.20926

second angle mean: 110.493355

second angle stdev: 25.725695

117.42 161.67

70.59 138.41

left shoulder L\_shoulder -36.576874 -156.73523 2046.6194

right shoulder R\_shoulder -345.24863 -141.47688 2062.2886

308.67175

first angle mean: 141.20348

first angle stdev: 22.21438

second angle mean: 110.37095

second angle stdev: 25.780819

126.07 155.16

91.61 133.34

left shoulder L\_shoulder -37.918697 -142.00104 2039.7504

right shoulder R\_shoulder -341.3855 -122.62922 2038.5444

303.4668

first angle mean: 141.1572

first angle stdev: 22.196121

second angle mean: 110.313576

second angle stdev: 25.762203

137.03 151.7

99.56 131.33

left shoulder L\_shoulder -37.367638 -141.55887 2046.7144

right shoulder R\_shoulder -337.68304 -116.20696 2040.6469

300.3154

first angle mean: 141.1446

first angle stdev: 22.163427

second angle mean: 110.2808

second angle stdev: 25.729733

152.56 149.44

109.83 130.58

left shoulder L\_shoulder -39.11969 -138.28577 2047.8936

right shoulder R\_shoulder -336.35345 -110.468445 2038.805

297.23376

first angle mean: 141.1793

first angle stdev: 22.138638

second angle mean: 110.27942

second angle stdev: 25.690613

159.11 144.01

119.51 128.26

left shoulder L\_shoulder -42.014877 -130.04457 2051.1882

right shoulder R\_shoulder -336.4419 -102.4761 2042.6445

294.427

first angle mean: 141.23364

first angle stdev: 22.12703

second angle mean: 110.307396

second angle stdev: 25.656673

155.43 118.11

126.29 122.14

left shoulder L\_shoulder -45.28193 -127.069115 2061.2568

right shoulder R\_shoulder -337.14404 -103.94434 2052.4321

291.86212

first angle mean: 141.27654

first angle stdev: 22.107313

second angle mean: 110.35568

second angle stdev: 25.632902

148.22 93.3

125.23 113.57

left shoulder L\_shoulder -45.73226 -126.35622 2071.922

right shoulder R\_shoulder -337.11368 -109.021515 2058.6133

291.3814

first angle mean: 141.29744

first angle stdev: 22.077274

second angle mean: 110.40048

second angle stdev: 25.607244

145.73 68.33

124.85 105.52

left shoulder L\_shoulder -42.34585 -126.62269 2069.1787

right shoulder R\_shoulder -333.8616 -112.187935 2060.5693

291.51575

first angle mean: 141.31075

first angle stdev: 22.045433

second angle mean: 110.44388

second angle stdev: 25.580988

143.55 62.91

125.13 104.94

left shoulder L\_shoulder -37.539963 -124.74296 2068.2239

right shoulder R\_shoulder -328.83856 -113.66287 2054.1882

291.29858

first angle mean: 141.31746

first angle stdev: 22.012747

second angle mean: 110.48785

second angle stdev: 25.555264

141.22 73.13

124.65 109.46

left shoulder L\_shoulder -29.65015 -120.52463 2060.7542

right shoulder R\_shoulder -319.61395 -111.91269 2031.4355

289.9638

first angle mean: 141.31717

first angle stdev: 21.979868

second angle mean: 110.53012

second angle stdev: 25.52879

142.58 78.33

125.24 111.18

left shoulder L\_shoulder -23.689318 -119.046936 2064.1287

right shoulder R\_shoulder -310.7169 -112.113396 2026.8414

287.02756

first angle mean: 141.32092

first angle stdev: 21.947243

second angle mean: 110.57389

second angle stdev: 25.50336

144.48 97.6

125.18 115.35

left shoulder L\_shoulder -17.710342 -121.96243 2075.1592

right shoulder R\_shoulder -295.75327 -118.409996 2018.2772

278.0429

first angle mean: 141.3303

first angle stdev: 21.91533

second angle mean: 110.61723

second angle stdev: 25.477884

146.54 125.13

124.57 110.37

left shoulder L\_shoulder -19.66053 -125.35994 2072.4854

right shoulder R\_shoulder -292.94998 -123.759705 1997.033

273.28946

first angle mean: 141.34572

first angle stdev: 21.884716

second angle mean: 110.658516

second angle stdev: 25.45145

149.77 137.6

124.24 97.16

left shoulder L\_shoulder -26.270422 -126.06427 2081.5427

right shoulder R\_shoulder -297.62405 -124.83525 1992.0356

271.35364

first angle mean: 141.37056

first angle stdev: 21.85719

second angle mean: 110.698586

second angle stdev: 25.424555

154.12 144.61

129.69 84.91

left shoulder L\_shoulder -39.580463 -125.5644 2089.6897

right shoulder R\_shoulder -308.16446 -123.04064 1992.4

268.58398

first angle mean: 141.40807

first angle stdev: 21.83594

second angle mean: 110.75445

second angle stdev: 25.40796

157.57 152.18

134.82 79.54

left shoulder L\_shoulder -44.982536 -125.576675 2095.5464

right shoulder R\_shoulder -315.73816 -120.48623 1995.0878

270.7556

first angle mean: 141.45546

first angle stdev: 21.821405

second angle mean: 110.82502

second angle stdev: 25.40403

161.05 150.72

138.22 67.42

left shoulder L\_shoulder -42.559475 -129.0891 2088.6892

right shoulder R\_shoulder -319.59995 -121.76388 2001.6365

277.04047

first angle mean: 141.51276

first angle stdev: 21.815151

second angle mean: 110.90512

second angle stdev: 25.409952

160.63 162.22

138.89 49.7

left shoulder L\_shoulder -35.84974 -127.40643 2053.353

right shoulder R\_shoulder -299.03143 -118.378494 1964.2516

263.1817

first angle mean: 141.5685

first angle stdev: 21.8077

second angle mean: 110.98671

second angle stdev: 25.417707

159.01 165.65

136.96 49.12

left shoulder L\_shoulder -21.615803 -124.85173 2051.4001

right shoulder R\_shoulder -276.0229 -117.50018 1940.5524

254.40709

first angle mean: 141.61919

first angle stdev: 21.796217

second angle mean: 111.0622

second angle stdev: 25.419228

142.3 165.02

126.18 52.98

left shoulder L\_shoulder -18.927336 -123.21698 2089.2837

right shoulder R\_shoulder -256.735 -118.3083 1954.7357

237.80765

first angle mean: 141.62115

first angle stdev: 21.764635

second angle mean: 111.106026

second angle stdev: 25.39537

133.2 164.72

109.21 54.04

left shoulder L\_shoulder -25.918917 -121.49787 2129.2192

right shoulder R\_shoulder -238.56993 -119.35358 1961.2238

212.65102

first angle mean: 141.59682

first angle stdev: 21.737862

second angle mean: 111.10055

second angle stdev: 25.35885

135.41 167.92

101.08 56.33

left shoulder L\_shoulder -39.018906 -124.6169 2160.349

right shoulder R\_shoulder -226.77214 -118.87035 1951.9733

187.75323

first angle mean: 141.57901

first angle stdev: 21.70905

second angle mean: 111.07166

second angle stdev: 25.32798

143.74 167.85

97.33 60.7

left shoulder L\_shoulder -60.61206 -123.27195 2189.8115

right shoulder R\_shoulder -217.2422 -112.98562 1935.5635

156.63014

first angle mean: 141.5852

first angle stdev: 21.678144

second angle mean: 111.03218

second angle stdev: 25.302258

148.27 168.58

101.06 58.81

left shoulder L\_shoulder -85.11998 -122.04151 2197.7615

right shoulder R\_shoulder -213.03195 -108.056725 1919.3434

127.91197

first angle mean: 141.60435

first angle stdev: 21.650013

second angle mean: 111.0036

second angle stdev: 25.271605

150.42 169.82

107.03 56.03

left shoulder L\_shoulder -108.24682 -121.6081 2209.2507

right shoulder R\_shoulder -212.79376 -106.66592 1909.1876

104.54694

first angle mean: 141.62955

first angle stdev: 21.624182

second angle mean: 110.992256

second angle stdev: 25.236366

148.91 168.59

109.6 52.8

left shoulder L\_shoulder -115.22045 -127.942085 2222.9714

right shoulder R\_shoulder -213.80829 -111.6222 1908.0068

98.58784

first angle mean: 141.65028

first angle stdev: 21.596846

second angle mean: 110.98829

second angle stdev: 25.2005

143.76 165.18

111.23 49.27

left shoulder L\_shoulder -106.64313 -132.99344 2241.6865

right shoulder R\_shoulder -222.01855 -119.380264 1932.4756

115.37543

first angle mean: 141.65627

first angle stdev: 21.566437

second angle mean: 110.98897

second angle stdev: 25.164682

142.88 162.96

113.73 52.05

left shoulder L\_shoulder -98.07055 -129.2676 2246.7195

right shoulder R\_shoulder -236.5115 -119.43079 1947.118

138.44095

first angle mean: 141.65974

first angle stdev: 21.535967

second angle mean: 110.99675

second angle stdev: 25.129436

144.51 162.59

113.9 51.62

left shoulder L\_shoulder -84.181435 -127.91626 2227.9744

right shoulder R\_shoulder -256.61224 -114.60332 1946.5408

172.43082

first angle mean: 141.66779

first angle stdev: 21.506058

second angle mean: 111.004944

second angle stdev: 25.094389

145.92 160.04

121.78 47.22

left shoulder L\_shoulder -58.494568 -126.517746 2180.8044

right shoulder R\_shoulder -285.00867 -110.424194 1946.8602

226.5141

first angle mean: 141.67978

first angle stdev: 21.47693

second angle mean: 111.0353

second angle stdev: 25.065527

154.42 158.8

138.65 47.35

left shoulder L\_shoulder -40.807426 -121.53959 2134.3381

right shoulder R\_shoulder -314.35846 -105.82474 1966.841

273.55103

first angle mean: 141.71556

first angle stdev: 21.45734

second angle mean: 111.11286

second angle stdev: 25.072931

161.17 160.71

142.76 46.7

left shoulder L\_shoulder -35.074516 -117.43939 2090.687

right shoulder R\_shoulder -325.78503 -100.33745 1975.7433

290.7105

first angle mean: 141.77005

first angle stdev: 21.451923

second angle mean: 111.201515

second angle stdev: 25.093594

166.23 154.02

142.61 49.59

left shoulder L\_shoulder -31.371101 -118.88152 2028.1492

right shoulder R\_shoulder -335.9291 -97.77644 1989.7374

304.558

first angle mean: 141.83838

first angle stdev: 21.460804

second angle mean: 111.289246

second angle stdev: 25.113293

167.62 148.32

139.68 62.32

left shoulder L\_shoulder -29.258472 -126.94418 2020.5874

right shoulder R\_shoulder -335.77515 -106.9897 2034.698

306.51666

first angle mean: 141.91019

first angle stdev: 21.473927

second angle mean: 111.36833

second angle stdev: 25.12289

160.49 141.94

139.74 77.45

left shoulder L\_shoulder -24.647099 -131.97368 2033.9875

right shoulder R\_shoulder -331.14066 -113.134224 2049.2986

306.49356

first angle mean: 141.9618

first angle stdev: 21.466366

second angle mean: 111.447136

second angle stdev: 25.132376

150.66 133.22

137.08 85.47

left shoulder L\_shoulder -17.455072 -133.1408 2069.4182

right shoulder R\_shoulder -322.5594 -118.784546 2092.1643

305.1043

first angle mean: 141.9859

first angle stdev: 21.441488

second angle mean: 111.518135

second angle stdev: 25.133673

147.15 123.6

130.36 94.37

left shoulder L\_shoulder -3.9976387 -132.37424 2100.1265

right shoulder R\_shoulder -309.68634 -128.13686 2099.604

305.6887

first angle mean: 142.00017

first angle stdev: 21.413567

second angle mean: 111.57019

second angle stdev: 25.11841

149.17 120.73

124.78 99.67

left shoulder L\_shoulder 11.179894 -124.50779 2111.884

right shoulder R\_shoulder -289.95514 -129.41132 2103.8462

301.13504

first angle mean: 142.01991

first angle stdev: 21.387354

second angle mean: 111.606575

second angle stdev: 25.093342

151.98 122.05

122.51 106.95

left shoulder L\_shoulder 20.505993 -120.00089 2098.6682

right shoulder R\_shoulder -280.26224 -122.316734 2111.967

300.76822

first angle mean: 142.04729

first angle stdev: 21.364317

second angle mean: 111.636536

second angle stdev: 25.065348

144.97 130.81

119.65 113.68

left shoulder L\_shoulder 21.616577 -117.0679 2083.387

right shoulder R\_shoulder -275.02313 -119.09882 2112.646

296.6397

first angle mean: 142.05528

first angle stdev: 21.335577

second angle mean: 111.6585

second angle stdev: 25.034492

142.62 137.06

118.03 115.86

left shoulder L\_shoulder 14.819843 -120.18233 2074.0625

right shoulder R\_shoulder -276.1879 -120.3562 2113.0564

291.00775

first angle mean: 142.05684

first angle stdev: 21.30643

second angle mean: 111.675896

second angle stdev: 25.002481

141.39 138.43

116.34 119.19

left shoulder L\_shoulder 5.8429527 -121.02981 2056.9363

right shoulder R\_shoulder -280.49335 -119.02653 2101.9841

286.3363

first angle mean: 142.05502

first angle stdev: 21.277412

second angle mean: 111.68861

second angle stdev: 24.969578

143.68 139.17

114.86 121.11

left shoulder L\_shoulder -7.1999574 -126.89906 2055.8574

right shoulder R\_shoulder -288.4384 -119.831566 2103.974

281.23843

first angle mean: 142.05945

first angle stdev: 21.248652

second angle mean: 111.69722

second angle stdev: 24.936176

163.77 140.99

113.7 117.53

left shoulder L\_shoulder -15.664562 -131.41844 2035.5094

right shoulder R\_shoulder -293.12918 -120.390854 2101.2617

277.46463

first angle mean: 142.11827

first angle stdev: 21.249836

second angle mean: 111.70266

second angle stdev: 24.90258

156.65 146.99

108.02 120.23

left shoulder L\_shoulder -22.69329 -131.5814 2019.3257

right shoulder R\_shoulder -297.00375 -120.04278 2097.207

274.31046

first angle mean: 142.15755

first angle stdev: 21.234507

second angle mean: 111.6927

second angle stdev: 24.869642

130.27 150.04

102.34 123.46

left shoulder L\_shoulder -27.875555 -135.33522 2023.4868

right shoulder R\_shoulder -302.10675 -122.762375 2105.7097

274.2312

first angle mean: 142.1255

first angle stdev: 21.214823

second angle mean: 111.667496

second angle stdev: 24.840836

123.21 156.76

94.6 125.58

left shoulder L\_shoulder -24.066418 -133.69196 2024.0154

right shoulder R\_shoulder -300.2101 -120.661095 2111.7693

276.1437

first angle mean: 142.07466

first angle stdev: 21.208916

second angle mean: 111.621605

second angle stdev: 24.82316

80.09 161.69

79.96 126.54

left shoulder L\_shoulder -20.659267 -139.46486 2023.0858

right shoulder R\_shoulder -303.6045 -124.93626 2128.341

282.94522

first angle mean: 141.90848

first angle stdev: 21.421604

second angle mean: 111.53673

second angle stdev: 24.843864

106.15 162.76

73.42 123.89

left shoulder L\_shoulder -24.89856 -141.2369 1992.3457

right shoulder R\_shoulder -307.83243 -129.41545 2109.4436

282.93387

first angle mean: 141.81287

first angle stdev: 21.472492

second angle mean: 111.43481

second angle stdev: 24.888584

156.91 159.07

69.95 129.61

left shoulder L\_shoulder -36.979595 -151.20801 1950.432

right shoulder R\_shoulder -309.63263 -148.53864 2065.896

272.65305

first angle mean: 141.85312

first angle stdev: 21.457972

second angle mean: 111.32419

second angle stdev: 24.94728

163.82 125.08

64.75 127.33

left shoulder L\_shoulder -43.49215 -149.65521 1917.9708

right shoulder R\_shoulder -301.82333 -157.99887 2038.971

258.33118

first angle mean: 141.91154

first angle stdev: 21.45926

second angle mean: 111.20032

second angle stdev: 25.02929

159.77 110.09

58.02 126.14

left shoulder L\_shoulder -63.09396 -148.7549 1894.8885

right shoulder R\_shoulder -295.3388 -166.758 2027.9095

232.24484

first angle mean: 141.95892

first angle stdev: 21.450459

second angle mean: 111.05926

second angle stdev: 25.145287

164.98 99.05

55.37 122.92

left shoulder L\_shoulder -82.27543 -140.68224 1878.9735

right shoulder R\_shoulder -289.77295 -169.23724 2026.1858

207.49753

first angle mean: 142.01982

first angle stdev: 21.45468

second angle mean: 110.911934

second angle stdev: 25.274405

161.94 95.82

53.95 121.64

left shoulder L\_shoulder -95.61437 -132.4935 1873.4856

right shoulder R\_shoulder -288.04422 -166.7461 2025.1906

192.42984

first angle mean: 142.07239

first angle stdev: 21.450708

second angle mean: 110.761635

second angle stdev: 25.409615

counter:5

156.84 79.77

51.64 121.5

left shoulder L\_shoulder -106.93001 -134.44087 1884.9507

right shoulder R\_shoulder -292.2573 -170.55402 2088.0557

185.32729

first angle mean: 142.11125

first angle stdev: 21.435822

second angle mean: 110.60606

second angle stdev: 25.556282

156.79 130.19

49.67 107.54

left shoulder L\_shoulder -87.01541 -137.00021 1895.6848

right shoulder R\_shoulder -286.71548 -164.42265 2085.588

199.70007

first angle mean: 142.14977

first angle stdev: 21.420841

second angle mean: 110.44611

second angle stdev: 25.712444

157.08 131.24

56.59 109.38

left shoulder L\_shoulder -74.82792 -137.76242 1915.8638

right shoulder R\_shoulder -276.47467 -159.93188 2105.4468

201.64676

first angle mean: 142.18884

first angle stdev: 21.406385

second angle mean: 110.30513

second angle stdev: 25.825802

158.84 125.53

64.6 114.37

left shoulder L\_shoulder -61.799694 -136.31172 1923.1995

right shoulder R\_shoulder -265.9477 -155.52855 2115.1062

204.148

first angle mean: 142.23233

first angle stdev: 21.3953

second angle mean: 110.1858

second angle stdev: 25.897306

158.2 149.88

68.46 125.22

left shoulder L\_shoulder -35.481373 -140.04431 1943.7875

right shoulder R\_shoulder -275.27063 -153.9485 2141.7156

239.78926

first angle mean: 142.27391

first angle stdev: 21.382915

second angle mean: 110.077126

second angle stdev: 25.950842

155.35 160.36

62.14 138.4

left shoulder L\_shoulder -9.33975 -136.83609 1948.6095

right shoulder R\_shoulder -284.2735 -149.36795 2094.172

274.93375

first angle mean: 142.30788

first angle stdev: 21.365496

second angle mean: 109.95262

second angle stdev: 26.031713

150.22 160.01

76.35 139.55

left shoulder L\_shoulder 7.469938 -139.86078 1999.0651

right shoulder R\_shoulder -291.7498 -146.74931 2089.005

299.21973

first angle mean: 142.32837

first angle stdev: 21.341593

second angle mean: 109.86557

second angle stdev: 26.054026

146.4 157.49

81.81 138.06

left shoulder L\_shoulder 15.114618 -136.19867 2005.5137

right shoulder R\_shoulder -292.60297 -141.67969 2045.248

307.7176

first angle mean: 142.3389

first angle stdev: 21.315004

second angle mean: 109.79307

second angle stdev: 26.059296

149.19 156.79

89.73 131.04

left shoulder L\_shoulder 14.828517 -130.4088 2014.5066

right shoulder R\_shoulder -293.42575 -131.4752 2027.0273

308.25427

first angle mean: 142.35655

first angle stdev: 21.290352

second angle mean: 109.74136

second angle stdev: 26.045565

147.79 153.65

103.12 129.0

left shoulder L\_shoulder 0.9341247 -119.450935 2035.1438

right shoulder R\_shoulder -296.28525 -115.24436 2034.9757

297.21936

first angle mean: 142.37051

first angle stdev: 21.26475

second angle mean: 109.72434

second angle stdev: 26.014225

150.4 147.49

111.43 128.43

left shoulder L\_shoulder -4.1793284 -114.471825 2053.561

right shoulder R\_shoulder -298.58878 -108.51405 2056.317

294.40945

first angle mean: 142.39111

first angle stdev: 21.24135

second angle mean: 109.728714

second angle stdev: 25.980997

155.02 142.29

116.48 127.99

left shoulder L\_shoulder -3.9053411 -112.16005 2071.0728

right shoulder R\_shoulder -295.82193 -108.52772 2076.7415

291.9166

first angle mean: 142.4234

first angle stdev: 21.223757

second angle mean: 109.74599

second angle stdev: 25.949993

151.91 136.31

117.99 126.64

left shoulder L\_shoulder 3.2671096 -109.47493 2083.782

right shoulder R\_shoulder -287.71603 -111.15714 2087.2651

290.98315

first angle mean: 142.4476

first angle stdev: 21.20207

second angle mean: 109.76702

second angle stdev: 25.920206

151.48 132.32

113.83 122.25

left shoulder L\_shoulder 14.750793 -106.15029 2089.6497

right shoulder R\_shoulder -272.23773 -115.52837 2062.6682

286.98853

first angle mean: 142.4706

first angle stdev: 21.179968

second angle mean: 109.77735

second angle stdev: 25.888016

145.24 107.38

115.98 117.35

left shoulder L\_shoulder 20.057419 -110.04906 2093.5652

right shoulder R\_shoulder -263.93573 -124.84786 2061.8906

283.99316

first angle mean: 142.47763

first angle stdev: 21.15353

second angle mean: 109.7931

second angle stdev: 25.857027

144.35 91.82

120.12 112.69

left shoulder L\_shoulder 19.330954 -112.98566 2098.6836

right shoulder R\_shoulder -257.62503 -130.95123 2053.3452

276.956

first angle mean: 142.48236

first angle stdev: 21.126947

second angle mean: 109.819244

second angle stdev: 25.829489

150.0 140.52

120.18 106.49

left shoulder L\_shoulder 17.236013 -113.259605 2104.994

right shoulder R\_shoulder -253.19781 -134.47255 2038.7723

270.43384

first angle mean: 142.50134

first angle stdev: 21.103628

second angle mean: 109.845406

second angle stdev: 25.802095

152.47 148.74

122.37 95.13

left shoulder L\_shoulder 9.681144 -116.53594 2116.5303

right shoulder R\_shoulder -258.21732 -138.72253 2041.2903

267.89847

first angle mean: 142.52646

first angle stdev: 21.082954

second angle mean: 109.876945

second angle stdev: 25.777225

153.23 152.03

126.4 84.32

left shoulder L\_shoulder -14.770224 -122.918144 2100.63

right shoulder R\_shoulder -279.24957 -137.97316 2008.6072

264.47934

first angle mean: 142.55336

first angle stdev: 21.063269

second angle mean: 109.91847

second angle stdev: 25.758106

152.65 156.27

128.26 79.89

left shoulder L\_shoulder -28.6462 -134.66167 2094.4592

right shoulder R\_shoulder -288.8372 -140.74588 1986.8179

260.19098

first angle mean: 142.57866

first angle stdev: 21.042913

second angle mean: 109.96444

second angle stdev: 25.74215

151.26 159.9

133.02 74.6

left shoulder L\_shoulder -32.448395 -138.28304 2086.4001

right shoulder R\_shoulder -291.52258 -136.8971 1973.6964

259.0742

first angle mean: 142.60036

first angle stdev: 21.021065

second angle mean: 110.02207

second angle stdev: 25.735718

157.34 154.02

135.82 62.5

left shoulder L\_shoulder -25.981932 -137.91843 2077.3447

right shoulder R\_shoulder -293.5329 -132.99477 1986.309

267.55096

first angle mean: 142.63712

first angle stdev: 21.007704

second angle mean: 110.0864

second angle stdev: 25.735794

153.67 158.13

135.16 51.9

left shoulder L\_shoulder -29.441006 -132.06429 2056.2305

right shoulder R\_shoulder -277.99045 -126.229164 1981.6136

248.54944

first angle mean: 142.66455

first angle stdev: 20.988756

second angle mean: 110.14879

second angle stdev: 25.73409

145.52 161.32

125.85 49.13

left shoulder L\_shoulder -39.054607 -128.57376 2055.1504

right shoulder R\_shoulder -261.89758 -122.957146 1985.0251

222.84297

first angle mean: 142.67165

first angle stdev: 20.963179

second angle mean: 110.187744

second angle stdev: 25.714012

131.43 164.21

102.91 54.23

left shoulder L\_shoulder -50.816517 -123.57219 2109.119

right shoulder R\_shoulder -250.42421 -119.44246 1988.174

199.6077

first angle mean: 142.64381

first angle stdev: 20.94467

second angle mean: 110.16973

second angle stdev: 25.684713

128.21 165.01

94.42 58.39

left shoulder L\_shoulder -71.080605 -124.29386 2149.22

right shoulder R\_shoulder -239.33514 -117.8235 1966.9772

168.25455

first angle mean: 142.60818

first angle stdev: 20.931057

second angle mean: 110.130844

second angle stdev: 25.66489

128.38 165.65

94.27 55.82

left shoulder L\_shoulder -94.19726 -124.74912 2176.9602

right shoulder R\_shoulder -227.58408 -116.10041 1951.1802

133.38681

first angle mean: 142.57314

first angle stdev: 20.917156

second angle mean: 110.09177

second angle stdev: 25.645317

129.34 165.84

99.5 52.5

left shoulder L\_shoulder -115.84016 -123.244 2205.6782

right shoulder R\_shoulder -222.42734 -116.09414 1947.8934

106.58718

first angle mean: 142.54062

first angle stdev: 20.901714

second angle mean: 110.06574

second angle stdev: 25.61916

127.14 165.4

105.4 54.02

left shoulder L\_shoulder -123.211975 -119.55235 2223.0132

right shoulder R\_shoulder -229.48032 -117.05173 1955.4417

106.26834

first angle mean: 142.50287

first angle stdev: 20.889969

second angle mean: 110.05431

second angle stdev: 25.588783

128.66 165.11

116.08 56.47

left shoulder L\_shoulder -111.24551 -115.932236 2212.7227

right shoulder R\_shoulder -249.00813 -113.3744 1960.6014

137.76263

first angle mean: 142.46902

first angle stdev: 20.875612

second angle mean: 110.06905

second angle stdev: 25.559217

131.99robot count: 4

163.12

115.77 54.9

left shoulder L\_shoulder -101.5362 -116.590965 2208.3328

right shoulder R\_shoulder -261.41888 -112.84806 1970.833

159.88269

first angle mean: 142.44347

first angle stdev: 20.856544

second angle mean: 110.08295

second angle stdev: 25.529575

143.77 160.45

114.72 52.1

left shoulder L\_shoulder -86.86909 -116.22058 2204.3022

right shoulder R\_shoulder -277.60373 -111.91877 1990.7983

190.73465

first angle mean: 142.4467

first angle stdev: 20.831259

second angle mean: 110.09422

second angle stdev: 25.499523

160.69 159.84

123.02 51.68

left shoulder L\_shoulder -67.30993 -114.90946 2172.3618

right shoulder R\_shoulder -296.339 -109.04614 1999.5844

229.02905

first angle mean: 142.49097

first angle stdev: 20.82532

second angle mean: 110.12561

second angle stdev: 25.476496

164.94 154.73

135.25 51.58

left shoulder L\_shoulder -50.731094 -115.6168 2137.973

right shoulder R\_shoulder -314.11874 -108.16643 2021.9819

263.38763

first angle mean: 142.54533

first angle stdev: 20.829332

second angle mean: 110.18644

second angle stdev: 25.475578

161.69 146.43

140.45 56.41

left shoulder L\_shoulder -44.20494 -115.86238 2114.853

right shoulder R\_shoulder -323.12677 -105.34762 2044.0088

278.9218

first angle mean: 142.59158

first angle stdev: 20.825377

second angle mean: 110.25954

second angle stdev: 25.488121

161.0 143.53

135.58 67.95

left shoulder L\_shoulder -32.936825 -117.964386 2036.1028

right shoulder R\_shoulder -318.7224 -104.81456 2008.4863

285.78558

first angle mean: 142.63594

first angle stdev: 20.819843

second angle mean: 110.32056

second angle stdev: 25.487646

158.49 138.38

135.78 75.9

left shoulder L\_shoulder -26.806744 -120.19407 2031.246

right shoulder R\_shoulder -314.0164 -109.50187 2026.304

287.20966

first angle mean: 142.67404

first angle stdev: 20.80929

second angle mean: 110.38176

second angle stdev: 25.487507

145.21 146.45

134.02 87.54

left shoulder L\_shoulder -18.61374 -117.976326 2064.9866

right shoulder R\_shoulder -305.5082 -111.83338 2048.4705

286.89447

first angle mean: 142.68011

first angle stdev: 20.784697

second angle mean: 110.43844

second angle stdev: 25.483168

143.86 136.26

128.83 97.17

left shoulder L\_shoulder -14.001741 -122.07437 2108.4526

right shoulder R\_shoulder -298.21783 -124.093216 2072.8677

284.2161

first angle mean: 142.68294

first angle stdev: 20.7599

second angle mean: 110.48244

second angle stdev: 25.468523

149.3 131.65

123.46 99.69

left shoulder L\_shoulder -14.405772 -119.62822 2115.5144

right shoulder R\_shoulder -296.25964 -126.60815 2071.165

281.85388

first angle mean: 142.69873

first angle stdev: 20.737623

second angle mean: 110.513405

second angle stdev: 25.445993

151.33 122.21

125.29 101.64

left shoulder L\_shoulder -11.136338 -113.2948 2111.814

right shoulder R\_shoulder -293.6215 -120.58506 2074.5583

282.48514

first angle mean: 142.71928

first angle stdev: 20.717194

second angle mean: 110.5486

second angle stdev: 25.425882

157.58 138.71

123.11 107.36

left shoulder L\_shoulder -9.512349 -105.4277 2097.536

right shoulder R\_shoulder -293.19635 -111.22985 2071.4343

283.684

first angle mean: 142.75458

first angle stdev: 20.705214

second angle mean: 110.57844

second angle stdev: 25.403027

159.19 145.37

120.96 110.62

left shoulder L\_shoulder -10.167764 -106.95743 2076.4277

right shoulder R\_shoulder -294.81723 -109.013565 2064.589

284.64948

first angle mean: 142.79353

first angle stdev: 20.696102

second angle mean: 110.603035

second angle stdev: 25.377932

156.8 137.54

123.52 117.77

left shoulder L\_shoulder -11.889801 -110.55659 2072.194

right shoulder R\_shoulder -296.61835 -109.95084 2077.5793

284.72855

first angle mean: 142.82664

first angle stdev: 20.682812

second angle mean: 110.63357

second angle stdev: 25.355677

150.24 141.98

119.4 124.7

left shoulder L\_shoulder -19.962193 -114.66381 2076.2334

right shoulder R\_shoulder -304.21588 -109.3806 2088.6665

284.2537

first angle mean: 142.84413

first angle stdev: 20.661537

second angle mean: 110.65424

second angle stdev: 25.329329

119.31 147.7

107.93 126.69

left shoulder L\_shoulder -24.118797 -121.05568 2084.3247

right shoulder R\_shoulder -307.76126 -111.444855 2099.292

283.64246

first angle mean: 142.78876

first angle stdev: 20.668692

second angle mean: 110.64783

second angle stdev: 25.299856

117.33 151.87

101.27 127.83

left shoulder L\_shoulder -23.624691 -128.5875 2070.68

right shoulder R\_shoulder -306.37518 -117.61915 2096.6182

282.7505

first angle mean: 142.72899

first angle stdev: 20.681147

second angle mean: 110.625824

second angle stdev: 25.27422

68.27 156.95

89.17 129.67

left shoulder L\_shoulder -16.694546 -140.98264 2045.3961

right shoulder R\_shoulder -298.5837 -133.22664 2083.462

281.88916

first angle mean: 142.55461

first angle stdev: 20.968113

second angle mean: 110.57557

second angle stdev: 25.2659

70.14 158.68

78.52 131.57

left shoulder L\_shoulder -18.182814 -148.61188 2028.4379

right shoulder R\_shoulder -300.06168 -143.46855 2072.2554

281.87888

first angle mean: 142.38542

first angle stdev: 21.233416

second angle mean: 110.50068

second angle stdev: 25.28378

73.63 162.42

74.9 134.62

left shoulder L\_shoulder -24.013996 -146.58162 1977.4485

right shoulder R\_shoulder -304.28024 -146.17842 2023.961

280.26624

first angle mean: 142.22516

first angle stdev: 21.466267

second angle mean: 110.41769

second angle stdev: 25.31258

147.09 148.93

62.57 132.67

left shoulder L\_shoulder -32.489582 -137.05286 1941.7881

right shoulder R\_shoulder -300.5976 -142.58357 1995.5295

268.108

first angle mean: 142.23647

first angle stdev: 21.442572

second angle mean: 110.30641

second angle stdev: 25.38796

163.7 115.2

59.57 125.54

left shoulder L\_shoulder -46.58895 -130.74976 1905.4438

right shoulder R\_shoulder -285.77243 -144.69745 1988.3074

239.18347

first angle mean: 142.28627

first angle stdev: 21.442562

second angle mean: 110.1887

second angle stdev: 25.475708

158.89 109.65

56.56 131.64

left shoulder L\_shoulder -63.830555 -123.856514 1881.178

right shoulder R\_shoulder -283.38043 -149.24254 2005.4681

219.54988

first angle mean: 142.3247

first angle stdev: 21.43259

second angle mean: 110.06456

second angle stdev: 25.576385

158.55 136.26

56.12 127.03

left shoulder L\_shoulder -85.07004 -120.333855 1869.9305

right shoulder R\_shoulder -285.3505 -153.11545 2021.4991

200.28046

first angle mean: 142.36217

first angle stdev: 21.421988

second angle mean: 109.93997

second angle stdev: 25.67773

163.04 148.86

66.96 116.33

left shoulder L\_shoulder -113.75348 -117.27441 1835.1833

right shoulder R\_shoulder -276.70627 -164.76027 2037.6816

162.95279

first angle mean: 142.40982

first angle stdev: 21.420252

second angle mean: 109.84094

second angle stdev: 25.730783

counter:6

169.08 139.1

62.95 101.74

left shoulder L\_shoulder -128.73247 -109.819275 1836.9707

right shoulder R\_shoulder -273.85867 -166.7893 2151.516

145.1262

first angle mean: 142.47113

first angle stdev: 21.433708

second angle mean: 109.73315

second angle stdev: 25.799112

169.65 140.51

60.4 102.47

left shoulder L\_shoulder -122.63318 -120.626 1859.258

right shoulder R\_shoulder -270.55737 -159.04665 2197.0278

147.9242

first angle mean: 142.53348

first angle stdev: 21.448553

second angle mean: 109.62

second angle stdev: 25.877342

169.54 131.3

61.88 108.17

left shoulder L\_shoulder -96.73922 -128.53632 1851.5852

right shoulder R\_shoulder -276.41232 -160.20341 2174.061

179.6731

first angle mean: 142.59528

first angle stdev: 21.462828

second angle mean: 109.51075

second angle stdev: 25.948177

159.01 122.35

60.82 110.51

left shoulder L\_shoulder -74.66188 -134.4372 1865.5481

right shoulder R\_shoulder -281.67056 -161.84569 2171.5354

207.00868

first angle mean: 142.63274

first angle stdev: 21.452621

second angle mean: 109.39959

second angle stdev: 26.02251

154.81 134.13

63.61 126.35

left shoulder L\_shoulder -51.21962 -129.5047 1861.2188

right shoulder R\_shoulder -288.1777 -156.75455 2123.6218

236.95808

first angle mean: 142.66049

first angle stdev: 21.436037

second angle mean: 109.29528

second angle stdev: 26.084356

147.79 145.5

66.7 134.35

left shoulder L\_shoulder -26.161148 -127.969086 1889.4711

right shoulder R\_shoulder -303.8756 -145.17857 2075.2559

277.71448

first angle mean: 142.67213

first angle stdev: 21.413057

second angle mean: 109.19847

second angle stdev: 26.133532

145.8 162.0

67.92 138.18

left shoulder L\_shoulder -7.1916428 -126.19586 1889.2374

right shoulder R\_shoulder -309.07065 -141.0379 1990.8042

301.879

first angle mean: 142.67923

first angle stdev: 21.389282

second angle mean: 109.10487

second angle stdev: 26.177622

143.75 155.54

73.53 135.13

left shoulder L\_shoulder -0.7316025 -132.8535 1948.8752

right shoulder R\_shoulder -313.36942 -132.4374 1951.0515

312.63782

first angle mean: 142.68166

first angle stdev: 21.365133

second angle mean: 109.02439

second angle stdev: 26.20256

138.3 148.03

82.31 134.05

left shoulder L\_shoulder -8.414745 -137.86172 2009.3856

right shoulder R\_shoulder -319.9038 -130.64183 1993.4355

311.48907

first angle mean: 142.67177

first angle stdev: 21.342018

second angle mean: 108.96409

second angle stdev: 26.20366

128.53 143.01

95.49 132.37

left shoulder L\_shoulder -14.416471 -137.9499 2058.1362

right shoulder R\_shoulder -324.66348 -124.514694 2041.9724

310.247

first angle mean: 142.63991

first angle stdev: 21.328508

second angle mean: 108.93373

second angle stdev: 26.181925

132.56 140.91

101.62 131.13

left shoulder L\_shoulder -20.934166 -131.80974 2069.5344

right shoulder R\_shoulder -328.89105 -113.02291 2061.947

307.95688

first angle mean: 142.61726

first angle stdev: 21.309877

second angle mean: 108.917305

second angle stdev: 26.154785

144.64 136.92

107.2 128.42

left shoulder L\_shoulder -27.182207 -129.42456 2083.619

right shoulder R\_shoulder -331.37958 -105.865395 2077.9937

304.19736

first angle mean: 142.6218

first angle stdev: 21.286188

second angle mean: 108.91345

second angle stdev: 26.125572

148.06 129.3

110.39 126.1

left shoulder L\_shoulder -24.886892 -130.23218 2090.7043

right shoulder R\_shoulder -326.32312 -107.37203 2084.6729

301.43622

first angle mean: 142.63397

first angle stdev: 21.263916

second angle mean: 108.916756

second angle stdev: 26.096426

155.31 110.69

112.97 121.96

left shoulder L\_shoulder -17.836765 -130.27063 2068.3782

right shoulder R\_shoulder -317.8055 -110.726814 2078.1147

299.96875

first angle mean: 142.66225

first angle stdev: 21.248594

second angle mean: 108.9258

second angle stdev: 26.067986

155.7 99.7

113.53 119.3

left shoulder L\_shoulder -14.107883 -129.10262 2052.5623

right shoulder R\_shoulder -312.62637 -113.62001 2072.3132

298.5185

first angle mean: 142.6913

first angle stdev: 21.233816

second angle mean: 108.93606

second angle stdev: 26.039845

153.85 94.75

114.39 117.92

left shoulder L\_shoulder -10.4852915 -129.2238 2042.1345

right shoulder R\_shoulder -307.30338 -117.81557 2067.8894

296.81808

first angle mean: 142.71608

first angle stdev: 21.216717

second angle mean: 108.94817

second angle stdev: 26.012165

147.91 111.26

115.62 120.89

left shoulder L\_shoulder -5.712464 -124.70176 2047.0507

right shoulder R\_shoulder -301.844 -118.72695 2068.8005

296.13153

first angle mean: 142.7276

first angle stdev: 21.19459

second angle mean: 108.96297

second angle stdev: 25.985205

139.76 123.74

117.21 120.52

left shoulder L\_shoulder -1.3848687 -127.33658 2066.9802

right shoulder R\_shoulder -296.2894 -123.688126 2073.4067

294.90454

first angle mean: 142.72104

first angle stdev: 21.17159

second angle mean: 108.98121

second angle stdev: 25.959337

138.98 145.99

119.3 117.58

left shoulder L\_shoulder 0.4425047 -125.69253 2083.3088

right shoulder R\_shoulder -294.2029 -124.84894 2077.0027

294.64542

first angle mean: 142.71278

first angle stdev: 21.14894

second angle mean: 109.004

second angle stdev: 25.93519

143.14 155.73

121.64 104.69

left shoulder L\_shoulder 1.9118937 -121.89614 2091.4678

right shoulder R\_shoulder -291.48004 -125.057175 2068.2273

293.39194

first angle mean: 142.71373

first angle stdev: 21.125643

second angle mean: 109.03183

second angle stdev: 25.913383

148.71 133.29

127.65 88.2

left shoulder L\_shoulder -6.991194 -132.24698 2109.6155

right shoulder R\_shoulder -298.38596 -138.53586 2076.9585

291.39478

first angle mean: 142.72691

first angle stdev: 21.104284

second angle mean: 109.072754

second angle stdev: 25.89957

151.82 129.78

130.5 79.11

left shoulder L\_shoulder -13.876363 -139.2146 2109.4062

right shoulder R\_shoulder -303.9222 -144.40602 2069.1606

290.04584

first angle mean: 142.74684

first angle stdev: 21.08542

second angle mean: 109.11974

second angle stdev: 25.890564

153.77 145.59

132.44 75.62

left shoulder L\_shoulder -20.656523 -146.21257 2088.0623

right shoulder R\_shoulder -306.75986 -146.18481 2028.4021

286.10333

first angle mean: 142.77097

first angle stdev: 21.068636

second angle mean: 109.17076

second angle stdev: 25.88517

157.93 156.68

134.99 69.67

left shoulder L\_shoulder -23.308144 -145.6919 2069.801

right shoulder R\_shoulder -300.26184 -138.02496 1979.5608

276.9537

first angle mean: 142.80406

first angle stdev: 21.057514

second angle mean: 109.22714

second angle stdev: 25.884964

156.16 163.21

128.62 62.52

left shoulder L\_shoulder -26.348978 -146.38348 2045.1935

right shoulder R\_shoulder -281.37622 -132.33598 1937.65

255.02724

first angle mean: 142.83316

first angle stdev: 21.04378

second angle mean: 109.26939

second angle stdev: 25.872557

153.41 165.61

107.82 55.63

left shoulder L\_shoulder -26.795029 -144.46916 2059.7185

right shoulder R\_shoulder -262.52982 -129.75227 1933.6813

235.73479

first angle mean: 142.85616

first angle stdev: 21.026663

second angle mean: 109.266235

second angle stdev: 25.844507

147.89 166.23

95.5 56.75

left shoulder L\_shoulder -34.807655 -143.74554 2101.3376

right shoulder R\_shoulder -245.35939 -127.6724 1936.8905

210.55173

first angle mean: 142.86707

first angle stdev: 21.005152

second angle mean: 109.236374

second angle stdev: 25.824402

150.21 167.43

93.84 63.09

left shoulder L\_shoulder -57.447327 -139.14746 2139.3235

right shoulder R\_shoulder -222.57175 -116.54591 1919.2501

165.12442

first angle mean: 142.88297

first angle stdev: 20.985182

second angle mean: 109.20306

second angle stdev: 25.806362

144.37 168.3

98.57 63.86

left shoulder L\_shoulder -83.377045 -139.87949 2179.5437

right shoulder R\_shoulder -204.08995 -113.604996 1899.2847

120.712906

first angle mean: 142.88617

first angle stdev: 20.96262

second angle mean: 109.18009

second angle stdev: 25.783205

141.94 166.96

99.73 62.51

left shoulder L\_shoulder -103.33241 -138.62529 2193.1672

right shoulder R\_shoulder -191.32745 -113.21906 1885.135

87.99504

first angle mean: 142.88414

first angle stdev: 20.940065

second angle mean: 109.15972

second angle stdev: 25.759134

141.64 169.17

97.97 55.33

left shoulder L\_shoulder -116.98437 -136.578 2206.2747

right shoulder R\_shoulder -190.41054 -110.22158 1876.454

73.42617

first angle mean: 142.88147

first angle stdev: 20.917616

second angle mean: 109.13565

second angle stdev: 25.736643

145.35 166.08

99.87 56.15

left shoulder L\_shoulder -127.9189 -137.24498 2217.2346

right shoulder R\_shoulder -197.92061 -112.20013 1873.1183

70.00171

first angle mean: 142.88676

first angle stdev: 20.895473

second angle mean: 109.11577

second angle stdev: 25.712587

144.74 164.48

110.81 57.81

left shoulder L\_shoulder -125.265854 -136.85107 2199.7644

right shoulder R\_shoulder -215.6199 -113.00101 1870.0922

90.35405

first angle mean: 142.89073

first angle stdev: 20.873264

second angle mean: 109.11939

second angle stdev: 25.685163

141.91 164.5

111.19 56.18

left shoulder L\_shoulder -122.73651 -133.9824 2203.2227

right shoulder R\_shoulder -232.94106 -113.1647 1882.1534

110.204544

first angle mean: 142.88864

first angle stdev: 20.851002

second angle mean: 109.123825

second angle stdev: 25.657885

140.19 163.79

110.84 53.58

left shoulder L\_shoulder -101.023315 -132.18127 2212.7896

right shoulder R\_shoulder -255.24762 -115.39279 1912.1394

154.2243

first angle mean: 142.88287

first angle stdev: 20.829132

second angle mean: 109.12748

second angle stdev: 25.630638

141.44 162.55

112.2 51.68

left shoulder L\_shoulder -81.64898 -131.25146 2210.1108

right shoulder R\_shoulder -278.96942 -114.70772 1935.9194

197.32043

first angle mean: 142.8798

first angle stdev: 20.807068

second angle mean: 109.13402

second angle stdev: 25.603748

147.21 163.53

126.33 49.69

left shoulder L\_shoulder -59.36364 -131.91263 2169.296

right shoulder R\_shoulder -306.55182 -110.593765 1948.5709

247.18817

first angle mean: 142.88899

first angle stdev: 20.785923

second angle mean: 109.17053

second angle stdev: 25.588799

150.3 163.25

138.51 47.9

left shoulder L\_shoulder -44.33544 -127.76318 2102.6755

right shoulder R\_shoulder -331.9233 -104.35859 1968.0353

287.58786

first angle mean: 142.90471

first angle stdev: 20.76669

second angle mean: 109.23269

second angle stdev: 25.59725

149.52 152.71

139.26 56.23

left shoulder L\_shoulder -29.233934 -127.65073 2046.5701

right shoulder R\_shoulder -337.36826 -105.37489 1983.2847

308.1343

first angle mean: 142.91869

first angle stdev: 20.74695

second angle mean: 109.29617

second angle stdev: 25.607346

153.86 147.52

139.16 65.91

left shoulder L\_shoulder -21.295982 -130.487 2030.8495

right shoulder R\_shoulder -334.33615 -112.39465 2003.4042

313.04016

first angle mean: 142.94177

first angle stdev: 20.731134

second angle mean: 109.35918

second angle stdev: 25.616993

154.99 146.49

139.16 79.74

left shoulder L\_shoulder -17.115755 -134.56389 2028.1699

right shoulder R\_shoulder -331.15997 -119.83887 2023.2437

314.04422

first angle mean: 142.96713

first angle stdev: 20.716661

second angle mean: 109.42191

second angle stdev: 25.62644

153.01 137.79

134.8 91.63

left shoulder L\_shoulder -7.2207303 -138.81589 2036.0575

right shoulder R\_shoulder -313.5317 -132.11942 2033.4458

306.31097

first angle mean: 142.98824

first angle stdev: 20.699997

second angle mean: 109.475235

second angle stdev: 25.625866

149.71 132.51

126.88 96.26

left shoulder L\_shoulder 3.0732455 -139.35092 2041.9379

right shoulder R\_shoulder -298.65283 -139.7347 2030.8666

301.72607

first angle mean: 143.00232

first angle stdev: 20.680573

second angle mean: 109.51172

second angle stdev: 25.611366

151.6 125.89

121.71 104.56

left shoulder L\_shoulder 14.497296 -133.6563 2061.7363

right shoulder R\_shoulder -282.20685 -140.97038 2034.7583

296.70413

first angle mean: 143.02031

first angle stdev: 20.662664

second angle mean: 109.53723

second angle stdev: 25.590631

155.38 112.63

120.76 112.41

left shoulder L\_shoulder 19.213558 -124.8607 2083.336

right shoulder R\_shoulder -275.13107 -135.69234 2046.2384

294.34464

first angle mean: 143.04613

first angle stdev: 20.64879

second angle mean: 109.56066

second angle stdev: 25.569036

140.75 115.86

120.14 120.43

left shoulder L\_shoulder 20.897879 -119.45231 2090.5547

right shoulder R\_shoulder -274.5478 -132.41237 2069.2058

295.44568

first angle mean: 143.04134

first angle stdev: 20.627537

second angle mean: 109.58271

second angle stdev: 25.546944

128.21 119.55

122.76 122.68

left shoulder L\_shoulder 17.9905 -120.672745 2081.149

right shoulder R\_shoulder -278.43564 -129.35612 2081.9263

296.42615

first angle mean: 143.01051

first angle stdev: 20.617155

second angle mean: 109.61011

second angle stdev: 25.527431

129.95 116.16

122.1 119.81

left shoulder L\_shoulder 15.058071 -121.24084 2069.306

right shoulder R\_shoulder -280.8243 -128.42775 2075.872

295.8824

first angle mean: 142.9834

first angle stdev: 20.604328

second angle mean: 109.63602

second angle stdev: 25.507269

134.77 100.47

122.3 114.0

left shoulder L\_shoulder 11.572718 -125.083374 2076.1914

right shoulder R\_shoulder -282.06723 -135.44743 2075.8108

293.63995

first angle mean: 142.9664

first angle stdev: 20.586372

second angle mean: 109.66223

second angle stdev: 25.487349

141.17 111.17

123.52 116.92

left shoulder L\_shoulder 10.719001 -122.44836 2066.9004

right shoulder R\_shoulder -279.3224 -134.32112 2063.206

290.04138

first angle mean: 142.96269

first angle stdev: 20.565256

second angle mean: 109.690865

second angle stdev: 25.46878

149.8 121.64

123.99 119.69

left shoulder L\_shoulder 11.590748 -120.65779 2061.248

right shoulder R\_shoulder -277.14728 -130.9517 2061.6958

288.73804

first angle mean: 142.97679

first angle stdev: 20.546385

second angle mean: 109.720345

second angle stdev: 25.450777

147.42 133.58

119.24 121.07

left shoulder L\_shoulder 10.056555 -119.02219 2059.3403

right shoulder R\_shoulder -278.3554 -131.13435 2059.1584

288.41196

first angle mean: 142.98593

first angle stdev: 20.526222

second angle mean: 109.73994

second angle stdev: 25.42824

132.7 144.67

108.37 124.25

left shoulder L\_shoulder 5.403787 -120.74921 2045.7921

right shoulder R\_shoulder -281.59048 -130.39903 2055.6511

286.99426

first angle mean: 142.9648

first angle stdev: 20.510424

second angle mean: 109.73713

second angle stdev: 25.402195

123.29 150.1

103.09 126.82

left shoulder L\_shoulder 3.2561426 -129.31105 2035.09

right shoulder R\_shoulder -282.29074 -136.23766 2062.6687

285.54688

first angle mean: 142.9245

first angle stdev: 20.508707

second angle mean: 109.7235

second angle stdev: 25.377934

129.86 156.37

96.62 129.59

left shoulder L\_shoulder 2.948061 -132.39748 2021.4991

right shoulder R\_shoulder -281.22455 -137.77252 2065.4229

284.1726

first angle mean: 142.89778

first angle stdev: 20.496225

second angle mean: 109.69671

second angle stdev: 25.358883

144.17 159.1

88.85 130.08

left shoulder L\_shoulder -1.4176667 -147.13902 1984.5032

right shoulder R\_shoulder -283.1154 -153.48888 2042.7122

281.69772

first angle mean: 142.90038

first angle stdev: 20.47538

second angle mean: 109.65416

second angle stdev: 25.350458

147.55 160.34

79.97 130.8

left shoulder L\_shoulder -3.0139983 -147.99045 1966.4238

right shoulder R\_shoulder -286.64795 -157.44301 2052.871

283.63394

first angle mean: 142.90985

first angle stdev: 20.455595

second angle mean: 109.59371

second angle stdev: 25.359962

159.22 159.32

73.15 126.58

left shoulder L\_shoulder -9.949474 -134.17545 1915.3519

right shoulder R\_shoulder -284.74576 -151.42178 2025.7463

274.7963

first angle mean: 142.943

first angle stdev: 20.447992

second angle mean: 109.51964

second angle stdev: 25.387291

167.17 150.53

60.67 123.52

left shoulder L\_shoulder -22.727924 -125.91225 1880.0403

right shoulder R\_shoulder -275.847 -151.04256 1999.6154

253.11906

first angle mean: 142.99214

first angle stdev: 20.456306

second angle mean: 109.42055

second angle stdev: 25.456587

164.43 146.79

54.75 103.9

left shoulder L\_shoulder -37.844334 -124.10539 1872.3967

right shoulder R\_shoulder -270.74387 -155.25932 2006.2897

232.89954

first angle mean: 143.03554

first angle stdev: 20.458294

second angle mean: 109.309875

second angle stdev: 25.549248

167.33 113.52

57.42 98.93

left shoulder L\_shoulder -56.214016 -123.798584 1883.0424

right shoulder R\_shoulder -268.05722 -158.53992 2055.2363

211.8432

first angle mean: 143.08461

first angle stdev: 20.46671

second angle mean: 109.20505

second angle stdev: 25.62955

163.24 117.97

70.86 107.96

left shoulder L\_shoulder -81.87437 -116.96944 1867.0621

right shoulder R\_shoulder -274.89975 -161.34836 2098.5408

193.02539

first angle mean: 143.12526

first angle stdev: 20.466047

second angle mean: 109.12774

second angle stdev: 25.661407

161.5 135.88

72.9 104.75

left shoulder L\_shoulder -107.364975 -115.49215 1849.499

right shoulder R\_shoulder -275.20538 -164.10574 2120.804

167.84041

first angle mean: 143.16222

first angle stdev: 20.46202

second angle mean: 109.05485

second angle stdev: 25.686932

161.41 138.5

67.73 102.13

left shoulder L\_shoulder -117.92478 -110.38232 1822.4027

right shoulder R\_shoulder -270.0126 -164.903 2111.4622

152.08783

first angle mean: 143.19885

first angle stdev: 20.457783

second angle mean: 108.97187

second angle stdev: 25.727724

counter:7

161.48 136.25

67.31 106.86

left shoulder L\_shoulder -109.40771 -108.96558 1821.5698

right shoulder R\_shoulder -256.95114 -164.28728 2137.881

147.54343

first angle mean: 143.2355

first angle stdev: 20.453619

second angle mean: 108.88838

second angle stdev: 25.769377

160.32 135.33

65.05 103.13

left shoulder L\_shoulder -87.45114 -112.101776 1838.9756

right shoulder R\_shoulder -254.12584 -162.08426 2149.1843

166.6747

first angle mean: 143.26965

first angle stdev: 20.447407

second angle mean: 108.800705

second angle stdev: 25.817987

161.11 132.56

65.5 104.35

left shoulder L\_shoulder -63.9824 -116.014435 1853.2032

right shoulder R\_shoulder -248.93344 -158.0488 2163.4966

184.95105

first angle mean: 143.30527

first angle stdev: 20.442503

second angle mean: 108.71427

second angle stdev: 25.86451

163.09 135.11

57.97 108.49

left shoulder L\_shoulder -44.371387 -123.373924 1866.689

right shoulder R\_shoulder -257.52005 -155.94159 2159.639

213.14867

first angle mean: 143.34468

first angle stdev: 20.441175

second angle mean: 108.61319

second angle stdev: 25.937609

robot count: 5162.93

146.95

51.82 126.69

left shoulder L\_shoulder -23.210747 -123.229324 1872.5304

right shoulder R\_shoulder -271.5321 -150.75967 2115.7883

248.32135

first angle mean: 143.38362

first angle stdev: 20.439472

second angle mean: 108.50028

second angle stdev: 26.035011

163.69 159.45

60.42 138.6

left shoulder L\_shoulder -0.5336253 -122.932594 1908.1893

right shoulder R\_shoulder -287.36957 -141.07506 2104.8804

286.83594

first angle mean: 143.42392

first angle stdev: 20.439169

second angle mean: 108.404884

second angle stdev: 26.097021

143.69 164.6

68.99 140.71

left shoulder L\_shoulder 19.20827 -125.333755 1968.4572

right shoulder R\_shoulder -307.1694 -134.35251 2086.2427

326.3777

first angle mean: 143.42444

first angle stdev: 20.418926

second angle mean: 108.326836

second angle stdev: 26.129986

129.57 164.84

80.38 139.0

left shoulder L\_shoulder 23.21151 -126.91909 2027.842

right shoulder R\_shoulder -315.9934 -130.27272 2046.817

339.20493

first angle mean: 143.39706

first angle stdev: 20.408016

second angle mean: 108.2716

second angle stdev: 26.133642

150.24 153.69

94.81 135.28

left shoulder L\_shoulder 14.132484 -131.90714 2022.3308

right shoulder R\_shoulder -313.83615 -128.82433 2016.5072

327.96863

first angle mean: 143.41057

first angle stdev: 20.39014

second angle mean: 108.245056

second angle stdev: 26.114687

147.53 148.08

104.26 131.53

left shoulder L\_shoulder 4.198849 -132.30386 2031.4006

right shoulder R\_shoulder -314.52475 -123.06592 2015.969

318.7236

first angle mean: 143.41867

first angle stdev: 20.370878

second angle mean: 108.237206

second angle stdev: 26.08957

142.58 145.11

111.22 130.31

left shoulder L\_shoulder -0.029236276 -128.96701 2032.3212

right shoulder R\_shoulder -313.41473 -117.15424 2021.0323

313.3855

first angle mean: 143.41702

first angle stdev: 20.350893

second angle mean: 108.243065

second angle stdev: 26.064262

144.76 131.93

116.76 126.5

left shoulder L\_shoulder -1.9667 -126.70307 2035.0306

right shoulder R\_shoulder -310.86942 -114.54824 2025.3694

308.9027

first angle mean: 143.41965

first angle stdev: 20.331018

second angle mean: 108.259766

second angle stdev: 26.041422

147.86 115.86

119.67 122.4

left shoulder L\_shoulder -1.7937423 -127.72527 2037.5719

right shoulder R\_shoulder -307.19016 -116.89565 2033.4387

305.39642

first angle mean: 143.42834

first angle stdev: 20.312063

second angle mean: 108.28209

second angle stdev: 26.020817

149.34 116.4

118.96 121.8

left shoulder L\_shoulder 0.72039586 -126.85943 2041.1687

right shoulder R\_shoulder -299.63577 -121.4414 2038.4469

300.35617

first angle mean: 143.4399

first angle stdev: 20.293896

second angle mean: 108.30295

second angle stdev: 25.999668

152.66 122.4

117.69 120.65

left shoulder L\_shoulder 2.1456633 -123.39947 2044.2017

right shoulder R\_shoulder -293.70645 -122.026985 2032.6393

295.8521

first angle mean: 143.45786

first angle stdev: 20.278187

second angle mean: 108.32124

second angle stdev: 25.977615

153.12 126.99

120.87 118.88

left shoulder L\_shoulder 1.6291143 -121.9538 2047.4839

right shoulder R\_shoulder -289.4563 -124.36715 2030.2482

291.08542

first angle mean: 143.47665

first angle stdev: 20.262924

second angle mean: 108.345665

second angle stdev: 25.958221

151.28 149.92

121.84 110.19

left shoulder L\_shoulder -4.3245106 -122.03248 2055.2517

right shoulder R\_shoulder -291.23285 -126.39451 2025.5042

286.90833

first angle mean: 143.4918

first angle stdev: 20.246157

second angle mean: 108.37186

second angle stdev: 25.93981

150.3 148.7

124.12 96.36

left shoulder L\_shoulder -15.737325 -131.94554 2062.385

right shoulder R\_shoulder -299.24518 -135.62463 2012.5465

283.50784

first angle mean: 143.50499

first angle stdev: 20.228745

second angle mean: 108.40238

second angle stdev: 25.923916

152.43 134.11

127.32 82.94

left shoulder L\_shoulder -24.025845 -141.9583 2061.9321

right shoulder R\_shoulder -303.1623 -141.4119 1990.3497

279.13644

first angle mean: 143.52228

first angle stdev: 20.212975

second angle mean: 108.43897

second angle stdev: 25.912169

155.16 149.09

130.78 75.7

left shoulder L\_shoulder -31.175926 -142.65628 2045.5763

right shoulder R\_shoulder -306.04788 -133.04286 1958.5801

274.87195

first angle mean: 143.54474

first angle stdev: 20.199915

second angle mean: 108.48209

second angle stdev: 25.905712

160.89 151.73

133.52 67.38

left shoulder L\_shoulder -32.0206 -136.0723 2022.1748

right shoulder R\_shoulder -304.5261 -120.12945 1936.4421

272.5055

first angle mean: 143.57816

first angle stdev: 20.194775

second angle mean: 108.53035

second angle stdev: 25.904024

154.24 157.34

132.04 56.23

left shoulder L\_shoulder -28.89852 -132.26509 2024.0256

right shoulder R\_shoulder -285.7872 -113.32691 1926.5851

256.88867

first angle mean: 143.59866

first angle stdev: 20.180754

second angle mean: 108.575554

second angle stdev: 25.899591

135.72 161.53

112.99 56.27

left shoulder L\_shoulder -33.32843 -133.5845 2070.7485

right shoulder R\_shoulder -260.9765 -110.67836 1919.2374

227.64807

first angle mean: 143.58354

first angle stdev: 20.164326

second angle mean: 108.58403

second angle stdev: 25.875444

137.83 164.42

98.31 66.97

left shoulder L\_shoulder -51.249077 -136.18169 2114.3108

right shoulder R\_shoulder -240.49026 -106.68034 1895.6477

189.24118

first angle mean: 143.57251

first angle stdev: 20.146574

second angle mean: 108.56435

second angle stdev: 25.854551

148.11 167.86

96.85 65.06

left shoulder L\_shoulder -69.4849 -136.23528 2160.3354

right shoulder R\_shoulder -216.9014 -97.051834 1861.2727

147.4165

first angle mean: 143.5812

first angle stdev: 20.12828

second angle mean: 108.54195

second angle stdev: 25.83489

151.41 165.87

99.81 63.5

left shoulder L\_shoulder -80.670586 -128.86069 2175.9016

right shoulder R\_shoulder -200.2835 -89.17909 1848.6893

119.61291

first angle mean: 143.59613

first angle stdev: 20.111967

second angle mean: 108.52528

second angle stdev: 25.813042

152.4 164.35

100.37 57.37

left shoulder L\_shoulder -83.97423 -126.127716 2185.9915

right shoulder R\_shoulder -198.18597 -86.11162 1852.7723

114.21175

first angle mean: 143.6129

first angle stdev: 20.09647

second angle mean: 108.50975

second angle stdev: 25.790897

152.6 163.35

101.21 56.52

left shoulder L\_shoulder -88.52315 -127.873184 2184.3386

right shoulder R\_shoulder -202.09521 -85.948524 1849.5718

113.57207

first angle mean: 143.62999

first angle stdev: 20.081175

second angle mean: 108.49587

second angle stdev: 25.768332

150.92 163.88

104.42 54.78

left shoulder L\_shoulder -96.96228 -126.17804 2183.1863

right shoulder R\_shoulder -214.26587 -84.30328 1848.1687

117.30359

first angle mean: 143.64383

first angle stdev: 20.064621

second angle mean: 108.488144

second angle stdev: 25.744482

145.97 162.11

106.14 55.17

left shoulder L\_shoulder -100.14055 -122.79715 2184.0977

right shoulder R\_shoulder -231.55486 -81.95711 1852.4229

131.4143

first angle mean: 143.64822

first angle stdev: 20.045868

second angle mean: 108.483696

second angle stdev: 25.720295

146.16 160.42

107.26 55.03

left shoulder L\_shoulder -98.045586 -120.44391 2191.6465

right shoulder R\_shoulder -253.34283 -83.93176 1869.9333

155.29724

first angle mean: 143.65297

first angle stdev: 20.027208

second angle mean: 108.48138

second angle stdev: 25.696028

153.34 159.71

110.36 56.6

left shoulder L\_shoulder -85.845474 -123.030525 2193.623

right shoulder R\_shoulder -269.1353 -87.48733 1884.7828

183.28984

first angle mean: 143.67125

first angle stdev: 20.01272

second angle mean: 108.48492

second angle stdev: 25.671906

165.64 155.76

122.17 56.28

left shoulder L\_shoulder -64.21224 -124.35522 2173.38

right shoulder R\_shoulder -297.18787 -89.78042 1900.3036

232.97562

first angle mean: 143.71263

first angle stdev: 20.016542

second angle mean: 108.5107

second angle stdev: 25.654581

167.79 154.02

133.51 56.55

left shoulder L\_shoulder -56.01314 -121.80312 2156.2227

right shoulder R\_shoulder -325.67014 -88.50089 1925.2577

269.65698

first angle mean: 143.75787

first angle stdev: 20.024897

second angle mean: 108.557686

second angle stdev: 25.653322

162.69 147.95

140.12 63.97

left shoulder L\_shoulder -42.69841 -119.0066 2100.386

right shoulder R\_shoulder -349.9198 -85.795845 1954.3397

307.22137

first angle mean: 143.7934

first angle stdev: 20.022871

second angle mean: 108.616905

second angle stdev: 25.665615

157.23 143.58

139.68 70.38

left shoulder L\_shoulder -37.26639 -124.37301 2064.91

right shoulder R\_shoulder -360.98297 -93.64028 1985.4668

323.71658

first angle mean: 143.81856

first angle stdev: 20.012547

second angle mean: 108.67508

second angle stdev: 25.676716

156.58 106.69

137.39 74.24

left shoulder L\_shoulder -34.17504 -127.209145 2039.5236

right shoulder R\_shoulder -359.35208 -103.08331 2029.3667

325.17703

first angle mean: 143.8424

first angle stdev: 20.00143

second angle mean: 108.728745

second angle stdev: 25.682674

157.31 106.54

134.68 85.32

left shoulder L\_shoulder -36.235184 -136.36758 2046.827

right shoulder R\_shoulder -348.27518 -117.79609 2054.631

312.03998

first angle mean: 143.86754

first angle stdev: 19.991215

second angle mean: 108.77717

second angle stdev: 25.683132

159.65 127.44

128.87 104.75

left shoulder L\_shoulder -31.313627 -132.86578 2053.689

right shoulder R\_shoulder -326.62405 -121.29063 2062.486

295.31042

first angle mean: 143.89694

first angle stdev: 19.984179

second angle mean: 108.81458

second angle stdev: 25.673826

157.1 132.62

126.45 109.82

left shoulder L\_shoulder -25.00758 -125.97211 2054.5352

right shoulder R\_shoulder -314.54083 -118.92928 2062.008

289.53326

first angle mean: 143.92146

first angle stdev: 19.973696

second angle mean: 108.84737

second angle stdev: 25.6612

152.05 127.22

128.33 112.82

left shoulder L\_shoulder -27.353437 -121.15725 2063.257

right shoulder R\_shoulder -315.55893 -114.49266 2062.331

288.2055

first angle mean: 143.93654

first angle stdev: 19.958225

second angle mean: 108.88351

second angle stdev: 25.651089

144.37 114.18

128.17 115.02

left shoulder L\_shoulder -32.32573 -123.48382 2058.938

right shoulder R\_shoulder -319.55493 -112.12916 2058.6526

287.2292

first angle mean: 143.93736

first angle stdev: 19.939743

second angle mean: 108.91923

second angle stdev: 25.640738

151.53 106.87

130.94 116.27

left shoulder L\_shoulder -33.569786 -124.373924 2055.2734

right shoulder R\_shoulder -321.4733 -112.18072 2061.3752

287.9035

first angle mean: 143.95139

first angle stdev: 19.923975

second angle mean: 108.95993

second angle stdev: 25.634485

131.62 128.02

125.57 115.99

left shoulder L\_shoulder -29.944035 -128.68523 2031.8458

right shoulder R\_shoulder -320.3236 -114.10407 2055.3564

290.37958

first angle mean: 143.92863

first angle stdev: 19.91262

second angle mean: 108.99057

second angle stdev: 25.620743

99.15 141.82

117.89 118.16

left shoulder L\_shoulder -20.500153 -130.07906 2026.578

right shoulder R\_shoulder -310.94165 -117.3646 2066.794

290.4415

first angle mean: 143.84616

first angle stdev: 19.986698

second angle mean: 109.006966

second angle stdev: 25.599987

71.66 148.33

109.7 126.38

left shoulder L\_shoulder -17.92145 -130.30719 2037.5156

right shoulder R\_shoulder -308.7882 -120.01481 2080.442

290.86676

first angle mean: 143.71349

first angle stdev: 20.20631

second angle mean: 109.00824

second angle stdev: 25.576464

76.43 153.32

99.29 129.6

left shoulder L\_shoulder -10.540933 -134.7745 2054.734

right shoulder R\_shoulder -301.70175 -126.567604 2099.581

291.16083

first angle mean: 143.59003

first angle stdev: 20.392084

second angle mean: 108.99041

second angle stdev: 25.556372

117.33 152.78

94.36 130.42

left shoulder L\_shoulder -7.25682 -137.69157 2031.409

right shoulder R\_shoulder -298.56094 -132.81787 2075.8518

291.30414

first angle mean: 143.54193

first angle stdev: 20.404318

second angle mean: 108.963615

second angle stdev: 25.540619

143.42 154.51

86.3 132.51

left shoulder L\_shoulder -4.766047 -141.82872 2011.6107

right shoulder R\_shoulder -297.62488 -141.01971 2057.636

292.85883

first angle mean: 143.5417

first angle stdev: 20.385658

second angle mean: 108.92217

second angle stdev: 25.535622

155.67 156.18

63.54 132.85

left shoulder L\_shoulder -11.169507 -138.5912 1982.7894

right shoulder R\_shoulder -297.9002 -143.75688 2042.484

286.7307

first angle mean: 143.56383

first angle stdev: 20.373627

second angle mean: 108.83936

second angle stdev: 25.58573

160.09 155.84

56.77 128.72

left shoulder L\_shoulder -21.382717 -135.64331 1960.3844

right shoulder R\_shoulder -300.9694 -143.90532 2031.826

279.58667

first angle mean: 143.59393

first angle stdev: 20.367256

second angle mean: 108.74452

second angle stdev: 25.658655

161.3 155.47

55.36 105.28

left shoulder L\_shoulder -40.58345 -139.55362 1940.0226

right shoulder R\_shoulder -297.48123 -153.60657 2042.4812

256.89777

first angle mean: 143.62613

first angle stdev: 20.362707

second angle mean: 108.64746

second angle stdev: 25.736002

164.17 155.25

64.67 87.75

left shoulder L\_shoulder -67.89086 -133.45311 1902.0245

right shoulder R\_shoulder -291.973 -156.81702 2068.4639

224.08212

first angle mean: 143.6634

first angle stdev: 20.363003

second angle mean: 108.56765

second angle stdev: 25.780678

165.12 155.2

68.02 88.21

left shoulder L\_shoulder -94.8668 -128.318 1871.2258

right shoulder R\_shoulder -288.67 -160.7416 2081.379

193.80322

first angle mean: 143.70227

first angle stdev: 20.365

second angle mean: 108.49419

second angle stdev: 25.814964

165.25 155.19

67.0 92.17

left shoulder L\_shoulder -122.83977 -119.50649 1842.0238

right shoulder R\_shoulder -284.21448 -162.68777 2106.9998

161.37471

first angle mean: 143.74124

first angle stdev: 20.367165

second angle mean: 108.41915

second angle stdev: 25.851793

164.21 155.21

65.65 94.61

left shoulder L\_shoulder -137.30598 -116.38623 1838.4159

right shoulder R\_shoulder -280.60715 -160.03381 2139.2563

143.30116

first angle mean: 143.77818

first angle stdev: 20.367315

second angle mean: 108.34195

second angle stdev: 25.892174

163.56 155.22

64.25 95.55

left shoulder L\_shoulder -141.20685 -114.88023 1834.4812

right shoulder R\_shoulder -279.1349 -157.90034 2150.0774

137.92804

first angle mean: 143.81384

first angle stdev: 20.366243

second angle mean: 108.262505

second angle stdev: 25.93633

counter:8

TRAINING: Exercise switch\_with\_stick done

C:\Users\yaels\יעל פרוייקט גמר\zedcheck\Excel.py:287: UserWarning: Starting a Matplotlib GUI outside of the main thread will likely fail.

plt.plot(plot\_data['x'], plot\_data['y'])

Directory created or already exists: Patients/1111/Graphs/switch\_with\_stick/28-06-2024 15-49-48