

```

speed < -2 or speed > 0
#os.environ['STEREO_CONFIDENCE'] = '1.6'
#os.environ['SEQUENCE_CONFIDENCE'] = '1.6'
#os.environ['PATCH_SIZE'] = '17'
points_left < 10 or invalid_rotation or invalid_speed

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5  0% (5 of 1101) |                               | Elapsed Time:
invalid speed 4.20373948795 -1.03510464781
[[ 0.97477079  0.0036529 -0.22317834  1.76321253]
[-0.00251859  0.99998243  0.00536694 -0.1015843 ]
[ 0.22319402 -0.00466944  0.97476286 -0.01759371]
[ 0.          0.          0.          1.          ]]

16 1% (16 of 1101) |                               | Elapsed Time:
WARNING: invalid pose estimation
150 -1.00338851616 [[ 9.98943459e-01  9.72309543e-05 -
[ -1.12544650e-05  9.99998249e-01  1.87109748e-03  7.
[ 4.59561304e-02 -1.86860338e-03  9.98941711e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -2.08640786322 -1.09959396519
[[ 9.95641204e-01  3.08054441e-03 -9.32153570e-02  6
[ -2.89525640e-03  9.99993555e-01  2.12291185e-03  3.
[ 9.32212960e-02 -1.84377615e-03  9.95643707e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.

17 1% (17 of 1101) |                               | Elapsed Time:
WARNING: invalid pose estimation
146 -1.00517670237 [[ 9.98912562e-01  3.57953037e-03 -
[ -3.59418415e-03  9.99993514e-01 -2.31654796e-04  3.
[ 4.64841369e-02  3.98479497e-04  9.98918949e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -2.04236292523 -1.06812154425
[[ 9.95616080e-01  3.06044939e-03 -9.34839845e-02  8
[ -2.99482780e-03  9.99995161e-01  8.42239115e-04  3.
[ 9.34861098e-02 -5.58578370e-04  9.95620427e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.

29 2% (29 of 1101) |                               | Elapsed Time:
invalid speed 0.00978176847203 -0.836114527871
[[ 9.94458456e-01 -1.91204635e-03 -1.05112909e-01  1
[ 1.18729390e-03  9.99975094e-01 -6.95713093e-03  2.
[ 1.05123593e-01  6.79377777e-03  9.94435958e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.

32 2% (32 of 1101) |                               | Elapsed Time:
invalid speed 1.6025639317 -1.05312674112
[[ 0.98815847 -0.01312812 -0.15287411  1.97624828]
[ 0.01701677  0.99956336  0.02415632 -2.46549206]
[ 0.15249023 -0.0264717  0.98795039 -1.74563854]

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[ 0.          0.          0.          1.          ]]
35  3% (35 of 1101) |                               | Elapsed Time:
invalid speed -2.60391667444 -1.08572143743
[[ 0.98866279  0.04793615 -0.14229549  2.92971594]
[-0.04469653  0.99866537  0.02587838 -1.77550021]
[ 0.14334609 -0.01922487  0.98948588 -5.90480226]
[ 0.          0.          0.          1.          ]]
39  3% (39 of 1101) |                               | Elapsed Time:
invalid speed 1.04788572238 -1.14306766881
[[ 0.98621678 -0.0109049  -0.16509858  3.48114586]
[ 0.01397536  0.99975011  0.01744753 -1.9040428 ]
[ 0.16486706 -0.01951436  0.98612273 -3.57027774]
[ 0.          0.          0.          1.          ]]
46  4% (46 of 1101) |                               | Elapsed Time:
invalid speed 49.6375225953 -1.05211915808
[[ 9.77455870e-01  9.97685144e-03 -2.10903969e-01  1.
[-9.87686215e-03  9.99950056e-01  1.52750217e-03 -5.
[ 2.10908675e-01  5.90003469e-04  9.77505592e-01  4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
49  4% (49 of 1101) |#                               | Elapsed Time:
invalid speed 4.40441479961 -1.23627740149
[[ 0.99888723  0.01217285 -0.04556454  2.50112023]
[-0.01201411  0.99992077  0.00375614  0.13688259]
[ 0.04560665 -0.00320454  0.99895434  0.55834975]
[ 0.          0.          0.          1.          ]]
52  4% (52 of 1101) |#                               | Elapsed Time:
invalid speed 4.45539006632 -1.33682050348
[[ 9.99100797e-01  1.46041332e-02 -3.98034864e-02  3.
[-1.47382846e-02  9.99886645e-01 -3.07897970e-03  5.
[ 3.97540086e-02  3.66284618e-03  9.99202783e-01  3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
55  4% (55 of 1101) |#                               | Elapsed Time:
invalid speed 0.478050825004 -1.39480571998
[[ 9.99851794e-01  4.76945610e-04 -1.72093556e-02  8.
[-5.41967726e-04  9.99992732e-01 -3.77383448e-03 -7.
[ 1.72074306e-02  3.78260209e-03  9.99844786e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
57  5% (57 of 1101) |#                               | Elapsed Time:
invalid speed -2.37117636669 -1.13749648632
[[ 9.99984670e-01  2.21017224e-03 -5.07698858e-03 -1.
[-2.21638286e-03  9.99996802e-01 -1.21798884e-03  4.
[ 5.07428038e-03  1.22922272e-03  9.99986370e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
59  5% (59 of 1101) |#                               | Elapsed Time:
invalid speed 0.87942504761 -1.32365502873
[[ 9.99955515e-01 -1.37953531e-04 -9.43128771e-03  1.
[ 1.47466546e-04  9.99999481e-01  1.00797755e-03 -2.
[ 9.43114377e-03 -1.00932351e-03  9.99955016e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
62  5% (62 of 1101) |#                               | Elapsed Time:

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invalid speed -3.31129368999 -0.995690109639
[[ 9.99997561e-01 -1.10310887e-03 1.91337610e-03 7.
[ 1.10426913e-03 9.99999207e-01 -6.05444787e-04 1.
[ -1.91270671e-03 6.07556192e-04 9.99997986e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
65 5% (65 of 1101) |# | Elapsed Time:
invalid speed 1.91928953102 -1.00145842663
[[ 9.99822125e-01 -9.59480200e-03 -1.62375559e-02 2.
[ 9.60993891e-03 9.99953458e-01 8.54444770e-04 -5.
[ 1.62286020e-02 -1.01033471e-03 9.99867797e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
67 6% (67 of 1101) |# | Elapsed Time:
invalid speed -2.45801638068 -0.978547943441
[[ 0.99977077 0.02089468 0.00467146 0.04622987]
[-0.02085166 0.99974139 -0.00907546 0.71357378]
[-0.00485988 0.00897597 0.99994791 -4.60125563]
[ 0. 0. 0. 1. ]]
71 6% (71 of 1101) |# | Elapsed Time:
invalid speed -2.05050430269 -1.60552457573
[[ 9.99959313e-01 6.97060403e-03 5.72562064e-03 -2.
[ -6.94663804e-03 9.99967072e-01 -4.19502222e-03 2.
[ -5.75467395e-03 4.15507772e-03 9.99974809e-01 -9.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
83 7% (83 of 1101) |# | Elapsed Time:
invalid speed -3.83388962452 -1.5487133082
[[ 9.99821160e-01 -1.27373271e-02 -1.39788670e-02 8.
[ 1.25986449e-02 9.99870983e-01 -9.96447500e-03 1.
[ 1.41039842e-02 9.78657817e-03 9.99852639e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
85 7% (85 of 1101) |# | Elapsed Time:
invalid speed 2.11978276046 -1.63558813354
[[ 0.9999346 -0.00195494 -0.01126835 0.15617986]
[ 0.00192902 0.99999547 -0.00231044 0.00758575]
[ 0.01127282 0.00228855 0.99993384 -1.36238102]
[ 0. 0. 0. 1. ]]
86 7% (86 of 1101) |# | Elapsed Time:
invalid speed -2.15681196107 -1.70815508085
[[ 9.99956874e-01 -1.99063181e-03 -9.07120598e-03 5.
[ 1.99085117e-03 9.99998018e-01 1.51515033e-05 2.
[ 9.07115784e-03 -3.32102709e-05 9.99958856e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
90 8% (90 of 1101) |# | Elapsed Time:
WARNING: invalid pose estimation
160 -2.0115143097 [[ 9.99990113e-01 2.97515265e-04 -4.
[ -2.89930990e-04 9.99998496e-01 1.70995401e-03 8.
[ 4.43728428e-03 -1.70865075e-03 9.99988695e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.0685340101 -1.86803180306
[[ 9.99960237e-01 -7.26474782e-04 -8.88805136e-03 -2.
[ 7.55451516e-04 9.99994410e-01 3.25726690e-03 2.

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[ 8.88563535e-03 -3.26385187e-03 9.99955195e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
91 8% (91 of 1101) |# | Elapsed Time:
WARNING: invalid pose estimation
152 -2.02823761849 [[ 9.99990109e-01 -4.64042535e-04 -
[ 4.71201709e-04 9.99998581e-01 1.61753117e-03 2.
[ 4.42275662e-03 -1.61959954e-03 9.99988908e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
8% (92 of 1101) |# | Elapsed Time:
invalid speed -4.21696621408 -1.87169173173
[[ 9.99877438e-01 -6.10170824e-03 -1.44179603e-02 2
[ 6.13315961e-03 9.99978906e-01 2.13819287e-03 1.
[ 1.44046096e-02 -2.22635846e-03 9.99893770e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
93 8% (93 of 1101) |# | Elapsed Time:
WARNING: invalid pose estimation
110 -2.05201274959 [[ 9.99987969e-01 -1.36299312e-03 -
[ 1.36464593e-03 9.99999008e-01 3.47552924e-04 6.
[ 4.71174233e-03 -3.53979255e-04 9.99988837e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
94 8% (94 of 1101) |# | Elapsed Time:
invalid speed -4.48075883829 -1.8775433348
[[ 9.99860262e-01 -7.25772780e-03 -1.50592491e-02 -3
[ 7.24098866e-03 9.99973104e-01 -1.16578007e-03 6.
[ 1.50673049e-02 1.05657332e-03 9.99885923e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
96 8% (96 of 1101) |## | Elapsed Time:
invalid speed -2.78720351572 -1.53135431775
[[ 9.99845734e-01 8.44659252e-04 -1.75441084e-02 3
[ -8.33926378e-04 9.99999461e-01 6.19071982e-04 2.
[ 1.75446218e-02 -6.04345985e-04 9.99845899e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
97 8% (97 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
198 -2.00985772398 [[ 9.99865069e-01 7.82078791e-04 -
[ -7.82640522e-04 9.99999693e-01 -2.78132143e-05 7.
[ 1.64082957e-02 4.06512795e-05 9.99865374e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.19920206226 -1.69085545316
[[ 9.99918510e-01 -3.09756875e-04 -1.27623633e-02 8
[ 3.40719701e-04 9.99997004e-01 2.42400161e-03 3.
[ 1.27615742e-02 -2.42815247e-03 9.99915620e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
98 8% (98 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
173 -2.1392869871 [[ 9.99969365e-01 -5.12817235e-04 -5
[ 5.22282667e-04 9.99999132e-01 1.20986323e-03 1.
[ 7.81007075e-03 -1.21390556e-03 9.99968764e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -3.52133929157 -1.84033263114

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[[ 9.99890483e-01 -1.73372760e-04 -1.47983456e-02 4.
[ 1.86966498e-04 9.99999562e-01 9.17219939e-04 5.
[ 1.47981801e-02 -9.19886283e-04 9.99890078e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
99 8% (99 of 1101) |## | Elapsed Time:
invalid speed -2.42913910461 -1.81396053549
[[ 9.99887580e-01 -1.07469029e-05 -1.49942587e-02 1.
[ 1.64084064e-05 9.9999929e-01 3.77455114e-04 3.
[ 1.49942536e-02 -3.77658712e-04 9.99887509e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
100 9% (100 of 1101) |# | Elapsed Time:
WARNING: invalid pose estimation
205 -2.11154347647 [[ 9.99982043e-01 -9.71855772e-04 -
[ 9.73647916e-04 9.99999481e-01 3.00186023e-04 1.
[ 5.91325480e-03 -3.05938348e-04 9.99982470e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.196707748 -1.91315484915
[[ 9.99941520e-01 9.83592865e-04 -1.07698378e-02 3.
[ -9.74143877e-04 9.99999136e-01 8.82567199e-04 7.
[ 1.07706966e-02 -8.72024215e-04 9.99941614e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
101 9% (101 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
122 -2.10103613314 [[ 9.99981515e-01 1.12757979e-04 -
[ -1.07935294e-04 9.99999679e-01 7.93638068e-04 3.
[ 6.07923598e-03 -7.92967244e-04 9.99981207e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
102 9% (102 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
96 -2.2339671983 [[ 9.99956412e-01 -1.57050533e-03 -9.
[ 1.58131751e-03 9.99998068e-01 1.16760445e-03 -1.
[ 9.20185956e-03 -1.18210755e-03 9.99956963e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
103 9% (103 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
15 -3.79945169012 [[ 9.99996433e-01 2.60269219e-03 -5.
[ -2.60373119e-03 9.99995101e-01 -1.73763398e-03 3.
[ 5.95407358e-04 1.73918984e-03 9.99998310e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
104 9% (104 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
10 -4.32995691984 [[ 0.99781584 0.01892143 -0.06328927
[-0.01986038 0.99970135 -0.0142397 0.6279439 ]
[ 0.06300093 0.01546554 0.99789363 -4.32995692]
[ 0. 0. 0. 1. ]]
105 9% (105 of 1101) |## | Elapsed Time:
invalid speed -2.72875703387 -2.68050475497
[[ 9.99974473e-01 3.40976107e-03 -6.27911054e-03 4.
[ -3.40317531e-03 9.99993648e-01 1.05922123e-03 4.
[ 6.28268235e-03 -1.03782527e-03 9.99979725e-01 -4.

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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
106 9% (106 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
33 -2.08953956625 [[ 9.99870765e-01 1.58747796e-02 -2.
[ -1.58782635e-02 9.99873010e-01 -1.35818143e-03 2.
[ 2.51663728e-03 1.39831321e-03 9.99995856e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -6.57395402113 -2.48351635873
[[ 9.99933518e-01 -7.98215162e-03 -8.32134960e-03 2.
[ 7.96223957e-03 9.99965365e-01 -2.42327740e-03 7.
[ 8.34040436e-03 2.35685972e-03 9.99962441e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
107 9% (107 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
92 -2.19827966313 [[ 9.99993217e-01 -9.28206998e-04 -3.
[ 9.27080684e-04 9.99999520e-01 -3.17637998e-04 2.
[ 3.56459123e-03 3.14331452e-04 9.99993597e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.60093314263 -2.38843746019
[[ 9.99956094e-01 -2.00839701e-03 -9.15297152e-03 1.
[ 2.02392464e-03 9.99996528e-01 1.68751063e-03 -3.
[ 9.14955055e-03 -1.70596147e-03 9.99956687e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
108 9% (108 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
291 -2.1927554604 [[ 9.99991198e-01 -1.13456102e-03 -4.
[ 1.13831482e-03 9.99998922e-01 9.27126522e-04 1.
[ 4.03831516e-03 -9.31716438e-04 9.99991412e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
109 9% (109 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
35 -2.17960812818 [[ 9.99989499e-01 -1.18925258e-03 -4.
[ 1.19300606e-03 9.99998931e-01 8.45570758e-04 2.
[ 4.42466261e-03 -8.50841733e-04 9.99989849e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
111 10% (111 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
27 -2.18335607746 [[ 9.99983560e-01 2.65700402e-04 -5.
[ -2.73609482e-04 9.99999010e-01 -1.38005882e-03 1.
[ 5.72753186e-03 1.38160334e-03 9.99982643e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
112 10% (112 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
16 54.210141361 [[ 3.70478982e-01 -9.05867028e-01 2.0
[ 9.28112468e-01 3.52280468e-01 -1.20439686e-01 1.
[ 3.67773052e-02 2.35166749e-01 9.71258992e-01 5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
113 10% (113 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
9 2.23591497292e-06 [[ 9.99996342e-01 -1.34165634e-04

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[ 1.37814403e-04  9.99999079e-01  1.35050986e-03  6.
[ 2.70130654e-03 -1.35087722e-03  9.99995439e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
114 10% (114 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
148 -2.25151107107 [[ 9.99989663e-01 -1.25235300e-04 -
[ 1.21131791e-04  9.9999585e-01 -9.03089313e-04  2.
[ 4.54529742e-03  9.02529411e-04  9.99989263e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -2.97546619283 6.63514400431
[[ 9.99860051e-01 -9.7559823e-04 -1.67010773e-02  1
[ 1.02846985e-03  9.99994487e-01  3.15736978e-03 -7.
[ 1.66979049e-02 -3.17410446e-03  9.99855542e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
115 10% (115 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
156 -2.30500333572 [[ 9.99987848e-01  4.56871574e-04 -
[ -4.60114511e-04  9.99999677e-01 -6.59557839e-04  5.
[ 4.90827979e-03  6.61808334e-04  9.99987735e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.46208035754 3.65509489097
[[ 9.99944579e-01  4.10740896e-03 -9.69376074e-03  1
[ -4.09596416e-03  9.99990891e-01  1.20019366e-03 -1.
[ 9.69860212e-03 -1.16042185e-03  9.99952294e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
116 10% (116 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
318 -2.31759655658 [[ 9.99989709e-01  1.01387081e-03 -
[ -1.01335729e-03  9.99999480e-01  1.18369184e-04  3.
[ 4.42206553e-03 -1.13886953e-04  9.99990216e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -3.25513347371 1.66419774178
[[ 0.99978519 -0.01063294 -0.01779069 1.23532994]
[ 0.01075817 0.99991792 0.00695833 -0.75259043]
[ 0.01771524 -0.00714823 0.99981752 -3.25513347]
[ 0. 0. 0. 1. ]]
117 10% (117 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
326 -2.32780922731 [[ 9.99992376e-01  1.84617226e-04 -
[ -1.80446797e-04  9.99999412e-01  1.06954016e-03  1.
[ 3.90065299e-03 -1.06882818e-03  9.99991821e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.61479654215 0.333528752086
[[ 9.99975710e-01 -3.42976925e-04 -6.96147193e-03  1
[ 3.59894058e-04  9.99996985e-01  2.42900145e-03  3.
[ 6.96061785e-03 -2.43144784e-03  9.99972819e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
118 10% (118 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
297 -2.32792425009 [[ 9.99991957e-01  1.43807489e-04 -

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[ -1.36577660e-04  9.99998363e-01  1.80403269e-03  1.
[  4.00832413e-03 -1.80347077e-03  9.99990340e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.27524502036 -0.553622248639
[[  9.99967719e-01  2.30379694e-04 -8.03166850e-03 -5.
[ -2.15767221e-04  9.99998320e-01  1.82017606e-03  7.
[  8.03207434e-03 -1.81838433e-03  9.99966089e-01 -4.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
119 10% (119 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
85 -2.32678526262 [[  9.99995547e-01  1.05274271e-03 -2.
[ -1.04920864e-03  9.99998647e-01  1.26667772e-03  3.
[  2.79392052e-03 -1.26374207e-03  9.99995298e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.68549423217 -1.14467658663
[[  9.99974665e-01 -3.02405616e-04 -7.11177986e-03  2.
[  3.17483193e-04  9.99997704e-01  2.11905147e-03 -2.
[  7.11112272e-03 -2.12125566e-03  9.99972466e-01 -4.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
120 10% (120 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
90 -2.35538907955 [[  9.99993778e-01  4.47967973e-05 -3.
[ -4.22332766e-05  9.99999735e-01  7.26826335e-04  3.
[  3.52738269e-03 -7.26672841e-04  9.99993515e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -3.44826096163 -1.5482474176
[[ 0.99985738 -0.01036523 -0.0133333  0.9325015 ]
[ 0.01041984  0.99993758  0.0040328 -0.49613721]
[ 0.01329066 -0.00417115  0.99990298 -3.44826096]
[ 0. 0. 0. 1. ]]
121 10% (121 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
403 -2.33955685676 [[  9.99990687e-01  5.66654092e-04 -
[ -5.66210655e-04  9.99999834e-01  1.04856828e-04  1.
[  4.27842825e-03 -1.02433393e-04  9.99990842e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.66242370768 -1.81201723066
[[  9.99960606e-01 -5.05352380e-04 -8.86172828e-03  1.
[  5.05358220e-04  9.9999872e-01 -1.58019251e-06  1.
[  8.86172794e-03 -2.89821697e-06  9.99960734e-01 -4.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
122 11% (122 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
434 -2.37503717377 [[  9.99986425e-01 -2.56357969e-05 -
[  2.51939975e-05  9.99999996e-01 -8.48564367e-05  3.
[  5.21046452e-03  8.47240124e-05  9.99986422e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.75804904327 -1.99969054503
[[  9.99952241e-01  3.03607139e-03 -9.28963549e-03  1.
[ -3.03983383e-03  9.99995303e-01 -3.90921341e-04  9.

```



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[ 9.28840500e-03  4.19141619e-04  9.99956774e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
123 11% (123 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
462 -2.35725952314 [[ 9.99987080e-01  3.17121589e-03 -
[ -3.17076412e-03  9.99994966e-01  1.20010183e-04  3.
[ 3.97310515e-03 -1.07411997e-04  9.99992101e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.7077255424 -2.1188802044
[[ 9.99964172e-01  4.36193967e-03 -7.25447369e-03  2.
[ -4.36709864e-03  9.99990222e-01 -6.95454345e-04  7.
[ 7.25136923e-03  7.27110431e-04  9.99973444e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
124 11% (124 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
415 -2.38130288517 [[ 9.99986699e-01  2.20026026e-03 -
[ -2.20349377e-03  9.99997336e-01 -6.88146539e-04  3.
[ 4.66326537e-03  6.98416226e-04  9.99988883e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.81060924217 -2.20635443132
[[ 9.99962128e-01  3.86173216e-03 -7.79936783e-03  8.
[ -3.87524659e-03  9.99991015e-01 -1.71839101e-03  8.
[ 7.79266179e-03  1.74855040e-03  9.99968108e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
125 11% (125 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
417 -2.37589526085 [[ 9.99994532e-01  1.38732517e-03 -
[ -1.39069190e-03  9.99998406e-01 -1.11969443e-03  5.
[ 3.00045153e-03  1.12386318e-03  9.99994867e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.676523394 -2.26286804116
[[ 9.99979909e-01  1.54085363e-03 -6.14878086e-03  6.
[ -1.55091177e-03  9.99997467e-01 -1.63136068e-03  1.
[ 6.14625160e-03  1.64086412e-03  9.99979765e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
126 11% (126 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
380 -2.42690082475 [[ 9.99992401e-01 -1.38205218e-04 -
[ 1.34456877e-04  9.99999528e-01 -9.62334372e-04  4.
[ 3.89617564e-03  9.61803209e-04  9.99991947e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.84401976122 -2.31754563569
[[ 9.99980272e-01 -1.26863555e-03 -6.15196313e-03  7.
[ 1.26275711e-03  9.99998743e-01 -9.59329342e-04  1.
[ 6.15317243e-03  9.51541981e-04  9.99980616e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
127 11% (127 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
211 -2.35680782239 [[ 9.99993721e-01 -5.71583332e-04 -
[ 5.73746482e-04  9.99999645e-01  6.17523092e-04  2.
```

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[ 3.49708512e-03 -6.19525857e-04 9.99993693e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.79051543634 -2.33063303126
[[ 9.99979296e-01 -8.68750447e-04 -6.37592441e-03 4
[ 8.82507625e-04 9.99997288e-01 2.15517967e-03 5.
[ 6.37403480e-03 -2.16076185e-03 9.99977351e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
128 11% (128 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
274 -2.46322440395 [[ 9.99991619e-01 -7.75713777e-04 -
[ 7.83428008e-04 9.99997854e-01 1.91779498e-03 2.
[ 4.01839681e-03 -1.92092820e-03 9.99990081e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -3.77710413648 -2.37483015549
[[ 9.99972996e-01 -6.53582916e-03 -3.36015166e-03 -6
[ 6.54338174e-03 9.99976079e-01 2.24163113e-03 2.
[ 3.34542037e-03 -2.26355735e-03 9.99991842e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
129 11% (129 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
387 -2.43152309826 [[ 9.99993545e-01 -9.99346168e-04 -
[ 1.00718031e-03 9.99996919e-01 2.26902823e-03 1.
[ 3.44885443e-03 -2.27248950e-03 9.99991471e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.94713223224 -2.39372780308
[[ 9.99980130e-01 -1.15062421e-03 -6.19804133e-03 -2
[ 1.17151743e-03 9.99993641e-01 3.36836355e-03 5.
[ 6.19412619e-03 -3.37555773e-03 9.99975119e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
130 11% (130 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
315 -2.48945704495 [[ 9.99992750e-01 -1.11191387e-03 -
[ 1.11740533e-03 9.99998241e-01 1.50615848e-03 7.
[ 3.64024336e-03 -1.51021707e-03 9.99992234e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
132 11% (132 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
128 -2.50124196677 [[ 0.99998105 0.00561052 -0.00253278
[-0.00561869 0.99997899 -0.0032327 0.28108656]
[ 0.00251459 0.00324687 0.99999157 -2.50124197]
[ 0. 0. 0. 1. ]]
134 12% (134 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
124 -2.45998178998 [[ 9.99992776e-01 -6.05896632e-05 -
[ 5.76768603e-05 9.99999705e-01 -7.66508023e-04 2.
[ 3.80066008e-03 7.66283278e-04 9.99992484e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.7466168264 -2.12181633343
[[ 9.99965414e-01 -3.59643203e-03 -7.49915378e-03 -8
[ 3.55613763e-03 9.99979207e-01 -5.37962080e-03 4.

```

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[ 7.51834528e-03  5.35276671e-03  9.99957410e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
135 12% (135 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
257 -2.49689584064 [[ 9.99988731e-01 -2.54578201e-05 -
[ 2.16009420e-05  9.99999670e-01 -8.12478097e-04  4.
[ 4.74736329e-03  8.12366395e-04  9.99988401e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.12357293781 -2.24684283583
[[ 9.99828477e-01  4.85525742e-04 -1.85143654e-02  1
[ -3.44792602e-04  9.99971032e-01  7.60372894e-03 -1.
[ 1.85175209e-02 -7.59604110e-03  9.99799681e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
136 12% (136 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
274 -2.49752959604 [[ 9.99991864e-01 -8.44245324e-04 -
[ 8.45030281e-04  9.99999623e-01  1.97342955e-04  4.
[ 3.94423612e-03 -2.00674491e-04  9.99992201e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.11264591036 -2.33040508923
[[ 9.99979246e-01 -4.30012388e-03 -4.79763540e-03 -3
[ 4.28843312e-03  9.99987817e-01 -2.44440778e-03  4.
[ 4.80808821e-03  2.42378271e-03  9.99985504e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
137 12% (137 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
240 -2.51415470151 [[ 9.99991378e-01 -4.53205866e-04 -
[ 4.56019101e-04  9.99999664e-01  6.80637537e-04  2.
[ 4.12737326e-03 -6.82513972e-04  9.99991249e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.0976152929 -2.39165495999
[[ 9.99970584e-01 -8.65754795e-04 -7.62111081e-03  6
[ 8.74881721e-04  9.99998904e-01  1.19433227e-03  6.
[ 7.62006846e-03 -1.20096471e-03  9.99970246e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
138 12% (138 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
288 -2.52934049185 [[ 9.99994542e-01  4.49020893e-04 -
[ -4.47860774e-04  9.99999837e-01  3.55159913e-04  4.
[ 3.27330377e-03 -3.53692062e-04  9.99994580e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.96511368832 -2.43755013728
[[ 9.99981396e-01  1.51217748e-04 -6.09790670e-03  2
[ -1.47744981e-04  9.99999827e-01  5.69947909e-04  7.
[ 6.09799183e-03 -5.69036370e-04  9.99981245e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
139 12% (139 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
352 -2.47062591084 [[ 9.99995165e-01  8.52722625e-04 -
[ -8.51878665e-04  9.99999597e-01  2.83492492e-04  2.

```

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[ 2.99056902e-03 -2.80943725e-04 9.99995489e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.54387801254 -2.44857539513
[[ 9.99999304e-01 5.68645012e-04 1.03360941e-03 -7
[ -5.65029951e-04 9.99993735e-01 -3.49444560e-03 3.
[ -1.03559004e-03 3.49385914e-03 9.99993360e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
140 12% (140 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
376 -2.48939021723 [[ 9.99996379e-01 1.07397193e-03 -
[ -1.07558258e-03 9.9999209e-01 -6.51517490e-04 2.
[ 2.46678010e-03 6.54169111e-04 9.99996744e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.77794857547 -2.46218033583
[[ 9.99998934e-01 5.69809827e-04 1.34464851e-03 -8
[ -5.62810004e-04 9.99986320e-01 -5.20033894e-03 4.
[ -1.34759332e-03 5.19957661e-03 9.99985574e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
141 12% (141 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
341 -2.47215734653 [[ 9.99995407e-01 1.33955450e-03 -
[ -1.34265384e-03 9.99998451e-01 -1.13847364e-03 3.
[ 2.71724085e-03 1.14211878e-03 9.99995656e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.31108601104 -2.46550600607
[[ 9.99851492e-01 3.55898615e-03 -1.68619930e-02 1
[ -3.41048374e-03 9.99955221e-01 8.82751613e-03 -1.
[ 1.68926549e-02 -8.76869762e-03 9.99818858e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
142 12% (142 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
307 -2.94487758854 [[ 9.99985003e-01 4.79902424e-03
[ -4.79367954e-03 9.99986454e-01 -2.02791271e-03 2.
[ -2.64865440e-03 2.01523197e-03 9.99994462e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.20006989038 -2.62529653356
[[ 9.99979692e-01 1.53171536e-03 -6.18628371e-03 1
[ -1.52610480e-03 9.99998420e-01 9.11555109e-04 7.
[ 6.18767018e-03 -9.02095679e-04 9.99980449e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
143 12% (143 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
331 -2.50928456436 [[ 9.99997611e-01 -4.07800126e-04 -
[ 4.09525078e-04 9.9999594e-01 8.02834633e-04 2.
[ 2.14723565e-03 -8.03712196e-04 9.99997372e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.10546116803 -2.58662587716
[[ 9.99990378e-01 -8.20210012e-04 -4.30946639e-03 -1
[ 8.21768495e-04 9.9999598e-01 3.59883495e-04 1.
[ 4.30916948e-03 -3.63421416e-04 9.99990649e-01 -5.

```

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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
144 13% (144 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
306 -2.44208490263 [[ 9.99995134e-01 -8.51112875e-04 -
[ 8.51909397e-04 9.99999602e-01 2.64137569e-04 2.
[ 3.00091900e-03 -2.66692987e-04 9.99995462e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.84478974725 -2.53844555232
[[ 9.99861485e-01 1.12614098e-04 -1.66432402e-02 1
[ -1.64916561e-04 9.99995053e-01 -3.14122583e-03 5.
[ 1.66428041e-02 3.14353547e-03 9.99856557e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
145 13% (145 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
311 -2.51139014099 [[ 9.99999130e-01 2.77729027e-04 -
[ -2.76572580e-04 9.99999559e-01 8.96994483e-04 5.
[ 1.28962634e-03 -8.96637096e-04 9.99998766e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.35289933904 -2.52942708187
[[ 9.99828851e-01 4.54435239e-04 -1.84949018e-02 1
[ -5.08870685e-04 9.99995553e-01 -2.93866793e-03 6.
[ 1.84934841e-02 2.94757649e-03 9.99824636e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
146 13% (146 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
290 -2.54460685761 [[ 9.99997823e-01 -2.14317016e-04 -
[ 2.16652282e-04 9.99999344e-01 1.12501527e-03 2.
[ 2.07522705e-03 -1.12546247e-03 9.99997213e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.42744562396 -2.53448700712
[[ 9.99974510e-01 -2.44293426e-03 -6.70910174e-03 1
[ 2.46346670e-03 9.99992303e-01 3.05382889e-03 -3.
[ 6.70158980e-03 -3.07027869e-03 9.99972831e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
147 13% (147 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
319 -2.52345909457 [[ 9.99994458e-01 -2.41836612e-03 -
[ 2.42037747e-03 9.99996687e-01 8.76753765e-04 2.
[ 2.28579196e-03 -8.82286536e-04 9.99996998e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.03388837339 -2.53081103627
[[ 9.99982840e-01 -1.56496553e-03 -5.64537160e-03 3
[ 1.57260970e-03 9.99997852e-01 1.34987454e-03 8.
[ 5.64324697e-03 -1.35872934e-03 9.99983154e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
148 13% (148 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
285 -2.60388025197 [[ 9.99998364e-01 8.77818079e-04 -
[ -8.77014274e-04 9.99999486e-01 5.08799148e-04 3.
[ 1.58218860e-03 -5.07411105e-04 9.99998620e-01 -2.

```

```

[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.53609693134 -2.5551674415
[[ 9.99940623e-01 2.51476505e-03 -1.06031312e-02 5.
[ -2.52147119e-03 9.99996629e-01 -6.19147547e-04 7.
[ 1.06015385e-02 6.45846273e-04 9.99943594e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
149 13% (149 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
293 -2.58857663136 [[ 9.99997068e-01 1.30623327e-03 -
[ -1.30939388e-03 9.99997942e-01 -1.54940146e-03 5.
[ 2.03712380e-03 1.55206697e-03 9.99996721e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.21997919312 -2.56630383812
[[ 9.99981915e-01 2.59890939e-03 -5.42362118e-03 4.
[ -2.61369631e-03 9.99992882e-01 -2.72108657e-03 1.
[ 5.41651072e-03 2.73521306e-03 9.99981590e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
150 13% (150 of 1101) |## | Elapsed Time:
WARNING: invalid pose estimation
344 -2.58931506537 [[ 9.99994877e-01 7.39104435e-04 -
[ -7.42488591e-04 9.99999135e-01 -1.08553722e-03 2.
[ 3.11377336e-03 1.08784420e-03 9.99994560e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.15406569921 -2.5739742472
[[ 9.99976495e-01 1.02863381e-04 -6.85559341e-03 1.
[ -1.10401029e-04 9.99999390e-01 -1.09911939e-03 3.
[ 6.85547617e-03 1.09985042e-03 9.99975896e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
151 13% (151 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
335 -2.75041724589 [[ 9.99988075e-01 -1.25906811e-03 -
[ 1.25267523e-03 9.9998294e-01 -1.35756331e-03 1.
[ 4.72020807e-03 1.35163637e-03 9.99987946e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.06256448188 -2.6327885801
[[ 9.99330578e-01 -3.14742986e-03 3.64484588e-02 -3.
[ 2.68182112e-03 9.99914272e-01 1.28162948e-02 -1.
[ -3.64856725e-02 -1.27099670e-02 9.99253347e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
152 13% (152 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
326 -2.74504369194 [[ 9.99990187e-01 -1.18104041e-03 -
[ 1.18440897e-03 9.9998989e-01 7.86486039e-04 2.
[ 4.26885991e-03 -7.91535502e-04 9.99990575e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.44132829525 -2.67020695071
[[ 9.99960547e-01 -2.70087357e-03 -8.46221175e-03 2.
[ 2.70673737e-03 9.99996105e-01 6.81564188e-04 5.
[ 8.46033797e-03 -7.04442283e-04 9.99963963e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.

```

```

153 13% (153 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
318 -2.7443748823 [[ 9.99989966e-01 -1.43944221e-03 -4.
[ 1.44039828e-03 9.9998938e-01 2.22331941e-04 4.
[ 4.24176502e-03 -2.28440009e-04 9.99990978e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.47584973881 -2.69492959457
[[ 9.99950560e-01 -1.42669539e-03 -9.84081348e-03 3.
[ 1.42708222e-03 9.9998981e-01 3.22865249e-05 4.
[ 9.84075739e-03 -4.63285785e-05 9.99951578e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
154 13% (154 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
314 -2.64775438052 [[ 9.99996200e-01 -5.80178378e-04 -
[ 5.79558560e-04 9.9999805e-01 -2.30773300e-04 3.
[ 2.69501406e-03 2.29210582e-04 9.99996342e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.30037168583 -2.67920452322
[[ 9.99960731e-01 5.40866532e-05 -8.86192368e-03 2.
[ -4.86282072e-05 9.9999809e-01 6.16158019e-04 4.
[ 8.86195531e-03 -6.15702884e-04 9.99960543e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
155 14% (155 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
303 -2.74506327657 [[ 9.99983659e-01 -9.20537016e-05 -
[ 9.96193116e-05 9.99999119e-01 1.32331107e-03 -3.
[ 5.71588601e-03 -1.32385888e-03 9.99982788e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.33865384411 -2.701157441
[[ 9.99948899e-01 -6.60383608e-04 -1.00877512e-02 3.
[ 6.62573342e-04 9.99999758e-01 2.13728115e-04 5.
[ 1.00876076e-02 -2.20401069e-04 9.99949095e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
156 14% (156 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
392 -2.65222012896 [[ 9.99991171e-01 -3.19517445e-04 -
[ 3.18785477e-04 9.9999934e-01 -1.75362192e-04 3.
[ 4.19002307e-03 1.74024943e-04 9.99991207e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -3.46755242558 -2.68484500366
[[ 0.99922729 0.00446097 0.03905015 -3.67435882]
[-0.00504249 0.99987767 0.01480579 -1.05849574]
[-0.03897933 -0.01499126 0.99912756 -3.46755243]
[ 0. 0. 0. 1. ]]
157 14% (157 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
396 -2.56360190315 [[ 9.99987742e-01 -6.97092563e-04 -
[ 6.97607709e-04 9.99999751e-01 1.03377771e-04 1.
[ 4.90202108e-03 -1.06796243e-04 9.99987979e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.

```

```

invalid speed -5.08543974037 -2.64443063682
[[ 9.99954968e-01 -1.45422347e-03 -9.37803268e-03 1.
[ 1.45593272e-03 9.9998925e-01 1.75436843e-04 5.
[ 9.37776747e-03 -1.89082727e-04 9.99956010e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
158 14% (158 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
405 -2.53656299985 [[ 9.99981003e-01 -6.13443844e-04
[ 6.49063612e-04 9.99982927e-01 -5.80728647e-03 5.
[ -6.12964662e-03 5.81115706e-03 9.99964328e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.08286750802 -2.60847475783
[[ 9.99945678e-01 -1.21802898e-04 -1.04224153e-02 2.
[ 1.32228829e-04 9.99999492e-01 9.99654079e-04 6.
[ 1.04222882e-02 -1.00097792e-03 9.99945185e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
159 14% (159 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
383 -2.61017827082 [[ 9.99976566e-01 9.21898724e-04
[ -8.84312233e-04 9.99984254e-01 -5.54167681e-03 5.
[ -6.78863429e-03 5.53554810e-03 9.99961635e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.309690957 -2.60904259549
[[ 9.99931963e-01 7.99049464e-04 -1.16374419e-02 3.
[ -7.99085645e-04 9.99999681e-01 1.54085035e-06 1.
[ 1.16374394e-02 7.75856725e-06 9.99932283e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
160 14% (160 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
388 -2.60725990533 [[ 9.99988721e-01 8.35951605e-04 -
[ -8.33598010e-04 9.99999525e-01 5.05320231e-04 2.
[ 4.67587095e-03 -5.01417085e-04 9.99988942e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.11477591151 -2.60844836544
[[ 9.99964594e-01 -5.00028722e-05 -8.41474567e-03 9.
[ 5.92376850e-05 9.99999396e-01 1.09721030e-03 -1.
[ 8.41468573e-03 -1.09766992e-03 9.99963993e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
161 14% (161 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
340 -2.63691013501 [[ 9.99987026e-01 1.72040556e-04 -
[ -1.68854162e-04 9.99999790e-01 6.26321503e-04 -1.
[ 5.09101919e-03 -6.25453756e-04 9.99986845e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.21731559368 -2.61793562196
[[ 9.99969625e-01 -1.16040824e-03 -7.70736296e-03 1.
[ 1.16490742e-03 9.99999154e-01 5.79287374e-04 7.
[ 7.70668423e-03 -5.88248142e-04 9.99970130e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
162 14% (162 of 1101) |### | Elapsed Time:

```



```

WARNING: invalid pose estimation
372 -2.65798757948 [[ 9.99991101e-01 -1.13102483e-03 -
[ 1.13494233e-03 9.9998893e-01 9.61727268e-04 2.
[ 4.06310810e-03 -9.66331343e-04 9.99991279e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.72710244362 -2.63128627447
[[ 0.99985748 -0.01178908 0.01208484 -1.88410361]
[ 0.01155057 0.99974079 0.01961992 -1.45594965]
[-0.01231301 -0.01947754 0.99973447 -5.72710244]
[ 0. 0. 0. 1. ]]
163 14% (163 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
368 -2.64235277372 [[ 9.99988778e-01 7.74232071e-04 -
[ -7.71905381e-04 9.99999577e-01 4.99591226e-04 6.
[ 4.67425455e-03 -4.95977834e-04 9.99988953e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.19031814962 -2.63497510755
[[ 9.99966644e-01 1.93835942e-03 -7.93434250e-03 6.
[ -1.93034080e-03 9.99997619e-01 1.01815576e-03 1.
[ 7.93629716e-03 -1.00280582e-03 9.99968004e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
164 14% (164 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
380 -2.65023509475 [[ 9.99994855e-01 1.06883660e-03 -
[ -1.06805228e-03 9.99999396e-01 2.60937905e-04 4.
[ 3.02463008e-03 -2.57706396e-04 9.99995393e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.77195343757 -2.64006176995
[[ 0.99982344 -0.01422877 0.01227297 -1.90205594]
[ 0.01400211 0.99973338 0.01836061 -1.46504777]
[-0.01253095 -0.01818552 0.9997561 -5.77195344]
[ 0. 0. 0. 1. ]]
165 14% (165 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
436 -2.62923868321 [[ 9.99996279e-01 1.04747571e-03 -
[ -1.04593801e-03 9.99999266e-01 6.11738789e-04 3.
[ 2.51940171e-03 -6.09102044e-04 9.99996641e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.29778336336 -2.63645407437
[[ 9.99967684e-01 3.28780841e-03 -7.33629495e-03 1.
[ -3.28015685e-03 9.99994064e-01 1.05476202e-03 1.
[ 7.33971926e-03 -1.03066374e-03 9.99972533e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
166 15% (166 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
418 -2.61855459099 [[ 9.99992156e-01 2.35278320e-03 -
[ -2.34956038e-03 9.99996725e-01 1.01480272e-03 4.
[ 3.18876132e-03 -1.00730815e-03 9.99994409e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.17149416038 -2.63048757991

```

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[[ 9.99965773e-01  3.60742534e-03 -7.44580653e-03  8.
[ -3.59189585e-03  9.99991348e-01  2.09798869e-03 -8.
[ 7.45331045e-03 -2.07117232e-03  9.99970079e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
167 15% (167 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
383 -2.61738017691 [[ 9.99996773e-01  1.56750044e-03 -
[ -1.56733757e-03  9.9998768e-01  8.30216971e-05  4.
[ 1.99955556e-03 -7.98876507e-05  9.99997998e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.974068982 -2.62611844558
[[ 0.998997 -0.03625896  0.0262734 -2.72941937]
[ 0.03592123  0.99926726  0.01321423 -1.47446062]
[-0.02673328 -0.0122572  0.99956745 -4.97406898]
[ 0. 0. 0. 1. ]]
168 15% (168 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
422 -2.67762207643 [[ 9.99884709e-01  4.68283644e-04
[ -3.82448946e-04  9.99983921e-01 -5.65789831e-03  5.
[ -1.51796421e-02  5.65144149e-03  9.99868811e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.10103279426 -2.64328632253
[[ 9.99976909e-01  3.65047899e-03 -5.73202921e-03 -3.
[ -3.63229823e-03  9.99988350e-01  3.17899779e-03  4.
[ 5.74356729e-03 -3.15810394e-03  9.99978519e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
169 15% (169 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
432 -2.63185881123 [[ 9.99992833e-01  1.84439355e-03 -
[ -1.83921305e-03  9.99997077e-01  1.56919320e-03  1.
[ 3.30922839e-03 -1.56310089e-03  9.99993303e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.42503312561 -2.63947715209
[[ 9.99988435e-01  3.57568161e-03 -3.21625371e-03 -1.
[ -3.57600674e-03  9.99993602e-01 -9.53434038e-05  1.
[ 3.21589222e-03  1.06843646e-04  9.99994823e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
170 15% (170 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
441 -2.57063443989 [[ 9.99994150e-01  1.29785482e-03 -
[ -1.29600962e-03  9.9998989e-01  5.85053126e-04 -2.
[ 3.16537718e-03 -5.80948324e-04  9.99994821e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.15485161389 -2.61652958136
[[ 9.99974116e-01  1.66413375e-03 -6.99992582e-03  4.
[ -1.65042936e-03  9.99996711e-01  1.96311201e-03 -5.
[ 7.00316967e-03 -1.95150831e-03  9.99973573e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
171 15% (171 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation

```

```

453 -2.48516401664 [[ 9.99992588e-01 5.06987132e-04 -
[ -5.02479296e-04 9.99999175e-01 1.18194284e-03 1.
[ 3.81731379e-03 -1.18001625e-03 9.99992018e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.94894191276 -2.57274105979
[[ 9.99976093e-01 6.85153979e-04 -6.88072476e-03 4
[ -6.76357368e-04 9.99998951e-01 1.28068809e-03 5.
[ 6.88159502e-03 -1.27600364e-03 9.99975507e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
172 15% (172 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
450 -2.58446070821 [[ 9.99994982e-01 -6.43334830e-04 -
[ 6.46004047e-04 9.99999422e-01 8.59533356e-04 -1.
[ 3.10153182e-03 -8.61533003e-04 9.99994819e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.12255258411 -2.57664760926
[[ 9.99973636e-01 -5.05491240e-05 -7.26118783e-03 3
[ 6.40888979e-05 9.99998260e-01 1.86445697e-03 2.
[ 7.26108095e-03 -1.86487318e-03 9.99971899e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
173 15% (173 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
440 -2.58617372716 [[ 9.99991806e-01 1.04114225e-03 -
[ -1.03525335e-03 9.99998328e-01 1.50709791e-03 -7.
[ 3.91347789e-03 -1.50303574e-03 9.99991213e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.00205644545 -2.57982298189
[[ 9.99945062e-01 7.68839503e-04 -1.04538414e-02 2
[ -7.51442106e-04 9.99998326e-01 1.66803694e-03 1.
[ 1.04551064e-02 -1.66008984e-03 9.99943966e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
174 15% (174 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
410 -2.65200495617 [[ 9.99996316e-01 -9.35578509e-04 -
[ 9.38298457e-04 9.99998991e-01 1.06649920e-03 5.
[ 2.54699586e-03 -1.06888605e-03 9.99996185e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.18177439377 -2.60388363998
[[ 9.99970586e-01 -2.72743707e-03 -7.16852131e-03 5
[ 2.74391523e-03 9.99993614e-01 2.28985313e-03 -3.
[ 7.16223010e-03 -2.30945559e-03 9.99971684e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
15% (175 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
403 -2.62633321036 [[ 9.99994472e-01 -1.81088204e-03 -
[ 1.81346764e-03 9.99997928e-01 9.24962502e-04 8.
[ 2.78689845e-03 -9.30014387e-04 9.99995684e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.18416010459 -2.61136683011
[[ 9.99989103e-01 -2.69472073e-04 -4.66052920e-03 -5

```

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[ 2.70011878e-04  9.99999957e-01  1.15195930e-04  5.
[ 4.66049796e-03 -1.16453073e-04  9.99989133e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
15% (176 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
415 -2.67895546611 [[ 9.99996083e-01  1.39313469e-03 -
[ -1.39292645e-03  9.99999026e-01  8.74629294e-05  9.
[ 2.42790722e-03 -8.40808570e-05  9.99997049e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.25501910595 -2.63389637544
[[ 9.99982807e-01  1.71066410e-03 -5.60883334e-03  1
[ -1.71324110e-03  9.99998429e-01 -4.54681363e-04 -1.
[ 5.60804672e-03  4.64282829e-04  9.99984167e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
16% (177 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
365 -2.61966705135 [[ 9.99997090e-01  1.58284790e-03 -
[ -1.58404538e-03  9.99998530e-01 -6.56522397e-04  1.
[ 1.81946304e-03  6.59404249e-04  9.99998127e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.00396133624 -2.62915326741
[[ 9.99975995e-01  1.38170568e-03 -6.78977372e-03  1
[ -1.38419070e-03  9.99998977e-01 -3.61308994e-04 -5.
[ 6.78926755e-03  3.70698662e-04  9.99976884e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
16% (178 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
355 -2.68993343197 [[ 9.99994703e-01  2.17888175e-03 -
[ -2.18351983e-03  9.99995778e-01 -1.91727819e-03  1.
[ 2.41367662e-03  1.92254749e-03  9.99995239e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.15744203635 -2.64941332226
[[ 9.99982978e-01 -1.16373734e-03  5.71739653e-03 -8
[ 1.12616264e-03  9.99977778e-01  6.57082427e-03 -6.
[ -5.72491619e-03 -6.56427371e-03  9.99962067e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
16% (179 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
318 -2.73021168359 [[ 9.99997773e-01 -1.39586222e-04 -
[ 1.38869702e-04  9.99999932e-01 -3.40415018e-04  2.
[ 2.10577102e-03  3.40121839e-04  9.99997725e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.53453864539 -2.67634610937
[[ 9.99774430e-01 -5.99812391e-03  2.03743047e-02 -2
[ 6.04861657e-03  9.99978785e-01 -2.41753149e-03  4.
[ -2.03593718e-02  2.54022252e-03  9.99789499e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
16% (180 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
326 -2.62032284445 [[ 9.99995676e-01 -8.15575508e-04 -

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[ 8.15331670e-04  9.99999664e-01 -8.74551675e-05 -1.
[ 2.82539958e-03  8.51512090e-05  9.99996005e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.09508337281 -2.65767168773
[[ 9.99959007e-01  2.49285394e-04 -9.05112098e-03  2.
[ -2.56004637e-04  9.9999693e-01 -7.41214875e-04 -1.
[ 9.05093342e-03  7.43501619e-04  9.99958763e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
16% (181 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
271 -2.67147381653 [[ 9.99995865e-01  1.15536762e-03 -
[ -1.15645037e-03  9.9999247e-01 -4.09686666e-04  6.
[ 2.63284895e-03  4.12730281e-04  9.99996449e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.95283545553 -2.66227239733
[[ 9.99808104e-01 -2.53107888e-03  1.94254433e-02 -1.
[ 2.57972891e-03  9.9993598e-01 -2.47979902e-03  5.
[ -1.94190424e-02  2.52943554e-03  9.99808233e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
16% (182 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
280 -2.72518842868 [[ 9.99997728e-01  2.74017106e-04 -
[ -2.75418955e-04  9.9999742e-01 -6.62853132e-04  3.
[ 2.11385129e-03  6.63433871e-04  9.99997546e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.84922071557 -2.68324440778
[[ 9.99234437e-01 -1.03200119e-02  3.77364099e-02 -3.
[ 1.02895823e-02  9.99946560e-01  1.00050342e-03 -8.
[ -3.77447185e-02 -6.11445581e-04  9.99287227e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
16% (183 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
223 -2.69957705467 [[ 9.99996760e-01 -5.16289123e-04 -
[ 5.19586006e-04  9.9998991e-01  1.32218222e-03  1.
[ 2.49195243e-03 -1.32347307e-03  9.99996019e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.22636919891 -2.68868862341
[[ 9.99981779e-01 -5.47955845e-04 -6.01178836e-03  8.
[ 5.71175529e-04  9.9992382e-01  3.86132197e-03  4.
[ 6.00962672e-03 -3.86468540e-03  9.99974474e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
16% (184 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
242 -2.72323794418 [[ 9.99997243e-01 -1.44008730e-04 -
[ 1.51245945e-04  9.99995222e-01  3.08769596e-03  1.
[ 2.34352031e-03 -3.08804197e-03  9.99992486e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.89482002574 -2.70020506367
[[ 9.99344491e-01 -1.27748221e-02  3.38731646e-02 -2.
[ 1.26341460e-02  9.99910664e-01  4.36382635e-03 -1.

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[ -3.39258856e-02 -3.93300732e-03  9.99416613e-01 -4.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
16% (185 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
201 -2.64294426054 [[  9.99989987e-01 -1.07687438e-03 -
[  1.07558274e-03  9.99999377e-01 -2.99702237e-04  2.
[  4.34377033e-03  2.95027496e-04  9.99990522e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.29232422042 -2.68111812929
[[  9.99949325e-01 -3.58424341e-03 -9.40745780e-03  9.
[  3.57632812e-03  9.99993237e-01 -8.58072134e-04  2.
[  9.41046971e-03  8.24384496e-04  9.99955381e-01 -5.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
16% (186 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
199 -2.70368522992 [[  9.99982882e-01 -1.87954094e-03 -
[  1.87536483e-03  9.99997954e-01 -7.58770569e-04  1.
[  5.54243843e-03  7.48366140e-04  9.99984361e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.40158737994 -2.68864049617
[[ 0.99986641 -0.01157517  0.01153991 -1.2975749 ]
[ 0.01163615  0.99991862 -0.0052307  0.04959247]
[-0.01147842  0.00536429  0.99991973 -4.40158738]
[ 0.          0.          0.          1.          ]]
16% (187 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
184 -2.70066105736 [[  9.99977279e-01 -4.14746743e-03
[  4.14888299e-03  9.99991361e-01 -2.55383079e-04 -6.
[ -5.31296372e-03  2.77424726e-04  9.99985848e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
17% (189 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
165 -2.81380920224 [[  9.99981201e-01 -2.73041240e-03
[  2.72152531e-03  9.99994975e-01  1.62553326e-03 -8.
[ -5.49462826e-03 -1.61056094e-03  9.99983607e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -6.07572834709 -2.5625086127
[[  9.99718667e-01 -2.35779924e-02  2.58179853e-03 -1.
[  2.35691068e-02  9.99716362e-01  3.41960656e-03 -3.
[ -2.66169369e-03 -3.35779383e-03  9.99990820e-01 -6.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
17% (190 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
169 -2.76101310043 [[  9.99983143e-01  3.89291706e-03 -
[ -3.89240066e-03  9.99992416e-01  1.28245683e-04  4.
[  4.30855332e-03 -1.11474722e-04  9.99990712e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.41719983818 -2.62867677528
[[  9.99950933e-01  1.26423906e-03 -9.82518641e-03  9.
[ -1.25846867e-03  9.99999032e-01  5.93466516e-04  3.

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[ 9.82592718e-03 -5.81072706e-04 9.99951556e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
17% (191 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
147 -2.74080890085 [[ 9.99958757e-01 -2.01298225e-03
[ 1.98646615e-03 9.99993521e-01 3.00183400e-03 -1.
[ -8.86223346e-03 -2.98411756e-03 9.99956277e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
17% (192 of 1101) |### | Elapsed Time:
invalid speed 2.65044793836 -2.42028819153
[[ 0.99979419 -0.01570247 -0.01284563 -0.3798976 ]
[ 0.01566116 0.99987188 -0.00331049 0.21384416]
[ 0.01289597 0.00310863 0.99991201 0.72169166]
[ 0. 0. 0. 1. ]]
17% (193 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
147 -3.08931878313 [[ 9.99946274e-01 -6.38764389e-03
[ 6.36920611e-03 9.99977111e-01 2.28251291e-03 -1.
[ -8.17810097e-03 -2.23039394e-03 9.99964071e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
17% (194 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
135 -2.96421286784 [[ 9.99982751e-01 -5.86102312e-03 -
[ 5.86138572e-03 9.99982364e-01 9.57306978e-04 -6.
[ 3.75517468e-04 -9.59524445e-04 9.99999469e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.19927910433 -2.75026988177
[[ 9.99900820e-01 5.68614796e-05 -1.40835390e-02 3.
[ -7.58057594e-05 9.99999093e-01 -1.34460614e-03 3.
[ 1.40834497e-02 1.34554040e-03 9.99899918e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
17% (195 of 1101) |### | Elapsed Time:
invalid speed -3.92653172614 -2.27476695202
[[ 9.99926375e-01 -3.06690201e-03 -1.17404513e-02 1.
[ 3.06010353e-03 9.99995140e-01 -5.96984813e-04 4.
[ 1.17422251e-02 5.61013864e-04 9.99930900e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
17% (196 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
113 -2.75892916325 [[ 9.99834799e-01 -1.50178321e-02
[ 1.50029937e-02 9.99886287e-01 1.52446399e-03 -1.
[ -1.02608452e-02 -1.37059476e-03 9.99946417e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
18% (199 of 1101) |### | Elapsed Time:
WARNING: invalid pose estimation
97 -2.74002620754 [[ 9.99992643e-01 -1.50137553e-03 -3.
[ 1.50100208e-03 9.99998868e-01 -1.08443732e-04 3.
[ 3.53007353e-03 1.03144525e-04 9.99993764e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.35571067295 -1.99178522288

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[[ 9.99983817e-01 -3.67128187e-03 -4.34602965e-03 -5.
[ 3.67398624e-03 9.99993062e-01 6.14442734e-04 -2.
[ 4.34374370e-03 -6.30400043e-04 9.99990367e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
18% (203 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
53 -2.78391034161 [[ 9.99983221e-01 -4.15296871e-03 -4.
[ 4.15980621e-03 9.99989926e-01 1.68613405e-03 3.
[ 4.03150416e-03 -1.70290534e-03 9.99990423e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -2.80570920933 -1.78425350292
[[ 9.99820251e-01 -1.77259252e-02 -6.72734415e-03 -5.
[ 1.77339734e-02 9.99842092e-01 1.13857499e-03 2.
[ 6.70609956e-03 -1.25767288e-03 9.99976723e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
18% (204 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
47 -2.15366086061 [[ 9.99831559e-01 -1.83524630e-02 2.
[ 1.83520288e-02 9.99829619e-01 1.98399944e-03 1.
[ -2.37263631e-04 -1.97997857e-03 9.99998012e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
18% (205 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
31 -2.08335688118 [[ 9.99985377e-01 -5.29050335e-03 -1.
[ 5.28978692e-03 9.99985803e-01 -6.41348005e-04 -1.
[ 1.12394289e-03 6.35411073e-04 9.99999167e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
18% (206 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
23 -2.7630830803 [[ 9.99992405e-01 5.73878005e-04 -3.
[ -5.79494357e-04 9.99998772e-01 -1.45599828e-03 3.
[ 3.85400985e-03 1.45822109e-03 9.99991510e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
18% (207 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
21 -2.35643790485 [[ 9.99993719e-01 3.54188009e-03 1.
[ -3.54237074e-03 9.99985737e-01 3.99705646e-03 -3.
[ -1.15665237e-04 -3.99749124e-03 9.99992003e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
18% (208 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
22 -2.67588875442 [[ 9.99978216e-01 -4.75461672e-03 -4.
[ 4.75598645e-03 9.99988649e-01 2.88338405e-04 2.
[ 4.57687733e-03 -3.10106457e-04 9.99989478e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
18% (209 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
19 -2.71099053854 [[ 9.99884862e-01 1.06966767e-03 -1.
[ -1.14904856e-03 9.99985629e-01 -5.23654354e-03 1.
[ 1.51308763e-02 5.25333341e-03 9.99871721e-01 -2.

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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
19% (211 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
18 -3.14485937499 [[ 9.99977323e-01 1.23832867e-03 -6
[ -1.24134811e-03 9.99999127e-01 -4.52041300e-04 9.
[ 6.61911494e-03 4.60248377e-04 9.99977988e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
19% (212 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
21 -2.77248352639 [[ 9.99986562e-01 1.15916516e-03 -5
[ -1.16302338e-03 9.99999034e-01 -7.60700954e-04 6.
[ 5.05196564e-03 7.66567317e-04 9.99986945e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
19% (213 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
32 -2.88596323795 [[ 9.99982745e-01 -1.86652773e-03 -5
[ 1.86592018e-03 9.9998253e-01 -1.14267671e-04 4.
[ 5.57029772e-03 1.03872348e-04 9.99984480e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.55407007695 -2.72920163906
[[ 9.99971732e-01 -1.13606995e-03 -7.43269642e-03 1
[ 1.12779642e-03 9.9998740e-01 -1.11722221e-03 7.
[ 7.43395629e-03 1.10880806e-03 9.99971753e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
19% (214 of 1101) |#### | Elapsed Time:
invalid speed 0.630864737065 -2.09881726439
[[ 9.99973683e-01 1.28725648e-04 -7.25371665e-03 -1
[ -1.32203051e-04 9.9999877e-01 -4.78918530e-04 4.
[ 7.25365411e-03 4.79864890e-04 9.99973577e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
19% (215 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
16 -0.258611669883 [[ 9.99987429e-01 -1.88006591e-03 -
[ 1.88045489e-03 9.9998229e-01 7.93118955e-05 -1.
[ 4.64818655e-03 -8.80518994e-05 9.99989193e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
19% (216 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
28 -0.561980891016 [[ 0.99986887 -0.00560117 -0.01519463
[ 0.00557994 0.9999834 -0.00143985 0.00871789]
[ 0.01520244 0.00135488 0.99988352 -0.56198089]
[ 0. 0. 0. 1. ]]
19% (217 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
22 -1.59813349852 [[ 0.999802 -0.01869499 -0.00681532 -
[ 0.01877829 0.99974714 0.0123706 -0.12624907]
[ 0.00658233 -0.01249613 0.99990025 -1.5981335 ]
[ 0. 0. 0. 1. ]]
19% (220 of 1101) |#### | Elapsed Time:
invalid speed 0.156133128017 -0.922130217426

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[[ 0.99995164 -0.00638846 -0.00747652 0.00344267]
[ 0.00624191 0.99979108 -0.01946349 0.01175073]
[ 0.0075993 0.01941588 0.99978261 -0.09749131]
[ 0. 0. 0. 1. ]]
20% (221 of 1101) |#### | Elapsed Time:
invalid speed 0.0133164758298 -0.655307783856
[[ 0.99988961 -0.01137559 -0.00955859 0.03006517]
[ 0.01126157 0.99986578 -0.01189922 -0.08352842]
[ 0.00969267 0.01179026 0.99988351 -0.10834644]
[ 0. 0. 0. 1. ]]
20% (225 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
22 0.0406956290881 [[ 0.99998243 0.00476593 -0.00352493
[-0.00474956 0.99997796 0.00463844 0.01816777]
[ 0.00354696 -0.00462161 0.99998303 0.04069563]
[ 0. 0. 0. 1. ]]
20% (228 of 1101) |#### | Elapsed Time:
invalid speed 0.480322019254 -0.13202846727
[[ 0.99957604 -0.0218104 -0.01928865 0.22501927]
[ 0.02168073 0.99974109 -0.00690646 -0.01458762]
[ 0.01943429 0.00648534 0.9997901 0.34413119]
[ 0. 0. 0. 1. ]]
20% (229 of 1101) |#### | Elapsed Time:
invalid speed 0.00605318653028 -0.139066426061
[[ 0.99995834 0.00150956 -0.00900239 -0.08894562]
[-0.00152346 0.99999766 -0.00153753 -0.00676171]
[ 0.00900005 0.00155118 0.9999583 -0.14708916]
[ 0. 0. 0. 1. ]]
21% (234 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
33 0.0926999225262 [[ 9.99999561e-01 6.64036042e-04 -
[-6.65183729e-04 9.99998266e-01 -1.73927677e-03 -1.
[ 6.59202785e-04 1.73971527e-03 9.99998269e-01 9.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
21% (235 of 1101) |#### | Elapsed Time:
invalid speed 1.64863388817 -0.0542980492425
[[ 0.99997192 0.00531808 -0.00528001 -1.28905577]
[-0.00533688 0.99997945 -0.00355275 0.28888932]
[ 0.005261 0.00358083 0.99997975 1.59575156]
[ 0. 0. 0. 1. ]]
21% (240 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
20 -0.0437577081365 [[ 9.99995480e-01 -1.46416367e-04
[ 1.46172239e-04 9.9999986e-01 -8.15140267e-05 -1.
[ 3.00300918e-03 8.10747034e-05 9.99995488e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
22% (244 of 1101) |#### | Elapsed Time:
WARNING: invalid pose estimation
31 -3.68814741229 [[ 9.99988534e-01 4.68996292e-03 9.
[ -4.68592344e-03 9.99980462e-01 -4.13743523e-03 6.

```

```

[ -9.86547028e-04  4.13285575e-03  9.99990973e-01  -3.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
22% (249 of 1101) |####          | Elapsed Time:
WARNING: invalid pose estimation
53 -2.70130752787 [[  9.99980805e-01  -6.12752494e-03  9.
[  6.12303672e-03  9.99969668e-01  4.81372550e-03  3.
[ -9.47653195e-04  -4.80801103e-03  9.99987992e-01  -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 2.57409086944 -1.2322423842
[[ 0.99989099 -0.01439153 -0.00330095 -0.62883483]
[ 0.01441923  0.99985966  0.00852876 -0.39723805]
[ 0.00317775 -0.00857542  0.99995818  2.47801495]
[ 0.          0.          0.          1.          ]]
22% (250 of 1101) |####          | Elapsed Time:
invalid speed 6.22673327768 -0.867317277157
[[ 9.99990815e-01  -2.05677752e-03  3.76019220e-03  -3.
[  2.05537166e-03  9.99997816e-01  3.77705927e-04  -1.
[ -3.76096085e-03  -3.69973865e-04  9.99992859e-01  6.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
22% (251 of 1101) |#####          | Elapsed Time:
invalid speed 0.272444205489 -0.613162889531
[[ 0.99918018 -0.04044441 -0.00179481  0.06492263]
[ 0.04047174  0.99899082  0.01947745 -0.02547086]
[ 0.00100524 -0.01953412  0.99980869  0.16759009]
[ 0.          0.          0.          1.          ]]
22% (252 of 1101) |#####          | Elapsed Time:
WARNING: invalid pose estimation
60 -3.23770381318 [[ 9.99985361e-01  9.50499026e-04  9.
[ -9.46197184e-04  9.99999224e-01  -8.10049439e-04  6.
[ -5.32754654e-03  8.04997396e-04  9.99985485e-01  -3.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.31900189233 -1.48800986408
[[ 9.99980415e-01  -2.22580637e-03  5.84936829e-03  1.
[  2.21091027e-03  9.99994300e-01  2.55185103e-03  5.
[ -5.85501487e-03  -2.53886862e-03  9.99979636e-01  -5.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
22% (253 of 1101) |#####          | Elapsed Time:
WARNING: invalid pose estimation
47 0.606639473793 [[ 0.99999273 -0.00293329  0.00243723 -
[ 0.00292554  0.99999067  0.00317804 -0.04758426]
[-0.00244653 -0.00317089  0.99999198  0.60663947]
[ 0.          0.          0.          1.          ]]
23% (254 of 1101) |#####          | Elapsed Time:
invalid speed -12.2238948983 -0.992488891935
[[ 9.99816366e-01  -1.75866290e-02  7.61210981e-03  -3.
[  1.75793925e-02  9.99844954e-01  1.01652788e-03  -9.
[ -7.62880688e-03  -8.82524948e-04  9.99970511e-01  -1.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
23% (255 of 1101) |#####          | Elapsed Time:
WARNING: invalid pose estimation

```

```

30 -2.89730761438 [[ 9.99959081e-01 -8.94745220e-03 1
[ 8.94814595e-03 9.99959832e-01 -5.15044704e-04 1.
[ -1.32920812e-03 5.26959293e-04 9.99998978e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -3.22183889944 -1.62742846608
[[ 9.99863892e-01 -1.61960724e-02 3.14393590e-03 -2
[ 1.61923543e-02 9.99868170e-01 1.20452299e-03 -3.
[ -3.16302998e-03 -1.15345132e-03 9.99994332e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
23% (256 of 1101) |##### | Elapsed Time:
invalid speed 0.0410154087816 -1.30081657433
[[ 9.99948757e-01 -1.01182744e-02 3.20982713e-04 2
[ 1.01174897e-02 9.99946035e-01 2.35875925e-03 2.
[ -3.44831965e-04 -2.35539084e-03 9.99997167e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
23% (257 of 1101) |##### | Elapsed Time:
invalid speed 2.51282417038 -1.46526242263
[[ 9.99992510e-01 -2.74204072e-04 3.86076195e-03 -2
[ 2.76858243e-04 9.99999726e-01 -6.86955562e-04 -5.
[ -3.86057253e-03 6.88019301e-04 9.99992311e-01 7.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
23% (258 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
47 -2.60957513207 [[ 9.99995966e-01 2.33971847e-03 1
[ -2.33712095e-03 9.99995968e-01 -1.61310540e-03 3.
[ -1.61401822e-03 1.60933554e-03 9.99997402e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -3.41533818024 -1.84669999244
[[ 0.99996688 0.00687701 0.00435338 -0.9942346 ]
[-0.00686174 0.99997028 -0.0035144 -0.16519108]
[-0.00437742 0.00348441 0.99998435 -3.41533818]
[ 0. 0. 0. 1. ]]
23% (260 of 1101) |##### | Elapsed Time:
invalid speed -7.82422060276 -1.51193776707
[[ 9.99992371e-01 1.64319584e-03 3.54380592e-03 1
[ -1.62907252e-03 9.99990735e-01 -3.98456375e-03 2.
[ -3.55032050e-03 3.97876023e-03 9.99985782e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
23% (261 of 1101) |##### | Elapsed Time:
invalid speed -2.1286784956 -1.61088947651
[[ 9.99990058e-01 -3.26086001e-03 3.04135369e-03 -9
[ 3.24903628e-03 9.99987177e-01 3.88452593e-03 -1.
[ -3.05398158e-03 -3.87460584e-03 9.99987830e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
23% (262 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
52 -2.00691234925 [[ 9.99996422e-01 -1.07023115e-03 2
[ 1.06308161e-03 9.99995184e-01 2.91585610e-03 -1.
[ -2.45459616e-03 -2.91323954e-03 9.99992744e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.

```

```

invalid speed -4.32670839201 -1.74289710076
[[ 9.99987154e-01  5.11698989e-04  5.04272774e-03 -1.
[ -5.35604135e-04  9.99988621e-01  4.74030928e-03 -2.
[ -5.04024475e-03 -4.74294930e-03  9.99976050e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
23% (263 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
56 -2.7298051678 [[ 9.99998636e-01  9.57161535e-04  1.
[ -9.59775164e-04  9.99997652e-01  1.94266051e-03 -3.
[ -1.34400681e-03 -1.94394960e-03  9.99997207e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -3.65833758696 -2.07186645644
[[ 9.99990016e-01  2.75024366e-03  3.52180561e-03 -1.
[ -2.75397127e-03  9.99995652e-01  1.05402424e-03 -2.
[ -3.51889147e-03 -1.06371267e-03  9.99993243e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
24% (265 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
57 -3.16393360561 [[ 9.99996723e-01  2.36293300e-03  9.
[ -2.36248436e-03  9.99997105e-01 -4.56533208e-04  2.
[ -9.85753580e-04  4.54205427e-04  9.99999411e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -10.4774174801 -1.64941530916
[[ 9.99993596e-01  3.31343498e-03  1.35278064e-03  1.
[ -3.31111080e-03  9.99993045e-01 -1.71671508e-03  1.
[ -1.35845945e-03  1.71222488e-03  9.99997611e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
24% (266 of 1101) |##### | Elapsed Time:
invalid speed 1.28405652172 -1.60047950988
[[ 9.99982454e-01  2.06726167e-04 -5.92025639e-03  9.
[ -2.16669937e-04  9.99998567e-01 -1.67902600e-03  1.
[ 5.91990081e-03  1.68027928e-03  9.99981066e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
24% (267 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
50 -2.03076627786 [[ 9.99991915e-01 -8.87732024e-04  3.
[ 8.89934959e-04  9.99999447e-01 -5.59963532e-04  4.
[ -3.92159472e-03  5.63449413e-04  9.99992152e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.0753498156527 -1.74390843254
[[ 0.99997682  0.00168836  0.00659623  0.06400672]
[-0.00168075  0.99999792 -0.00115949  0.02983486]
[-0.00659818  0.00114837  0.99997757  0.07534982]
[ 0. 0. 0. 1. ]]
24% (268 of 1101) |##### | Elapsed Time:
invalid speed 0.880874916108 -1.30921102566
[[ 0.99997697 -0.00226834 -0.00639663  0.28460771]
[ 0.0022558  0.99999552 -0.0019669 -0.00603078]
[ 0.00640106  0.00195243  0.99997761  0.4410587 ]
[ 0. 0. 0. 1. ]]

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24% (269 of 1101) |#####| Elapsed Time:
invalid speed 0.450292013206 -0.927810677023
[[ 9.99977866e-01 -1.62865521e-03 6.45100583e-03 -1.
[ 1.62997322e-03 9.99998652e-01 -1.99059232e-04 -1.
[ -6.45067293e-03 2.09569793e-04 9.99979172e-01 2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
24% (270 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
58 -2.02598687006 [[ 9.99995703e-01 3.56828796e-08 2.
[ -4.53130573e-06 9.99998824e-01 1.53357157e-03 -3.
[ -2.93145631e-03 -1.53357827e-03 9.99994527e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -6.51601719183 -1.29386940803
[[ 9.99986503e-01 -7.96126335e-04 5.13415522e-03 -1.
[ 7.86053351e-04 9.99997763e-01 1.96367505e-03 3.
[ -5.13570707e-03 -1.95961283e-03 9.99984892e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
24% (271 of 1101) |#####| Elapsed Time:
invalid speed -4.59888791183 -1.05877311746
[[ 9.99985234e-01 1.24544805e-04 5.43289774e-03 -1.
[ -1.27777178e-04 9.99999815e-01 5.94619901e-04 1.
[ -5.43282268e-03 -5.95305321e-04 9.99985065e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
24% (273 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
54 -5.20512236138 [[ 9.99999631e-01 5.79427259e-04 6.
[ -5.80143879e-04 9.99999193e-01 1.13035343e-03 -3.
[ -6.33547695e-04 -1.13072094e-03 9.99999160e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.24635391292 -1.68925586249
[[ 9.99981557e-01 -4.63277697e-03 3.92717118e-03 -2.
[ 4.63724016e-03 9.99988612e-01 -1.12814717e-03 3.
[ -3.92190000e-03 1.14633760e-03 9.99991652e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
24% (275 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
61 -3.16412003485 [[ 9.99990769e-01 -2.26576764e-03 3.
[ 2.26898591e-03 9.99997041e-01 -8.77620183e-04 3.
[ -3.64881709e-03 8.85895732e-04 9.99992951e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
25% (276 of 1101) |#####| Elapsed Time:
invalid speed 3.79767081442 -1.05643836432
[[ 9.99684985e-01 -3.05240848e-03 -2.49121043e-02 2.
[ 3.02132892e-03 9.99994610e-01 -1.28511325e-03 -6.
[ 2.49158927e-02 1.20944076e-03 9.99688819e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
25% (277 of 1101) |#####| Elapsed Time:
invalid speed -4.26551816276 -1.36317927343
[[ 9.99995006e-01 1.06769682e-04 -3.15869741e-03 8.
[ -1.07038083e-04 9.99999991e-01 -8.48029803e-05 -5.

```

```
[ 3.15868833e-03  8.51406577e-05  9.99995008e-01 -6.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
25% (278 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
51 0.589749625815 [[ 0.99999708  0.00120394 -0.00209528 -
[-0.00120811  0.99999728 -0.00199383 -0.11551461]
[ 0.00209287  0.00199635  0.99999582  0.58974963]
[ 0. 0. 0. 1. ]]
invalid speed -2.44917005283 -0.712202973679
[[ 9.99995860e-01 -2.57473277e-03 -1.28472435e-03 -9
[ 2.57070894e-03  9.99991816e-01 -3.12394340e-03  6.
[ 1.29275716e-03  3.12062781e-03  9.99994295e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
25% (279 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
65 -2.4075652333 [[ 9.99995911e-01  3.06749806e-04  2.
[ -3.03498964e-04  9.9999300e-01 -1.14377130e-03 -1.
[ -2.84345888e-03  1.14290374e-03  9.99995304e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -3.26309817474 -1.27732372688
[[ 9.99999748e-01  4.89291181e-04  5.14515007e-04 -9
[ -4.88252690e-04  9.99997848e-01 -2.01658095e-03 -1.
[ -5.15500594e-04  2.01632922e-03  9.99997834e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
25% (280 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
72 -3.6728756685 [[ 9.99997889e-01 -1.11408361e-03  1.
[ 1.11475531e-03  9.9999303e-01 -3.88173085e-04 -1.
[ -1.72592358e-03  3.90096732e-04  9.99998435e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -3.36334770734 -2.07584104076
[[ 9.99998820e-01 -1.49826903e-03 -3.38622918e-04 -1
[ 1.49825355e-03  9.99998877e-01 -4.59508078e-05 -3.
[ 3.38691385e-04  4.54434106e-05  9.99999942e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
25% (281 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
60 -4.85837481633 [[ 9.99996072e-01 -2.24158750e-03  1
[ 2.24144345e-03  9.99997484e-01  8.74738099e-05 -2.
[ -1.68311496e-03 -8.37012892e-05  9.99998580e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -7.97177074011 -3.00335229928
[[ 9.99998084e-01 -1.95177552e-03 -1.48043900e-04 -3
[ 1.95205798e-03  9.99996228e-01  1.93237129e-03 -2.
[ 1.44271786e-04 -1.93265658e-03  9.99998122e-01 -7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
25% (282 of 1101) |##### | Elapsed Time:
invalid speed -5.81924251156 -2.60197728538
[[ 9.99998898e-01  1.42190672e-03  4.27072068e-04  2
[ -1.42236445e-03  9.99998412e-01  1.07340336e-03 -1.
```

```

[ -4.25545111e-04 -1.07400962e-03 9.99999333e-01 -7.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
25% (284 of 1101) |##### | Elapsed Time:
invalid speed 3.58316112073 -2.01391453119
[[ 9.99972395e-01 -7.36926657e-03 9.50475080e-04 1
[ 7.36883989e-03 9.99972748e-01 4.51637129e-04 -2.
[ -9.53777412e-04 -4.44620763e-04 9.99999446e-01 6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
25% (285 of 1101) |##### | Elapsed Time:
invalid speed -9.63900021308 -1.35724011034
[[ 9.99934819e-01 6.44977550e-04 1.13992036e-02 -4
[ -6.80117427e-04 9.99995028e-01 3.07905312e-03 -9.
[ -1.13971610e-02 -3.08660522e-03 9.99930286e-01 -9.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
25% (286 of 1101) |##### | Elapsed Time:
invalid speed -4.76473547918 -1.54508816101
[[ 9.99999485e-01 -8.58960684e-04 -5.39820067e-04 2
[ 8.58816793e-04 9.99999596e-01 -2.66729531e-04 9.
[ 5.40048959e-04 2.66265787e-04 9.99999819e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
26% (287 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
79 -2.92143869196 [[ 9.99999931e-01 2.71065942e-05 3
[ -2.71196953e-05 9.99999999e-01 3.54566810e-05 -3.
[ -3.69441843e-04 -3.54666978e-05 9.99999931e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.177730666525 -2.00387167133
[[ 9.99999680e-01 7.88764604e-04 1.34084527e-04 2
[ -7.88605591e-04 9.99998991e-01 -1.18186264e-03 2.
[ -1.35016603e-04 1.18175652e-03 9.99999293e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
26% (288 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
60 -3.03622571474 [[ 9.99999792e-01 -2.57459972e-04 5
[ 2.58023199e-04 9.99999514e-01 -9.51298109e-04 5.
[ -5.91891367e-04 9.51450696e-04 9.99999372e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -3.07883352421 -2.3479896858
[[ 9.99997431e-01 1.48108050e-03 1.71600776e-03 -1
[ -1.47697309e-03 9.99996048e-01 -2.39238644e-03 -3.
[ -1.71954429e-03 2.38984580e-03 9.99995666e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
26% (289 of 1101) |##### | Elapsed Time:
invalid speed 4.3830611442 -1.85507972933
[[ 0.99975869 -0.01210969 -0.0183281 0.67759496]
[ 0.01220387 0.99991285 0.00503568 -0.28495277]
[ 0.01826553 -0.00525814 0.99981934 3.51380133]
[ 0. 0. 0. 1. ]]
26% (291 of 1101) |##### | Elapsed Time:
invalid speed 2.87013974182 -1.30697546441

```



```

[[ 9.99941566e-01  1.06125303e-02  2.05905168e-03  2.
[ -1.06120998e-02  9.99943666e-01 -2.19866933e-04  9.
[ -2.06126903e-03  1.98003223e-04  9.99997856e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
26% (293 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
41 0.746647717549 [[ 9.99991875e-01 -5.33560856e-04 -3.
[ 5.31483087e-04  9.9999723e-01 -5.21055123e-04 -1.
[ 3.99589916e-03  5.18927284e-04  9.99991882e-01  7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 1.02504982915 -0.943645863685
[[ 9.99995741e-01 -2.86792754e-03  5.41517894e-04 -3.
[ 2.86868580e-03  9.99994899e-01 -1.40471057e-03  1.
[ -5.37486524e-04  1.40625803e-03  9.99998867e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
26% (295 of 1101) |##### | Elapsed Time:
invalid speed 1.35293477465 -0.823418900381
[[ 9.99983929e-01 -5.58242095e-03  9.88896190e-04  5.
[ 5.58343961e-03  9.99983882e-01 -1.03034334e-03 -7.
[ -9.83128440e-04  1.03584823e-03  9.99998980e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
26% (296 of 1101) |##### | Elapsed Time:
invalid speed 0.0151843190248 -0.559472925759
[[ 9.99982380e-01 -5.88536290e-03 -7.76626367e-04  1.
[ 5.88307485e-03  9.99978442e-01 -2.91625115e-03 -1.
[ 7.93772821e-04  2.91163081e-03  9.99995446e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
26% (297 of 1101) |##### | Elapsed Time:
invalid speed 0.313328659206 -0.885833263582
[[ 9.99998194e-01 -1.67262959e-03  9.02137450e-04 -5.
[ 1.67555148e-03  9.99993322e-01 -3.24788681e-03  2.
[ -8.96698914e-04  3.24939252e-03  9.99994319e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
27% (299 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
48 0.349683966065 [[ 9.99997747e-01 -8.48407251e-04  1.
[ 8.52300143e-04  9.99997636e-01 -2.00050907e-03 -1.
[ -1.94429118e-03  2.00216313e-03  9.99996106e-01  3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
27% (301 of 1101) |##### | Elapsed Time:
invalid speed 0.258695265072 -0.442533825103
[[ 0.99993849  0.00112597 -0.01103355  0.07437826]
[-0.00116805  0.99999207 -0.00380769  0.09400566]
[ 0.01102918  0.00382034  0.99993188 -0.62044495]
[ 0.          0.          0.          1.          ]]
27% (302 of 1101) |##### | Elapsed Time:
invalid speed -2.4141100455 -0.896691346393
[[ 9.99983062e-01  4.77424506e-03  3.32888536e-03 -1.
[ -4.75972715e-03  9.99979187e-01 -4.35555927e-03 -2.
[ -3.34961058e-03  4.33964091e-03  9.99984974e-01 -4.

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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
27% (304 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
40 -3.23921657198 [[ 9.99998850e-01 1.39919617e-03 5
[ -1.39716118e-03 9.99993032e-01 -3.46184874e-03 2.
[ -5.90319244e-04 3.46102675e-03 9.99993836e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 5.64236476628 -1.45258409294
[[ 9.99256214e-01 -1.50949788e-04 -3.85615988e-02 3
[ -6.21767135e-05 9.99984732e-01 -5.52565135e-03 6.
[ 3.85618441e-02 5.52393908e-03 9.99240947e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
27% (306 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
56 -4.64102782571 [[ 9.99994454e-01 2.28380232e-03 2
[ -2.28405205e-03 9.99997387e-01 1.00254456e-04 -4.
[ -2.42389639e-03 -1.05790743e-04 9.99997057e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
27% (308 of 1101) |##### | Elapsed Time:
invalid speed 2.76113342884 -1.83473948539
[[ 0.99999358 0.003257 0.0014922 0.01212216]
[-0.00325268 0.99999055 -0.00288476 0.00254525]
[-0.00150159 0.00287989 0.99999473 -0.09032248]
[ 0. 0. 0. 1. ]]
28% (309 of 1101) |##### | Elapsed Time:
invalid speed -3.74159885871 -1.72402323298
[[ 9.99996011e-01 2.05809883e-03 1.93472809e-03 -1
[ -2.05642944e-03 9.99997512e-01 -8.64449821e-04 -2.
[ -1.93650240e-03 8.60467741e-04 9.99997755e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
28% (310 of 1101) |##### | Elapsed Time:
invalid speed -3.86085213467 -1.31216936206
[[ 9.99998009e-01 9.51980614e-04 1.75369424e-03 -1
[ -9.50580059e-04 9.99999229e-01 -7.99291365e-04 -3.
[ -1.75445380e-03 7.97622747e-04 9.99998143e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
28% (311 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
71 -2.47041207961 [[ 9.99997254e-01 7.02757122e-04 2
[ -7.03766142e-04 9.99999651e-01 4.50556249e-04 -2.
[ -2.23543648e-03 -4.52128459e-04 9.99997399e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -6.25245663433 -1.69825026791
[[ 9.99998489e-01 1.42550873e-03 9.94989321e-04 -2
[ -1.42393891e-03 9.99997743e-01 -1.57665706e-03 9.
[ -9.97234614e-04 1.57523787e-03 9.99998262e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
28% (312 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
54 -2.76381259691 [[ 9.99996873e-01 1.57824185e-03 1

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[ -1.57635562e-03  9.99998284e-01 -9.73507882e-04 -2.
[ -1.94137622e-03  9.70446955e-04  9.99997645e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.110783825521 -2.05343771091
[[  9.99993526e-01  6.89762928e-04  3.53156411e-03 -2.
[ -6.85763196e-04  9.99999122e-01 -1.13365242e-03 -2.
[ -3.53234296e-03  1.13122326e-03  9.99993121e-01  1.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
28% (313 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
60 -2.39290496537 [[  9.99996122e-01 -1.90885411e-04  2.
[  1.92063928e-04  9.99999892e-01 -4.23897776e-04 -3.
[ -2.77840225e-03  4.24429779e-04  9.99996050e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -2.46129914354 -2.1665934624
[[  9.99998384e-01 -5.35329057e-04  1.71594474e-03 -3.
[  5.37111437e-04  9.99999317e-01 -1.03842432e-03 -6.
[ -1.71538767e-03  1.03934429e-03  9.99997989e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
28% (315 of 1101) |##### | Elapsed Time:
invalid speed 2.2929100166 -1.6380392117
[[  9.99992948e-01 -1.48132295e-03  3.45115862e-03 -5.
[  1.47912144e-03  9.99998701e-01  6.40369389e-04 -1.
[ -3.45210273e-03 -6.35260190e-04  9.99993840e-01 -6.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
28% (316 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
58 -2.10686688792 [[  9.99995339e-01  2.01847622e-03  2.
[ -2.02130399e-03  9.99997197e-01  1.23277240e-03 -2.
[ -2.28828215e-03 -1.23739701e-03  9.99996616e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.60993489258 -1.79431510377
[[  9.99987147e-01  3.78760724e-03  3.37052450e-03 -2.
[ -3.79312366e-03  9.99991475e-01  1.63177933e-03 -4.
[ -3.36431522e-03 -1.64454317e-03  9.99992988e-01 -4.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
28% (317 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
62 -4.61238200143 [[  9.99993331e-01  1.81777181e-03  3.
[ -1.82245919e-03  9.99997248e-01  1.47746365e-03 -2.
[ -3.16505203e-03 -1.48322689e-03  9.99993891e-01 -4.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.432195628892 -2.73367073632
[[  9.99992915e-01  2.21969231e-03  3.04017179e-03  4.
[ -2.21802511e-03  9.99997388e-01 -5.51649847e-04  1.
[ -3.04138834e-03  5.44902761e-04  9.99995227e-01  4.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
28% (318 of 1101) |##### | Elapsed Time:
invalid speed -4.26984678569 -2.00403640428
[[  9.99994126e-01  8.96141173e-04  3.30829299e-03 -2.

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[ -8.90271008e-04  9.99998028e-01 -1.77542524e-03 -5.
[ -3.30987749e-03  1.77246953e-03  9.99992952e-01 -4.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
29% (320 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
64 -2.9745868697 [[ 9.99991571e-01  2.80105746e-04  4.
[ -2.75675282e-04  9.99999377e-01 -1.08209903e-03 -2.
[ -4.09661018e-03  1.08096065e-03  9.99991025e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
29% (322 of 1101) |##### | Elapsed Time:
invalid speed 0.473454109134 -1.32709302532
[[ 9.99971430e-01 -1.46000770e-03  7.41672517e-03 -4.
[  1.46581879e-03  9.99998623e-01 -7.78135351e-04 -9.
[ -7.41557887e-03  7.88984695e-04  9.99972193e-01 -1.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
29% (323 of 1101) |##### | Elapsed Time:
invalid speed -6.17860598792 -1.1667618566
[[ 9.99999186e-01 -9.84432205e-04  8.11935837e-04 -2.
[  9.85099768e-04  9.99999177e-01 -8.22197165e-04  1.
[ -8.11125771e-04  8.22996333e-04  9.99999332e-01 -7.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
29% (324 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
64 0.264765816085 [[ 9.99999255e-01 -2.92673321e-04  1.
[  2.93030852e-04  9.99999912e-01 -3.01550765e-04 -1.
[ -1.18491452e-03  3.01897783e-04  9.99999252e-01  2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
29% (326 of 1101) |##### | Elapsed Time:
invalid speed 2.72940887482 -1.0673869466
[[ 9.99982044e-01 -5.69425403e-03  1.86717163e-03  3.
[  5.69291423e-03  9.99983535e-01  7.22083791e-04 -5.
[ -1.87125262e-03 -7.11441178e-04  9.99997996e-01 -9.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
29% (327 of 1101) |##### | Elapsed Time:
invalid speed -7.25291454146 -0.838289736527
[[ 9.99998510e-01  1.26769978e-03  1.17187074e-03 -5.
[ -1.26845212e-03  9.99998990e-01  6.41480027e-04  1.
[ -1.17105635e-03 -6.42965533e-04  9.99999108e-01 -7.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
29% (328 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
66 -3.21910123982 [[ 9.99999479e-01  9.96327164e-04 -2.
[ -9.96373794e-04  9.99999482e-01 -2.09464130e-04  1.
[  2.22395857e-04  2.09685818e-04  9.99999953e-01 -3.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.47086507515 -1.63189357096
[[ 9.99999555e-01  2.57992674e-04  9.06988136e-04  7.
[ -2.56419792e-04  9.99998464e-01 -1.73386981e-03  1.
[ -9.07434069e-04  1.73363647e-03  9.99998086e-01 -5.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
```

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29% (329 of 1101) |#####| Elapsed Time:
invalid speed 0.121848218758 -1.16798088916
[[ 0.99999841 -0.00142152 0.00107852 -0.03774976]
[ 0.00142462 0.99999485 -0.00287494 0.00895065]
[-0.00107443 0.00287648 0.99999529 -0.11830731]
[ 0. 0. 0. 1. ]]
29% (330 of 1101) |#####| Elapsed Time:
invalid speed 0.926420436195 -0.860859667802
[[ 9.99994765e-01 -3.20407805e-03 4.50715539e-04 -1.
[ 3.20412500e-03 9.99994861e-01 -1.03482989e-04 -8.
[ -4.50381655e-04 1.04926596e-04 9.99999893e-01 6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
30% (331 of 1101) |#####| Elapsed Time:
invalid speed 0.0829246665178 -0.771436408373
[[ 0.9999981 -0.00154387 0.00119175 0.0669673 ]
[ 0.00154149 0.99999682 0.0019966 0.0036993 ]
[-0.00119483 -0.00199476 0.9999973 -0.50966522]
[ 0. 0. 0. 1. ]]
30% (332 of 1101) |#####| Elapsed Time:
invalid speed 0.664390080667 -0.700235296392
[[ 9.99997307e-01 -2.30919832e-03 2.33310627e-04 1.
[ 2.30844335e-03 9.99992260e-01 3.18594226e-03 1.
[ -2.40665793e-04 -3.18539509e-03 9.99994898e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
30% (334 of 1101) |#####| Elapsed Time:
invalid speed 0.0320568410905 -0.713826157126
[[ 9.99990156e-01 4.32307827e-03 9.98996694e-04 -1.
[ -4.32429762e-03 9.99989904e-01 1.22165358e-03 -6.
[ -9.93705304e-04 -1.22596152e-03 9.99998755e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
30% (336 of 1101) |#####| Elapsed Time:
invalid speed 1.03544335379 -0.471688538245
[[ 0.99997476 0.00671393 0.00232383 -0.66623829]
[-0.00670859 0.99997486 -0.00229847 -0.09191545]
[-0.0023392 0.00228282 0.99999466 0.47919011]
[ 0. 0. 0. 1. ]]
30% (337 of 1101) |#####| Elapsed Time:
invalid speed 1.50818977003 -0.572417221996
[[ 9.99999504e-01 2.62566045e-04 9.60649237e-04 -1.
[ -2.62169648e-04 9.99999880e-01 -4.12736396e-04 -8.
[ -9.60757492e-04 4.12484338e-04 9.99999453e-01 7.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
30% (338 of 1101) |#####| Elapsed Time:
invalid speed 1.52447602992 -0.970783009607
[[ 9.99961348e-01 -8.48941445e-03 2.28764812e-03 1.
[ 8.48952583e-03 9.99963963e-01 -3.89823929e-05 2.
[ -2.28723474e-03 5.84019339e-05 9.99997383e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
30% (339 of 1101) |#####| Elapsed Time:
invalid speed 1.66278545999 -0.713766588636

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[[ 9.99999603e-01 -1.54490210e-04 8.77120859e-04 1.
[ 1.54557147e-04 9.9999985e-01 -7.62467479e-05 9.
[ -8.77109067e-04 7.63822830e-05 9.99999612e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
30% (340 of 1101) |##### | Elapsed Time:
invalid speed 0.42748265722 -0.718448629603
[[ 9.99971543e-01 6.80260483e-03 3.26152267e-03 -3.
[ -6.80248764e-03 9.99976862e-01 -4.70225668e-05 -3.
[ -3.26176708e-03 2.48347611e-05 9.99994680e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
30% (341 of 1101) |##### | Elapsed Time:
invalid speed 0.538800874005 -0.525156097515
[[ 0.99998824 -0.00431912 0.00220423 0.11038083]
[ 0.00432147 0.9999901 -0.00106356 0.00914223]
[-0.00219962 0.00107307 0.99999701 0.40022984]
[ 0. 0. 0. 1. ]]
31% (342 of 1101) |##### | Elapsed Time:
invalid speed 0.600446006406 -0.420724445295
[[ 9.99994343e-01 -2.36377421e-03 2.39307692e-03 1.
[ 2.36612761e-03 9.99996719e-01 -9.81071072e-04 1.
[ -2.39075004e-03 9.86727847e-04 9.99996655e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
31% (343 of 1101) |##### | Elapsed Time:
invalid speed 0.832504205851 -0.461920825789
[[ 9.99993902e-01 -2.46100091e-03 2.47778901e-03 5.
[ 2.45937348e-03 9.99996758e-01 6.59640560e-04 1.
[ -2.47940436e-03 -6.53542728e-04 9.99996713e-01 2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
31% (344 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
52 0.0689268129345 [[ 9.99997749e-01 7.66232903e-04
[ -7.68795342e-04 9.99998866e-01 1.29473696e-03 1.
[ -1.97745910e-03 -1.29625507e-03 9.99997205e-01 6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
31% (345 of 1101) |##### | Elapsed Time:
invalid speed 0.678026471206 -0.488024232051
[[ 0.99998653 -0.00319173 0.0040931 0.10688805]
[ 0.00319601 0.99999435 -0.00103901 0.02147925]
[-0.00408976 0.00105207 0.99999108 -0.216103 ]
[ 0. 0. 0. 1. ]]
31% (346 of 1101) |##### | Elapsed Time:
invalid speed 0.15139991821 -0.390628558719
[[ 9.99993964e-01 -9.61837788e-04 3.33881114e-03 3.
[ 9.69130616e-04 9.99997147e-01 -2.18332880e-03 2.
[ -3.33670160e-03 2.18655136e-03 9.99992043e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
31% (348 of 1101) |##### | Elapsed Time:
invalid speed 0.445723793004 -0.311587892594
[[ 9.99988932e-01 -4.35161043e-04 4.68472967e-03 -5.
[ 4.26967565e-04 9.99998378e-01 1.74983366e-03 1.

```

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[ -4.68548354e-03 -1.74781406e-03  9.99987496e-01  2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
31% (349 of 1101) |##### | Elapsed Time:
invalid speed 0.824778582147 -0.36440588812
[[ 0.99998757  0.00293258  0.00403298 -0.06090297]
[-0.00293809  0.99999476  0.00136099 -0.01265205]
[-0.00402897 -0.00137282  0.99999094  0.3547367 ]
[ 0.          0.          0.          1.          ]]
31% (350 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
64 0.154575670212 [[ 9.99994908e-01  2.43698735e-03  2.
[ -2.43675436e-03  9.99997024e-01 -1.15574369e-04  2.
[ -2.06087171e-03  1.10552614e-04  9.99997870e-01  1.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.582518917286 -0.191412035343
[[ 0.99999066  0.00253446  0.00350162  0.05678389]
[-0.00253025  0.99999607 -0.00120414 -0.00112803]
[-0.00350466  0.00119527  0.99999314  0.58251892]
[ 0.          0.          0.          1.          ]]
31% (351 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
79 0.763551588269 [[ 0.99998988  0.00257424  0.00368909 -
[-0.00256939  0.99999583 -0.00131715 -0.02179753]
[-0.00369246  0.00130766  0.99999233  0.76355159]
[ 0.          0.          0.          1.          ]]
invalid speed
31% (352 of 1101) |##### | Elapsed Time:
0.82690534319 0.126909172528
[[ 0.99998739  0.00314712  0.00391308 -0.13342784]
[-0.00314042  0.99999359 -0.00171776 -0.02547928]
[-0.00391846  0.00170545  0.99999087  0.82690534]
[ 0.          0.          0.          1.          ]]
invalid speed 1.20450972251 -0.187306569822
[[ 0.9999737  -0.00490326  0.00534418  0.1435586 ]
[ 0.00491644  0.9999849  -0.00245587 -0.00459685]
[-0.00533206  0.00248208  0.9999827  0.38877167]
[ 0.          0.          0.          1.          ]]
32% (353 of 1101) |##### | Elapsed Time:
invalid speed 0.988560151922 -0.608824013794
[[ 9.99998628e-01 -1.19823355e-03  1.14410772e-03  3.
[  1.19888186e-03  9.99999121e-01 -5.66132874e-04 -6.
[ -1.14342836e-03  5.67503747e-04  9.99999185e-01 -4.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
32% (356 of 1101) |##### | Elapsed Time:
invalid speed 1.53979587262 -0.74076919935
[[ 0.99997451  0.00543374  0.00463103 -0.20436952]
[-0.00544408  0.99998271  0.0022239  -0.03862365]
[-0.00461887 -0.00224906  0.9999868  -0.33479991]
[ 0.          0.          0.          1.          ]]
32% (358 of 1101) |##### | Elapsed Time:

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WARNING: invalid pose estimation
51 0.989127450141 [[ 0.99999465  0.00209093  0.00251645 -
  [-0.00209491  0.99999656  0.00157778 -0.02580511]
  [-0.00251314 -0.00158304  0.99999559  0.98912745]
  [ 0.          0.          0.          1.          ]]
32% (360 of 1101) |#####| Elapsed Time:
invalid speed 0.756710106379 -0.274038866638
[[ 9.99999494e-01 -8.67705299e-04  5.08167612e-04  1.
 [ 8.67420986e-04  9.99999467e-01  5.59438753e-04  5.
 [ -5.08652769e-04 -5.58997675e-04  9.99999714e-01 -6.
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
32% (361 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
73 0.116173766613 [[ 9.99999398e-01 -7.30877013e-04  8.
 [ 7.30768719e-04  9.99999724e-01  1.32643047e-04  9.
 [ -8.18321500e-04 -1.32045034e-04  9.99999656e-01  1.
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
32% (362 of 1101) |#####| Elapsed Time:
invalid speed 1.05583075759 -0.415251005646
[[ 9.99997079e-01 -1.71382117e-03  1.70405790e-03 -4.
 [ 1.71268022e-03  9.99998308e-01  6.70778116e-04  4.
 [ -1.70520461e-03 -6.67857650e-04  9.99998323e-01  9.
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
32% (363 of 1101) |#####| Elapsed Time:
invalid speed -4.52068940072 -0.619721793119
[[ 9.99998202e-01  1.75520538e-03  7.17128924e-04 -3.
 [ -1.75558529e-03  9.99998319e-01  5.29489046e-04  7.
 [ -7.16198356e-04 -5.30747075e-04  9.99999603e-01 -5.
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
33% (364 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
76 0.44139460523 [[ 9.99999299e-01 -7.09654948e-04  9.
 [ 7.09930061e-04  9.99999706e-01 -2.89864292e-04  2.
 [ -9.47903913e-04  2.90537181e-04  9.99999509e-01  4.
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
33% (365 of 1101) |#####| Elapsed Time:
invalid speed 0.324611943795 -0.317809623593
[[ 9.99995041e-01  3.14879501e-03  5.92090789e-05 -6.
 [ -3.14867309e-03  9.99993127e-01 -1.95747374e-03  7.
 [ -6.53723555e-05  1.95727760e-03  9.99998082e-01 -9.
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
33% (366 of 1101) |#####| Elapsed Time:
invalid speed 0.729001869722 -0.377118841964
[[ 9.99999127e-01 -1.99587217e-04  1.30625605e-03  1.
 [ 2.00997855e-04  9.99999397e-01 -1.07986681e-03 -2.
 [ -1.30603974e-03  1.08012842e-03  9.99998564e-01  2.
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
33% (367 of 1101) |#####| Elapsed Time:
invalid speed 0.401952008832 -0.5608346224
[[ 9.99999400e-01  5.98568738e-04  9.17515051e-04 -3.

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[ -5.98864148e-04  9.99999769e-01  3.21726952e-04  7.
[ -9.17322263e-04 -3.22276226e-04  9.99999527e-01 -5.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
33% (368 of 1101) |#####| Elapsed Time:
invalid speed 0.0913669115285 -0.591231982485
[[ 0.99999315  0.0023303  0.00287598 -0.35018992]
[-0.00233839  0.99999331  0.00281107 -0.07533481]
[-0.00286941 -0.00281778  0.99999191 -0.56065979]
[ 0.          0.          0.          1.          ]]
33% (370 of 1101) |#####| Elapsed Time:
invalid speed 0.574029309161 -0.424945110328
[[ 0.99998801  0.00454417  0.00182641 -0.08181814]
[-0.00454721  0.99998828  0.00165932 -0.00901347]
[-0.00181885 -0.00166761  0.99999696  0.00397177]
[ 0.          0.          0.          1.          ]]
33% (371 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
63 0.221933828475 [[ 9.99999095e-01 -5.37383402e-04  1.
[ 5.37356053e-04  9.99999855e-01  2.25051045e-05  5.
[ -1.23338563e-03 -2.18423233e-05  9.99999239e-01  2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
33% (372 of 1101) |#####| Elapsed Time:
invalid speed 0.798903497716 -0.402571781384
[[ 9.99988931e-01  2.80950598e-03  3.77422825e-03 -1.
[ -2.80869765e-03  9.99996032e-01 -2.19452149e-04 -1.
[ -3.77482983e-03  2.08849054e-04  9.99992853e-01  9.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
33% (373 of 1101) |#####| Elapsed Time:
invalid speed 0.296222308802 -0.387180368662
[[ 9.99992446e-01 -6.70751045e-04  3.82856387e-03 -4.
[ 6.68724577e-04  9.99999636e-01  5.30558096e-04 -7.
[ -3.82891835e-03 -5.27993834e-04  9.99992530e-01 -6.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
33% (374 of 1101) |#####| Elapsed Time:
invalid speed 0.624635412613 -0.385233854437
[[ 9.99987083e-01 -3.05005934e-03  4.06589850e-03  1.
[ 3.04741615e-03  9.99995141e-01  6.56123056e-04 -7.
[ -4.06787996e-03 -6.43724096e-04  9.99991519e-01  2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
34% (375 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
79 0.00570257191251 [[ 9.99994866e-01 -7.15079632e-04
[ 7.12393208e-04  9.99999376e-01  8.61051014e-04  2.
[ -3.12427909e-03 -8.58821315e-04  9.99994751e-01  5.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
34% (379 of 1101) |#####| Elapsed Time:
invalid speed 0.256242479169 -0.158643063021
[[ 9.99964597e-01 -1.04794401e-03  8.34907621e-03 -5.
[ 1.06725620e-03  9.99996765e-01 -2.30897328e-03 -3.
[ -8.34662952e-03  2.31780214e-03  9.99962480e-01 -1.

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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
34% (380 of 1101) |#####| Elapsed Time:
invalid speed 0.00170706715328 -0.123561387899
[[ 9.99988720e-01 8.29756393e-04 4.67665570e-03 -9.
[ -8.34011595e-04 9.99999240e-01 9.08004700e-04 -3.
[ -4.67589872e-03 -9.11894843e-04 9.99988652e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
34% (383 of 1101) |#####| Elapsed Time:
invalid speed 0.0230703884905 -0.0532590797238
[[ 0.99997796 0.00115829 0.00653713 0.00541575]
[-0.00117599 0.99999565 0.00270403 0.00196159]
[-0.00653397 -0.00271166 0.99997498 -0.04789203]
[ 0. 0. 0. 1. ]]
34% (385 of 1101) |#####| Elapsed Time:
invalid speed 0.0874510980901 -0.0734373418251
[[ 0.99997731 0.00101887 0.00665936 -0.01269785]
[-0.00103339 0.99999709 0.00217833 0.00200039]
[-0.00665712 -0.00218516 0.99997545 -0.08896101]
[ 0. 0. 0. 1. ]]
35% (386 of 1101) |#####| Elapsed Time:
invalid speed 0.240283371872 -0.116516251652
[[ 9.99983281e-01 -3.05308477e-03 4.91080483e-03 8.
[ 3.05483583e-03 9.99995273e-01 -3.49111811e-04 3.
[ -4.90971575e-03 3.64107677e-04 9.99987881e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
35% (388 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
80 0.102128189518 [[ 9.99995816e-01 -1.83992391e-03 2.
[ 1.84133589e-03 9.99998106e-01 -6.30665601e-04 1.
[ -2.23101374e-03 6.34773152e-04 9.99997310e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.0620984132459 -0.0648672584063
[[ 9.99984529e-01 -3.92978617e-03 3.93685024e-03 3.
[ 3.92912913e-03 9.99992266e-01 1.74616269e-04 4.
[ -3.93750599e-03 -1.59145175e-04 9.99992235e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
35% (390 of 1101) |#####| Elapsed Time:
invalid speed 0.420485442368 -0.180476123111
[[ 0.99998036 0.00186595 0.00598372 -0.00482709]
[-0.00188186 0.99999471 0.00265472 0.0042584 ]
[-0.00597874 -0.00266593 0.99997857 -0.08417818]
[ 0. 0. 0. 1. ]]
35% (391 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
74 0.172074560165 [[ 0.99998822 0.00151884 0.00461027
[-0.00152595 0.99999765 0.0015375 0.0069429 ]
[-0.00460792 -0.00154452 0.99998819 0.17207456]
[ 0. 0. 0. 1. ]]
invalid speed 0.34880044779 -0.0629592286859
[[ 9.99990047e-01 -1.44332012e-03 4.22170062e-03 1.

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[ 1.43960146e-03  9.99998573e-01  8.83751430e-04 -1.
[ -4.22297013e-03 -8.77665068e-04  9.99990698e-01  3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
35% (393 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
86 0.0113473969775 [[ 9.99992970e-01  1.02213939e-03
[ -1.02518578e-03  9.99999119e-01  8.42703131e-04  8.
[ -3.60667448e-03 -8.46395605e-04  9.99993138e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
35% (394 of 1101) |#####| Elapsed Time:
invalid speed 2.13263440572 -0.672759730765
[[ 9.99969085e-01  1.10004734e-03  7.78578546e-03 -1.
[ -1.10444338e-03  9.9999233e-01  5.60346677e-04 -1.
[ -7.78516308e-03 -5.68928314e-04  9.99969533e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
35% (395 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
87 0.0111612317445 [[ 9.99996142e-01 -2.66864299e-03
[ 2.66784275e-03  9.99995903e-01  1.03716445e-03 -8.
[ -7.73713967e-04 -1.03510368e-03  9.99999165e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.721083273355 -0.444786076595
[[ 0.99999749 -0.00157511  0.00159528 -0.05184734]
[ 0.00157047  0.99999454  0.00290876 -0.01596735]
[-0.00159985 -0.00290625  0.9999945  0.72108327]
[ 0. 0. 0. 1. ]]
36% (397 of 1101) |#####| Elapsed Time:
invalid speed 0.86150946928 -0.400063974395
[[ 9.99990496e-01  2.05001611e-03  3.84764337e-03 -8.
[ -2.04847480e-03  9.99997820e-01 -4.04483832e-04 -1.
[ -3.84846418e-03  3.96598188e-04  9.99992516e-01  9.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
36% (398 of 1101) |#####| Elapsed Time:
invalid speed 0.217911542651 -0.293786823634
[[ 9.99974074e-01  5.99761800e-03  3.98495841e-03  1.
[ -5.99120279e-03  9.99980741e-01 -1.61984956e-03 -2.
[ -3.99459690e-03  1.59593287e-03  9.99990748e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
36% (399 of 1101) |#####| Elapsed Time:
invalid speed 0.344693144848 -0.301269820253
[[ 9.99981766e-01  2.42532805e-03  5.53035362e-03  3.
[ -2.42722421e-03  9.99996998e-01  3.36178242e-04 -2.
[ -5.52952167e-03 -3.49595521e-04  9.99984651e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
36% (400 of 1101) |#####| Elapsed Time:
invalid speed 0.263696205558 -0.20776120052
[[ 9.99971782e-01 -4.31870834e-03  6.14689476e-03  2.
[ 4.31272923e-03  9.99990214e-01  9.85627180e-04 -4.
[ -6.15109124e-03 -9.59089474e-04  9.99980622e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.

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36% (401 of 1101) |#####| Elapsed Time:
invalid speed 0.291670451009 -0.221864657188
[[ 9.99995514e-01 9.27971727e-04 2.84787738e-03 8.
[ -9.40353889e-04 9.99990098e-01 4.34960155e-03 2.
[ -2.84381287e-03 -4.35226005e-03 9.99986485e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
36% (402 of 1101) |#####| Elapsed Time:
invalid speed 0.519720530788 -0.259704855341
[[ 9.99982553e-01 4.61808321e-04 5.88900013e-03 1.
[ -4.78759791e-04 9.99995746e-01 2.87741239e-03 -2.
[ -5.88764626e-03 -2.88018160e-03 9.99978520e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
36% (403 of 1101) |#####| Elapsed Time:
invalid speed 0.581749942261 -0.184143749228
[[ 9.99986655e-01 6.83328226e-04 5.12088609e-03 4.
[ -6.84368846e-04 9.99999746e-01 2.01461455e-04 -1.
[ -5.12074712e-03 -2.04963341e-04 9.99986868e-01 5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
36% (405 of 1101) |#####| Elapsed Time:
invalid speed 0.448832057007 -0.198064813076
[[ 9.99961470e-01 1.28514991e-03 8.68370153e-03 -9.
[ -1.28656477e-03 9.99999160e-01 1.57348911e-04 -3.
[ -8.68349202e-03 -1.68514993e-04 9.99962284e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
36% (406 of 1101) |#####| Elapsed Time:
invalid speed 0.227519037584 -0.292962627798
[[ 9.99976528e-01 -2.87672848e-03 6.21831565e-03 -2.
[ 2.87399372e-03 9.99995769e-01 4.48683216e-04 -5.
[ -6.21958008e-03 -4.30801284e-04 9.99980565e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
36% (407 of 1101) |#####| Elapsed Time:
invalid speed 0.997733801166 -0.386126260231
[[ 9.99970518e-01 -4.53349327e-03 6.19761200e-03 1.
[ 4.53462593e-03 9.99989704e-01 -1.68717606e-04 8.
[ -6.19678331e-03 1.96816484e-04 9.99980780e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
37% (408 of 1101) |#####| Elapsed Time:
invalid speed 0.717085543376 -0.439681880022
[[ 0.99998446 0.001226 0.00543796 -0.14574855]
[-0.00123363 0.99999826 0.00140014 -0.01430535]
[-0.00543623 -0.00140683 0.99998423 0.17029242]
[ 0. 0. 0. 1. ]]
37% (409 of 1101) |#####| Elapsed Time:
invalid speed 0.129158995011 -0.445801865859
[[ 0.99997783 -0.00172309 0.00643217 0.17093606]
[ 0.00171646 0.99999799 0.00103566 0.00979013]
[-0.00643394 -0.0010246 0.99997878 -0.32888284]
[ 0. 0. 0. 1. ]]
37% (410 of 1101) |#####| Elapsed Time:
invalid speed 0.705941932349 -0.389838183206

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[[ 9.99981443e-01 -5.51221487e-03 2.59416617e-03 1.
[ 5.51019222e-03 9.99984510e-01 7.86194496e-04 6.
[ -2.59845966e-03 -7.71885552e-04 9.99996326e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
37% (411 of 1101) |#####| Elapsed Time:
invalid speed 1.19952018256 -0.542236210671
[[ 9.99991062e-01 -1.37370153e-03 3.99849901e-03 1.
[ 1.37655347e-03 9.99998800e-01 -7.10589005e-04 6.
[ -3.99751807e-03 7.16086801e-04 9.99991754e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
37% (412 of 1101) |#####| Elapsed Time:
invalid speed 0.762908289981 -0.432981546236
[[ 0.99999013 -0.00298863 0.00328903 0.06076463]
[ 0.00299607 0.99999296 -0.0022606 -0.00142038]
[-0.00328225 0.00227043 0.99999204 0.54843607]
[ 0. 0. 0. 1. ]]
37% (413 of 1101) |#####| Elapsed Time:
invalid speed 0.642481345971 -0.425130937258
[[ 0.99998017 -0.00461277 0.0042864 0.195377 ]
[ 0.00462246 0.99998678 -0.00225186 0.01788949]
[-0.00427596 0.00227163 0.99998828 0.23305163]
[ 0. 0. 0. 1. ]]
37% (414 of 1101) |#####| Elapsed Time:
invalid speed -4.27331888568 -0.665583524169
[[ 9.99988339e-01 -4.81424444e-03 3.79386664e-04 8.
[ 4.81431734e-03 9.99988393e-01 -1.91475205e-04 1.
[ -3.78460452e-04 1.93299461e-04 9.99999910e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
37% (415 of 1101) |#####| Elapsed Time:
invalid speed 0.276444276825 -0.55522383004
[[ 0.99999551 -0.00278974 0.00109697 -0.04659995]
[ 0.00278766 0.99999432 0.00189222 -0.00397726]
[-0.00110224 -0.00188916 0.99999761 -0.05806016]
[ 0. 0. 0. 1. ]]
37% (416 of 1101) |#####| Elapsed Time:
invalid speed 0.334688175203 -0.377450925035
[[ 0.99999058 -0.00411858 0.0013692 0.24205027]
[ 0.00411685 0.99999072 0.00126608 -0.00787178]
[-0.0013744 -0.00126044 0.99999826 0.31278306]
[ 0. 0. 0. 1. ]]
37% (417 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
105 0.349811659655 [[ 9.99998637e-01 -1.32120023e-03
[ 1.32051595e-03 9.99998889e-01 6.91603733e-04 1.
[ -9.90798145e-04 -6.90295631e-04 9.99999271e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.216773087416 -0.135030063472
[[ 9.99995980e-01 -2.74531661e-03 7.08996599e-04 1.
[ 2.74547402e-03 9.99996207e-01 -2.21136137e-04 -1.
[ -7.08386821e-04 2.23081780e-04 9.99999724e-01 2.

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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
37% (418 of 1101) |##### | Elapsed Time:
invalid speed 0.782760652711 -0.222681667043
[[ 9.99991179e-01 4.19835296e-03 1.23246568e-04 3.
[ -4.19837065e-03 9.99991176e-01 1.43583652e-04 2.
[ -1.22642665e-04 -1.44099820e-04 9.99999982e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
38% (419 of 1101) |##### | Elapsed Time:
invalid speed 0.171295015899 -0.191433392411
[[ 9.99995326e-01 9.18876670e-04 2.91610945e-03 1.
[ -9.16286994e-04 9.99999185e-01 -8.89270432e-04 3.
[ -2.91692420e-03 8.86594283e-04 9.99995353e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
38% (421 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
80 0.758711639391 [[ 9.99999235e-01 1.10894767e-03 5.
[ -1.10858468e-03 9.99999166e-01 -6.62560857e-04 -4.
[ -5.48480603e-04 6.61953127e-04 9.99999630e-01 7.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.667332100061 0.0606389241833
[[ 9.99998549e-01 -5.72555994e-04 1.60458856e-03 -2.
[ 5.74506922e-04 9.99999096e-01 -1.21564578e-03 -4.
[ -1.60389108e-03 1.21656586e-03 9.99997974e-01 5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
38% (422 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
77 0.622903033283 [[ 9.99999066e-01 -1.02066362e-03 9.
[ 1.02097550e-03 9.99999420e-01 -3.42740111e-04 -1.
[ -9.08572717e-04 3.43667779e-04 9.99999528e-01 6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
38% (423 of 1101) |##### | Elapsed Time:
invalid speed 0.197899183226 0.164655824095
[[ 0.99999499 0.00113386 0.002957 -0.17529414]
[-0.00114619 0.99999065 0.0041707 -0.01594408]
[-0.00295225 -0.00417406 0.99998693 0.19574607]
[ 0. 0. 0. 1. ]]
38% (425 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
80 0.456564228373 [[ 0.99999505 0.00130325 0.00286492
[-0.00131343 0.99999282 0.00355456 0.03769686]
[-0.00286027 -0.00355831 0.99998958 0.45656423]
[ 0. 0. 0. 1. ]]
invalid speed 2.48071465484 -0.486295276219
[[ 9.99985679e-01 -1.88724374e-04 5.34843530e-03 -2.
[ 1.71892465e-04 9.99995032e-01 3.14735665e-03 2.
[ -5.34900272e-03 -3.14639222e-03 9.99980744e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
38% (426 of 1101) |##### | Elapsed Time:
invalid speed -7.63032913688 -0.407150181501
[[ 9.99986742e-01 -4.88333207e-04 5.12619285e-03 -2.

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[ 4.89352765e-04  9.99999861e-01 -1.97639495e-04 -6.
[ -5.12609562e-03  2.00145391e-04  9.99986841e-01 -7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
38% (427 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
99 0.747075449072 [[ 9.99994961e-01 -4.86111838e-04 3.
[ 4.88372706e-04  9.99999622e-01 -7.19963759e-04 2.
[ -3.13673852e-03  7.21492200e-04  9.99994820e-01 7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00 1.
invalid speed -7.2495680125 -0.0224083046432
[[ 9.99971260e-01  2.92939921e-04  7.57582835e-03 -2.
[ -2.91953302e-04  9.99999949e-01 -1.31338102e-04 -5.
[ -7.57586644e-03  1.29122539e-04  9.99971294e-01 -7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00 1.
38% (428 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
94 -3.4246497051 [[ 9.99991141e-01  7.98946854e-04 4.
[ -7.98056063e-04  9.99999658e-01 -2.17190920e-04 -3.
[ -4.13288568e-03  2.13890859e-04  9.99991437e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00 1.
invalid speed 0.11654228609 -1.15648877146
[[ 9.99981657e-01  9.41995468e-04  5.98313158e-03 1.
[ -9.32127215e-04  9.99998201e-01 -1.65192024e-03 5.
[ -5.98467692e-03  1.64631290e-03  9.99980736e-01 1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00 1.
38% (429 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
98 0.970200551793 [[ 0.99998937  0.002074  0.00411834
[-0.00206951  0.99999726 -0.00109456  0.06525723]
[-0.0041206  0.00108602  0.99999092  0.97020055]
[ 0. 0. 0. 1. ]]
invalid speed 0.589648639324 -0.447592330376
[[ 9.99952004e-01  2.48542729e-04  9.79428415e-03 -6.
[ -2.29057922e-04  9.99997993e-01 -1.99047756e-03 3.
[ -9.79475921e-03  1.98813857e-03  9.99950054e-01 5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00 1.
39% (430 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
136 0.640831812169 [[ 9.99989228e-01  1.30467472e-03
[ -1.30335155e-03  9.99999106e-01 -2.99936326e-04 1.
[ -4.45481988e-03  2.94127404e-04  9.99990034e-01 6.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00 1.
39% (431 of 1101) |##### | Elapsed Time:
invalid speed 0.118638453646 -0.0939343982426
[[ 0.99994843  0.00135719  0.01006474  0.03662539]
[-0.001347  0.99999857 -0.00101946 -0.04402495]
[-0.01006611  0.00100585  0.99994883  0.00640382]
[ 0. 0. 0. 1. ]]
39% (432 of 1101) |##### | Elapsed Time:
invalid speed 0.994564843586 -0.194613136606

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[[ 9.99983647e-01  1.23543437e-04  5.71752317e-03  -3.
[ -1.20665508e-04  9.99999866e-01  -5.03694492e-04  1.
[ -5.71758463e-03  5.02996348e-04  9.99983528e-01  5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
39% (433 of 1101) |#####| Elapsed Time:
invalid speed 1.61865223179 -0.623104631211
[[ 0.99993009 -0.00169935  0.01170162  0.17889419]
[ 0.00172195  0.99999667 -0.00192135 -0.01791674]
[-0.01169832  0.00194136  0.99992969  0.13856461]
[ 0.          0.          0.          1.          ]]
39% (435 of 1101) |#####| Elapsed Time:
invalid speed 0.542252638464 -0.490798093418
[[ 9.99961817e-01  -9.16132857e-04  8.69053926e-03  9.
[ 9.37721046e-04  9.99996484e-01  -2.48035299e-03  -1.
[ -8.68823638e-03  2.48840759e-03  9.99959160e-01  -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
39% (436 of 1101) |#####| Elapsed Time:
invalid speed 0.557995062938 -0.486111354432
[[ 0.99994006 -0.00526412  0.00960018  0.01796376]
[ 0.00527834  0.99998501 -0.00145708 -0.0086671 ]
[-0.00959237  0.00150766  0.99995286  0.08125719]
[ 0.          0.          0.          1.          ]]
39% (437 of 1101) |#####| Elapsed Time:
invalid speed 0.215916760761 -0.513399264163
[[ 9.99992164e-01  -2.03885868e-03  3.39328357e-03  3.
[ 2.03565747e-03  9.99997480e-01  9.46582302e-04  -6.
[ -3.39520497e-03  -9.39667322e-04  9.99993795e-01  -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
39% (438 of 1101) |#####| Elapsed Time:
invalid speed 0.967168106429 -0.596098552079
[[ 9.99977671e-01  -1.06993531e-03  6.59637077e-03  2.
[ 1.06887435e-03  9.99999415e-01  1.64364022e-04  -4.
[ -6.59654277e-03  -1.57309660e-04  9.99978230e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
39% (439 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
109 0.214260913792 [[ 9.99991402e-01  2.11241427e-04
[ -2.12389134e-04  9.99999939e-01  2.76688867e-04  -3.
[ -4.14139088e-03  -2.77566087e-04  9.99991386e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.00179002101863 -0.325978730122
[[ 9.99959524e-01  6.26612560e-04  8.97536671e-03  -7.
[ -6.20719529e-04  9.99999590e-01  -6.59348898e-04  -4.
[ -8.97577619e-03  6.53751025e-04  9.99959503e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
39% (440 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
103 0.0900014188752 [[ 9.99988989e-01  1.57181866e-03
[ -1.57086666e-03  9.99998742e-01  -2.18772268e-04  -3.
[ -4.42194393e-03  2.11824107e-04  9.99990201e-01  9.

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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.386473027772 -0.187318680456
[[ 9.99990941e-01 1.71543725e-04 4.25315767e-03 1.
[ -1.69721734e-04 9.9999894e-01 -4.28742707e-04 -3.
[ -4.25323076e-03 4.28016969e-04 9.99990863e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
40% (441 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
116 -3.58774170913 [[ 9.99998794e-01 -5.03834214e-04
[ 5.04131785e-04 9.9999852e-01 -2.02220979e-04 1.
[ -1.46877586e-03 2.02961244e-04 9.99998901e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
40% (442 of 1101) |##### | Elapsed Time:
invalid speed 1.37928507421 -1.35023335308
[[ 0.99997935 -0.00509453 0.00391753 -0.06387118]
[ 0.00510877 0.99998035 -0.00363223 0.03484927]
[-0.00389895 0.00365217 0.99998573 -0.02982894]
[ 0. 0. 0. 1. ]]
40% (443 of 1101) |##### | Elapsed Time:
invalid speed 0.70379750534 -1.07139790451
[[ 0.99998528 -0.00501306 0.00207685 0.14099482]
[ 0.00501567 0.99998664 -0.00125376 0.0115212 ]
[-0.00207053 0.00126416 0.99999706 0.1900705 ]
[ 0. 0. 0. 1. ]]
40% (444 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
104 -4.74925675968 [[ 9.99996143e-01 -2.69825823e-03
[ 2.69838192e-03 9.99996342e-01 -1.86931987e-04 1.
[ -6.58286750e-04 1.88708942e-04 9.99999766e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
40% (446 of 1101) |##### | Elapsed Time:
invalid speed 0.417047399873 -1.13625445613
[[ 9.99988679e-01 -3.17201471e-03 3.54685783e-03 -6.
[ 3.17226624e-03 9.99994966e-01 -6.52917105e-05 5.
[ -3.54663287e-03 7.65425487e-05 9.99993708e-01 2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
40% (447 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
110 -4.02016357871 [[ 9.99999142e-01 -6.35558488e-04
[ 6.36992152e-04 9.99999014e-01 -1.25168453e-03 2.
[ -1.14465568e-03 1.25241310e-03 9.99998561e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.267986072627 -2.09755749699
[[ 9.99993859e-01 8.31257377e-05 3.50363798e-03 -2.
[ -8.62096482e-05 9.99999609e-01 8.80060553e-04 -5.
[ -3.50356345e-03 -8.80357195e-04 9.99993475e-01 2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
40% (448 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
108 0.223180785684 [[ 9.99994926e-01 -2.42537758e-04

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[ 2.38896218e-04  9.99999314e-01  1.14673865e-03  8.
[ -3.17675027e-03 -1.14597399e-03  9.99994297e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.0282868879543 -1.32397806943
[[ 9.99991316e-01  5.41576961e-04  4.13225879e-03 -5.
[ -5.50835288e-04  9.99997340e-01  2.23969122e-03 -7.
[ -4.13103483e-03 -2.24194796e-03  9.99988954e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
40% (449 of 1101) |#####| Elapsed Time:
invalid speed 0.556086452981 -1.01488104773
[[ 9.99980283e-01  1.99810825e-03  5.95316653e-03  2.
[ -2.00267775e-03  9.99997705e-01  7.61712858e-04  2.
[ -5.95163088e-03 -7.73620114e-04  9.99981990e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
40% (450 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
114 0.220768391575 [[ 9.99990657e-01  1.67415459e-03
[ -1.67319428e-03  9.99998570e-01 -2.44279106e-04 -1.
[ -3.98579271e-03  2.37608493e-04  9.99992028e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
40% (451 of 1101) |#####| Elapsed Time:
invalid speed 0.148302112986 -0.478548672961
[[ 0.99997869  0.00457346  0.00465952  0.00655383]
[-0.00455436  0.99998122 -0.00410156  0.00490174]
[-0.00467819  0.00408025  0.99998073 -0.0813481 ]
[ 0.          0.          0.          1.          ]]
41% (452 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
129 -3.0813878177 [[ 9.99999832e-01 -1.40753220e-04  5.
[ 1.42315202e-04  9.99996136e-01 -2.77611748e-03  7.
[ -5.62444298e-04  2.77619712e-03  9.99995988e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.433843797534 -1.34616172121
[[ 0.99999381  0.00168381  0.00308958 -0.06167593]
[-0.00167151  0.99999068 -0.00397976 -0.00953276]
[-0.00309625  0.00397457  0.99998731  0.4338438 ]
[ 0.          0.          0.          1.          ]]
41% (453 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
130 0.000726356038755 [[ 9.99990292e-01 -3.12253580e-03
[ 3.13298829e-03  9.99989437e-01 -3.36301458e-03  1.
[ -3.09830196e-03  3.37272188e-03  9.99989513e-01  7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.164206465073 -0.897199028791
[[ 0.99997961 -0.0047875  0.00422541  0.06001718]
[ 0.00480577  0.99997909 -0.00432619  0.00252411]
[-0.00420461  0.00434641  0.99998171  0.16420647]
[ 0.          0.          0.          1.          ]]
41% (456 of 1101) |#####| Elapsed Time:
invalid speed 0.354847180278 -0.269969490383

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[[ 9.99952868e-01  3.54659136e-04  9.70238977e-03  -5.
[ -3.39713492e-04  9.99998753e-01  -1.54201323e-03  -7.
[ -9.70292456e-03  1.53864452e-03  9.99951742e-01  3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
41% (457 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
110 0.252401594713 [[ 9.99990466e-01  1.89769566e-03
[ -1.89744030e-03  9.99998198e-01  -6.86627281e-05  -7.
[ -3.93287194e-03  6.11999176e-05  9.99992264e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -6.24447686321 -0.095845795351
[[ 9.99987917e-01  2.87150069e-03  3.99013840e-03  8.
[ -2.86840511e-03  9.99995581e-01  -7.81312123e-04  1.
[ -3.99236430e-03  7.69857349e-04  9.99991734e-01  -6.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
41% (458 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
131 0.252983035353 [[ 9.99979695e-01  4.23453732e-04
[ -4.15484276e-04  9.99999127e-01  -1.25463483e-03  -8.
[ -6.35896767e-03  1.25196752e-03  9.99978998e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.197685767958 0.0204304815502
[[ 9.99965960e-01  7.21153560e-04  8.21942843e-03  4.
[ -6.98296664e-04  9.99995883e-01  -2.78336844e-03  3.
[ -8.22140183e-03  2.77753410e-03  9.99962346e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
41% (459 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
125 -3.07613492779 [[ 9.99998740e-01  -7.44251932e-05
[ 7.68095516e-05  9.99998867e-01  -1.50367151e-03  7.
[ -1.58556903e-03  1.50379141e-03  9.99997612e-01  -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 1.00056851943 -1.01175798823
[[ 0.99996935  0.00301466  0.00722547 -0.13037443]
[-0.00300094  0.99999367 -0.00190912 -0.02524163]
[-0.00723118  0.00188738  0.99997207  1.00056852]
[ 0.          0.          0.          1.          ]]
41% (460 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
125 0.0291956702309 [[ 9.99987038e-01  -3.88470396e-04
[ 3.97825744e-04  9.99998224e-01  -1.84194217e-03  -2.
[ -5.07591765e-03  1.84393792e-03  9.99985417e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
41% (461 of 1101) |#####| Elapsed Time:
invalid speed 1.47730692613 -0.463451627056
[[ 0.99988867  0.00182765  0.01480879 -0.43284838]
[-0.00179022  0.99999517 -0.0025399  -0.06809988]
[-0.01481336  0.00251311  0.99988712  1.41649892]
[ 0.          0.          0.          1.          ]]
41% (462 of 1101) |#####| Elapsed Time:

```

```
WARNING: invalid pose estimation
124 0.137175237359 [[ 9.99986857e-01 -1.97504578e-03
[ 1.97865312e-03 9.99997755e-01 -7.57878972e-04 -4.
[ -4.72980867e-03 7.67230645e-04 9.99988520e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.0459309282198 -0.263242672251
[[ 0.99993714 -0.00680856 0.00890811 0.02430615]
[ 0.0068284 0.99997427 -0.00219934 -0.00416955]
[-0.0088929 0.00226003 0.9999579 0.04593093]
[ 0. 0. 0. 1. ]]
42% (463 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
118 0.137285863457 [[ 9.99987307e-01 -1.89151136e-03
[ 1.89011351e-03 9.99998168e-01 3.03730400e-04 -7.
[ -4.67041854e-03 -2.94899993e-04 9.99989050e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.194725163979 -0.129733160348
[[ 9.99971632e-01 -2.22531254e-03 7.19607341e-03 1.
[ 2.22391948e-03 9.99997507e-01 2.01582524e-04 2.
[ -7.19650405e-03 -1.85573318e-04 9.99974088e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
42% (464 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
133 0.116866416478 [[ 9.99988004e-01 -1.95003616e-03
[ 1.95320892e-03 9.99997846e-01 -7.01850721e-04 -3.
[ -4.49178536e-03 7.10618389e-04 9.99989659e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.352242488358 -0.0475333014061
[[ 9.99992216e-01 -1.91058149e-03 3.45222466e-03 1.
[ 1.91252116e-03 9.99998015e-01 -5.58649321e-04 -2.
[ -3.45115046e-03 5.65247425e-04 9.99993885e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
42% (465 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
127 0.100875245227 [[ 9.99989965e-01 -1.30209745e-03
[ 1.30476534e-03 9.99998957e-01 -6.19654271e-04 -7.
[ -4.28570030e-03 6.25240944e-04 9.99990621e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.593555989607 0.00193621413821
[[ 9.99987680e-01 7.06046236e-04 4.91331138e-03 3.
[ -7.07891973e-04 9.99999680e-01 3.73931680e-04 -3.
[ -4.91304580e-03 -3.77405167e-04 9.99987860e-01 5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
42% (466 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
110 0.266387377999 [[ 9.99991702e-01 6.52764245e-04
[ -6.54219580e-04 9.99999721e-01 3.60617714e-04 -2.
[ -4.02088851e-03 -3.63245421e-04 9.99991850e-01 2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.332881483765 0.0900866020919
```

```

[[ 9.99972167e-01  1.07687280e-03  7.38274470e-03  1.
[ -1.08090691e-03  9.99999269e-01  5.42455975e-04 -2.
[ -7.38215515e-03 -5.50420936e-04  9.99972600e-01  3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
42% (467 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
123 0.128405529189 [[ 9.99992340e-01  3.04926050e-04
[ -3.06594851e-04  9.9999862e-01  4.27061797e-04 -1.
[ -3.90210234e-03 -4.28254930e-04  9.99992295e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.604933279615 0.102859577791
[[ 9.99984317e-01  3.62755451e-04  5.58869938e-03  2.
[ -3.57037663e-04  9.99999412e-01 -1.02406191e-03  4.
[ -5.58906757e-03  1.02205047e-03  9.99983859e-01  6.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
42% (468 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
101 0.307204797659 [[ 9.99988516e-01 -4.75076289e-05
[ 5.22301725e-05  9.99999513e-01 -9.85346263e-04 -3.
[ -4.79214133e-03  9.85585245e-04  9.99988032e-01  3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.521440670074 0.17097465108
[[ 9.99979161e-01  9.48875157e-04  6.38577420e-03  2.
[ -9.38867670e-04  9.99998327e-01 -1.56996857e-03 -3.
[ -6.38725322e-03  1.56394046e-03  9.99978378e-01  5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
42% (469 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
117 0.30087055497 [[ 9.99991134e-01 -3.13306180e-04  4.
[ 3.18970949e-04  9.99999040e-01 -1.34835588e-03 -2.
[ -4.19894073e-03  1.34968340e-03  9.99990274e-01  3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.418656854319 0.21427328571
[[ 0.99998348 -0.00100181  0.00566009  0.34084892]
[ 0.00101307  0.99999751 -0.00198638 -0.03626373]
[-0.00565809  0.00199208  0.99998201  0.41865685]
[ 0. 0. 0. 1. ]]
42% (470 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
103 0.43306087616 [[ 0.99999121 -0.00120703  0.00401605
[ 0.00121179  0.99999857 -0.00118257 -0.01272558]
[-0.00401461  0.00118743  0.99999124  0.43306088]
[ 0. 0. 0. 1. ]]
invalid speed 0.290490604055 0.287202482527
[[ 0.9999678 -0.0031136  0.00739572  0.25040098]
[ 0.00312942  0.99999284 -0.00212919 -0.03017573]
[-0.00738903  0.00215227  0.99997038  0.2904906 ]
[ 0. 0. 0. 1. ]]
42% (471 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation

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108 0.2415692798 [[ 0.99999034 -0.00276469 0.003418 (
[ 0.00276992 0.999995 -0.0015238 -0.02814482]
[-0.00341377 0.00153325 0.999993 0.24156928]
[ 0. 0. 0. 1. ]]
invalid speed 0.470337850576 0.271991414951
[[ 9.99977554e-01 -2.82034484e-03 6.07759128e-03 (
[ 2.82643493e-03 9.99995512e-01 -9.93700801e-04 -1.
[ -6.07476142e-03 1.01085641e-03 9.99981038e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
42% (472 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
90 0.461983389809 [[ 0.99997588 -0.0039655 0.00570278
[ 0.00397175 0.99999152 -0.00108507 -0.01121619]
[-0.00569843 0.00110769 0.99998315 0.46198339]
[ 0. 0. 0. 1. ]]
invalid speed 0.585971078724 0.335322073237
[[ 0.99988193 -0.00561738 0.01430314 0.11967848]
[ 0.00564478 0.99998231 -0.00187599 -0.01666976]
[-0.01429235 0.00195651 0.99989595 0.58597108]
[ 0. 0. 0. 1. ]]
42% (473 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
105 0.154172704386 [[ 9.99990454e-01 -3.34837309e-03
[ 3.34999683e-03 9.99994224e-01 -5.73950873e-04 -1.
[ -2.80510001e-03 5.83348963e-04 9.99995896e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.35352876496 0.274938950287
[[ 9.99985952e-01 -3.21273384e-03 4.21586562e-03 (
[ 3.21373649e-03 9.99994809e-01 -2.31074851e-04 -3.
[ -4.21510135e-03 2.44620286e-04 9.99991087e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
43% (474 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
98 0.203320445721 [[ 9.99996052e-01 -1.50130265e-03 (
[ 1.50134841e-03 9.99998873e-01 -1.74844648e-05 -4.
[ -2.37512263e-03 2.10503257e-05 9.99997179e-01 2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
43% (475 of 1101) |##### | Elapsed Time:
invalid speed 0.247876740862 -0.204856866358
[[ 0.99999098 -0.00118549 0.00407822 -0.35318767]
[ 0.00117734 0.99999731 0.00200018 0.0338972 ]
[-0.00408058 -0.00199537 0.99998968 -0.86882609]
[ 0. 0. 0. 1. ]]
43% (476 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
78 0.619492816808 [[ 0.99999773 0.00114104 0.00179977
[-0.00114362 0.99999832 0.00143501 -0.01455802]
[-0.00179813 -0.00143706 0.99999735 0.61949282]
[ 0. 0. 0. 1. ]]
invalid speed 0.80996692644 0.0699263613643

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[[ 9.99995385e-01  1.78364537e-03  2.45926770e-03  2.
[ -1.78454346e-03  9.99998342e-01  3.63039596e-04 -2.
[ -2.45861609e-03 -3.67426591e-04  9.99996910e-01  8.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
43% (477 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
69 0.112597217366 [[ 9.99995722e-01  3.68103815e-04  2.
[ -3.66675866e-04  9.9999811e-01 -4.92582284e-04 -2.
[ -2.90212858e-03  4.91516102e-04  9.99995668e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 1.43895430569 0.0841499800316
[[ 0.99999555  0.00233942  0.0018527  0.46302627]
[-0.00233292  0.99999114 -0.0035039 -0.04932084]
[-0.00186088  0.00349957  0.99999215  1.43895431]
[ 0. 0. 0. 1. ]]
43% (478 of 1101) |#####| Elapsed Time:
invalid speed 0.338056783287 0.0429605989146
[[ 0.99997945 -0.00625034  0.00142623  0.16331855]
[ 0.00625581  0.99997296 -0.0038661 -0.01199002]
[-0.00140202  0.00387494  0.99999151  0.29863862]
[ 0. 0. 0. 1. ]]
43% (479 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
58 0.265355119638 [[ 9.99958708e-01 -9.07138796e-03  5.
[ 9.07259197e-03  9.99956271e-01 -2.26826906e-03 -1.
[ -5.19931068e-04  2.27307942e-03  9.99997281e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.880772303211 0.117092105823
[[ 9.99986702e-01 -5.07047922e-03  9.41144845e-04  2.
[ 5.06528094e-03  9.99972342e-01  5.44591577e-03 -2.
[ -9.68732218e-04 -5.44107619e-03  9.99984728e-01  8.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
43% (480 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
54 0.0581663993508 [[ 9.99999014e-01 -1.32402590e-03
[ 1.32095868e-03  9.99978017e-01  6.49777463e-03 -6.
[ -4.76354580e-04 -6.49715033e-03  9.99978780e-01  5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.722087518586 0.0974502036653
[[ 0.99997813 -0.00650579  0.00118957  0.16280276]
[ 0.00649303  0.9999245  0.01043272  0.03373955]
[-0.00125735 -0.01042477  0.99994487  0.72208752]
[ 0. 0. 0. 1. ]]
43% (481 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
71 0.272946280671 [[ 9.99999149e-01 -1.22129429e-03  4.
[ 1.21808865e-03  9.99975349e-01  6.91501587e-03 -3.
[ -4.67806998e-04 -6.91445042e-03  9.99975985e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 1.24384525499 0.155948896001

```

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[[ 9.99995571e-01 -2.94811519e-03 4.07927522e-04 2.
[ 2.94739187e-03 9.99994103e-01 1.76255291e-03 1.
[ -4.13121326e-04 -1.76134278e-03 9.99998363e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
43% (482 of 1101) |#####| Elapsed Time:
invalid speed 0.471300450749 0.00798625094031
[[ 9.99996070e-01 2.68222388e-03 8.15751639e-04 5.
[ -2.67396063e-03 9.99946749e-01 -9.96740369e-03 2.
[ -8.42443007e-04 9.96518323e-03 9.99949991e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
43% (483 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
87 0.62309998365 [[ 9.99989646e-01 -4.52241881e-03 5.
[ 4.52653338e-03 9.99953985e-01 -8.45805027e-03 9.
[ -4.67256303e-04 8.46025099e-03 9.99964102e-01 6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.341006681516 0.213024161844
[[ 0.99999135 0.00296402 0.00291932 -0.18701322]
[-0.00293553 0.99994849 -0.00971575 0.03478469]
[-0.00294797 0.0097071 0.99994854 0.34100668]
[ 0. 0. 0. 1. ]]
44% (485 of 1101) |#####| Elapsed Time:
invalid speed 0.786715965402 -0.139182363834
[[ 0.99998133 0.00437423 0.00426797 -0.15910543]
[-0.00436593 0.99998856 -0.00195292 -0.02907107]
[-0.00427646 0.00193425 0.99998899 0.05366602]
[ 0. 0. 0. 1. ]]
44% (486 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
94 0.161332176116 [[ 9.99997783e-01 -8.39173340e-04 1.
[ 8.40866492e-04 9.99999263e-01 -8.76058049e-04 8.
[ -1.93053645e-03 8.77680050e-04 9.99997751e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -2.20839015446 -0.0390108505174
[[ 9.99998376e-01 3.30594199e-04 1.77148194e-03 1.
[ -3.27881273e-04 9.99998773e-01 -1.53151608e-03 -2.
[ -1.77198608e-03 1.53093276e-03 9.99997258e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
44% (487 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
86 1.10398562654 [[ 0.99999513 -0.0012357 0.00286423 (
[ 0.00124181 0.99999695 -0.00213282 -0.02682563]
[-0.00286158 0.00213637 0.99999362 1.10398563]
[ 0. 0. 0. 1. ]]
invalid speed 0.818614993127 0.34198797517
[[ 0.99994225 -0.00827576 0.00685647 0.34067061]
[ 0.00831415 0.99994982 -0.00558903 0.03258634]
[-0.00680987 0.00564571 0.99996088 0.81861499]
[ 0. 0. 0. 1. ]]
44% (488 of 1101) |#####| Elapsed Time:

```



```

WARNING: invalid pose estimation
112 0.154676528762 [[ 0.99999298 -0.00150413  0.00343177
[ 0.00151012  0.99999734 -0.00174182 -0.02082999]
[-0.00342914  0.00174699  0.99999259  0.15467653]
[ 0.          0.          0.          1.          ]]
invalid speed 0.0554647262159 0.279550826367
[[ 0.99999046 -0.00109392  0.00422967  0.12215532]
[ 0.00110143  0.99999782 -0.00177515 -0.03407313]
[-0.00422772  0.00177979  0.99998948  0.05546473]
[ 0.          0.          0.          1.          ]]
44% (489 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
119 0.0790296972514 [[ 9.99992746e-01 -9.40115246e-04
[ 9.45635873e-04  9.99998437e-01 -1.49423397e-03  2.
[ -3.68960251e-03  1.49771349e-03  9.99992072e-01  7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.0534342917186 0.212710449995
[[ 9.99986220e-01 -1.39915097e-03  5.05980136e-03 -1.
[ 1.39581148e-03  9.99998806e-01  6.63476058e-04 -1.
[ -5.06072362e-03 -6.56404386e-04  9.99986979e-01  5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
44% (490 of 1101) |#####| Elapsed Time:
invalid speed 0.309736162574 0.132020703553
[[ 0.99998661 -0.00141125  0.00497861  0.08898897]
[ 0.00140625  0.9999985  0.00100744  0.00512619]
[-0.00498003 -0.00100043  0.9999871  0.28037737]
[ 0.          0.          0.          1.          ]]
44% (491 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
119 0.11218450482 [[ 9.99994166e-01  8.13949914e-04
[ -8.15748432e-04  9.99999521e-01  5.40832414e-04  2.
[ -3.31694328e-03 -5.43535410e-04  9.99994351e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
44% (492 of 1101) |#####| Elapsed Time:
invalid speed 0.379218970481 0.0386150603251
[[ 9.99977862e-01  1.68924300e-03  6.43595853e-03 -1.
[ -1.68414293e-03  9.99998264e-01 -7.97769780e-04  8.
[ -6.43729498e-03  7.86913045e-04  9.99978971e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
44% (493 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
116 0.0957205070438 [[ 9.99994325e-01  3.39835396e-04
[ -3.37845847e-04  9.99999766e-01 -5.94131512e-04  4.
[ -3.35196163e-03  5.92995761e-04  9.99994206e-01  9.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.473495196067 0.0576502092313
[[ 9.99988387e-01  1.00837475e-04  4.81816773e-03  2.
[ -1.01702295e-04  9.9999979e-01  1.79246889e-04  4.
[ -4.81814955e-03 -1.79734827e-04  9.99988376e-01  4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.

```

```

44% (494 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
99 0.16364177903 [[ 9.99991725e-01 5.67880846e-04 4.
[ -5.70187319e-04 9.99999674e-01 5.71436478e-04 1.
[ -4.02801360e-03 -5.73728657e-04 9.99991723e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.311079219197 0.0929807324977
[[ 9.99973419e-01 1.12123073e-03 7.20451507e-03 5.
[ -1.12646395e-03 9.99999105e-01 7.22363158e-04 3.
[ -7.20369868e-03 -7.30459583e-04 9.99973786e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
44% (495 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
106 0.242883682821 [[ 9.99992521e-01 1.21051004e-03
[ -1.21138707e-03 9.99999238e-01 2.36549160e-04 3.
[ -3.67288248e-03 -2.40997024e-04 9.99993226e-01 2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.117458166348 0.142948382606
[[ 9.99979696e-01 1.19574441e-04 6.37134954e-03 1.
[ -1.11953739e-04 9.99999278e-01 -1.19643230e-03 1.
[ -6.37148800e-03 1.19569471e-03 9.99978987e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
45% (496 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
122 0.344646528702 [[ 9.99995261e-01 6.17253803e-04
[ -6.12849075e-04 9.99998745e-01 -1.46115445e-03 2.
[ -3.01690907e-03 1.45929917e-03 9.99994384e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 1.48891125115 0.210181097971
[[ 0.99997079 0.00371343 0.00668016 -0.11222876]
[-0.00370187 0.99999163 -0.00174251 0.030196 ]
[-0.00668658 0.00171773 0.99997617 1.48891125]
[ 0. 0. 0. 1. ]]
45% (497 of 1101) |#####| Elapsed Time:
invalid speed 0.369056250615 0.135396527842
[[ 9.99972084e-01 4.86375407e-04 7.45614590e-03 2.
[ -4.63301812e-04 9.99995100e-01 -3.09598899e-03 -4.
[ -7.45761518e-03 3.09244812e-03 9.99967410e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
45% (498 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
122 0.725736755038 [[ 9.99993249e-01 -6.43619350e-04
[ 6.53834362e-04 9.99995801e-01 -2.82320330e-03 3.
[ -3.61579608e-03 2.82554957e-03 9.99989471e-01 7.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
45% (499 of 1101) |#####| Elapsed Time:
invalid speed 0.392128654266 0.17189825114
[[ 9.99990060e-01 -7.53754250e-04 4.39448009e-03 1.
[ 7.97548634e-04 9.99949955e-01 -9.97255137e-03 -2.
[ -4.38674331e-03 9.97595705e-03 9.99940617e-01 2.

```

```

[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
45% (500 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
83 0.120215261343 [[ 0.99999483 -0.00209678 0.0024379
[ 0.00210549 0.9999914 -0.00357405 0.00747231]
[-0.00243039 0.00357916 0.99999064 0.12021526]
[ 0. 0. 0. 1. ]]
45% (501 of 1101) |#####| Elapsed Time:
invalid speed 1.46547367599 -0.178638454277
[[ 0.99996312 -0.00550459 0.00659243 0.0129328 ]
[ 0.00551898 0.99998242 -0.00216705 -0.00260012]
[-0.00658039 0.00220335 0.99997592 0.62021714]
[ 0. 0. 0. 1. ]]
45% (502 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
82 0.237792102303 [[ 9.99996679e-01 -8.07099787e-04 2.
[ 8.02551544e-04 9.99997951e-01 1.85859568e-03 -4.
[ -2.44917907e-03 -1.85662512e-03 9.99995277e-01 2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.183245175521 -0.0398282687506
[[ 0.99998596 0.00358334 0.00390386 -0.0020351 ]
[-0.00359488 0.99998918 0.00295249 -0.07170989]
[-0.00389324 -0.00296648 0.99998802 0.18324518]
[ 0. 0. 0. 1. ]]
45% (505 of 1101) |#####| Elapsed Time:
invalid speed 6.51345644418 -0.839073848242
[[ 9.99946019e-01 -6.34943519e-04 1.03709260e-02 -4.
[ 6.44973179e-04 9.99999328e-01 -9.63778070e-04 3.
[ -1.03703071e-02 9.70415013e-04 9.99945756e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
45% (506 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
86 1.47233012366 [[ 9.99994588e-01 -1.85303423e-03 2.
[ 1.85132358e-03 9.99998087e-01 6.31675889e-04 -1.
[ -2.71952491e-03 -6.26639907e-04 9.99996106e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.555255543089 -0.0686058576088
[[ 0.99999381 -0.00271239 0.00224215 0.12654381]
[ 0.00270792 0.99999434 0.00199798 -0.05894853]
[-0.00224756 -0.0019919 0.99999549 0.55525554]
[ 0. 0. 0. 1. ]]
46% (507 of 1101) |#####| Elapsed Time:
invalid speed 0.0956986414528 -0.205158372108
[[ 9.9999890e-01 1.81903094e-04 4.31278457e-04 2.
[ -1.82801180e-04 9.99997813e-01 2.08325586e-03 -6.
[ -4.30898563e-04 -2.08333447e-03 9.99997737e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
46% (509 of 1101) |#####| Elapsed Time:
invalid speed 0.380945267745 -0.172233967099
[[ 0.99995531 0.00236661 0.00915258 0.04648383]

```

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[-0.00234347  0.99999403 -0.00253816  0.02586956]
[-0.00915853  0.0025166   0.99995489  0.13103473]
[ 0.          0.          0.          1.          ]]
46% (511 of 1101) |#####| Elapsed Time:
invalid speed 2.10969924232 -0.860927121574
[[ 9.99997630e-01 -5.74184767e-05  2.17627877e-03  2.
[ 5.77095572e-05  9.99999989e-01 -1.33688927e-04  4.
[ -2.17627107e-03  1.33814202e-04  9.99997623e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
46% (512 of 1101) |#####| Elapsed Time:
invalid speed -3.28028462725 -0.67938297903
[[ 9.99997936e-01  1.66265550e-03  1.16763914e-03  9.
[ -1.66238097e-03  9.99998590e-01 -2.36042304e-04 -7.
[ -1.16802995e-03  2.34100756e-04  9.99999290e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
46% (513 of 1101) |#####| Elapsed Time:
invalid speed 0.0805046560628 -0.50964217706
[[ 9.99995854e-01  1.65327082e-04  2.87498067e-03 -4.
[ -1.61284388e-04  9.99998998e-01 -1.40633901e-03  1.
[ -2.87521029e-03  1.40586948e-03  9.99994878e-01 -8.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
46% (514 of 1101) |#####| Elapsed Time:
invalid speed 1.18777620627 -0.609339408645
[[ 9.99999141e-01 -1.27906932e-03  2.84923155e-04  2.
[ 1.27862050e-03  9.99997950e-01  1.56989258e-03 -1.
[ -2.86930572e-04 -1.56952693e-03  9.99998727e-01  3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
46% (517 of 1101) |#####| Elapsed Time:
invalid speed -7.7031695187 -0.928743326407
[[ 9.99898223e-01  4.00678124e-03  1.36926912e-02 -3.
[ -3.99623529e-03  9.99991697e-01 -7.97462570e-04  3.
[ -1.36957727e-02  7.42662191e-04  9.99905933e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
47% (518 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
97 -2.01502353603 [[ 9.99999447e-01  4.15461261e-04  9.
[ -4.13823862e-04  9.99998479e-01 -1.69453278e-03 -3.
[ -9.66748152e-04  1.69413207e-03  9.99998098e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
47% (520 of 1101) |#####| Elapsed Time:
invalid speed 0.965592101378 -1.31953730208
[[ 9.99990992e-01 -1.54846788e-04  4.24169226e-03  2.
[ 1.67143273e-04  9.99995785e-01 -2.89875645e-03  1.
[ -4.24122551e-03  2.89943930e-03  9.99986803e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
47% (521 of 1101) |#####| Elapsed Time:
invalid speed -3.51792587027 -0.893154435386
[[ 9.99956257e-01 -9.26755757e-03  1.26386570e-03  5.
[ 9.26422608e-03  9.99953662e-01  2.61681159e-03 -1.
[ -1.28805859e-03 -2.60498838e-03  9.99995777e-01 -3.

```

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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
47% (523 of 1101) |#####| Elapsed Time:
invalid speed 0.501395233466 -0.789624760506
[[ 9.99995063e-01 -8.28396360e-04 3.03126592e-03 4.
[ 8.29233943e-04 9.99999618e-01 -2.75068246e-04 4.
[ -3.03103690e-03 2.77580517e-04 9.99995368e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
47% (524 of 1101) |#####| Elapsed Time:
invalid speed 0.850361763524 -1.01045144538
[[ 9.99998010e-01 1.30906732e-03 1.50556956e-03 2.
[ -1.30921533e-03 9.99999138e-01 9.73244681e-05 2.
[ -1.50544086e-03 -9.92953891e-05 9.99998862e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
47% (525 of 1101) |#####| Elapsed Time:
invalid speed 0.667357442817 -0.705111228289
[[ 9.99998735e-01 1.49332722e-03 5.46809416e-04 3.
[ -1.49362227e-03 9.99998739e-01 5.39572780e-04 -3.
[ -5.46002968e-04 -5.40388824e-04 9.99999705e-01 5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
47% (528 of 1101) |#####| Elapsed Time:
invalid speed 0.841765755717 -0.794131522141
[[ 9.99950993e-01 9.10354018e-03 3.89052701e-03 5.
[ -9.09893161e-03 9.99957883e-01 -1.20062465e-03 4.
[ -3.90129309e-03 1.16516618e-03 9.99991711e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
48% (529 of 1101) |#####| Elapsed Time:
invalid speed 0.0654043615767 -1.01358077659
[[ 9.99995057e-01 2.64506323e-03 1.69976536e-03 5.
[ -2.64355237e-03 9.99996109e-01 -8.90496259e-04 4.
[ -1.70211417e-03 8.85998439e-04 9.99998159e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
48% (532 of 1101) |#####| Elapsed Time:
invalid speed 0.960360300697 -0.834858611785
[[ 0.99982466 -0.01737648 0.00697956 0.55203021]
[ 0.0173871 0.99984776 -0.00146385 0.05881795]
[-0.00695306 0.00158495 0.99997457 -1.45456863]
[ 0. 0. 0. 1. ]]
48% (534 of 1101) |#####| Elapsed Time:
invalid speed 0.0855705184815 -0.786543534025
[[ 0.9999895 -0.0029636 0.0034949 0.64618537]
[ 0.00295177 0.99998991 0.00338554 0.04942214]
[-0.0035049 -0.00337519 0.99998816 -1.64978229]
[ 0. 0. 0. 1. ]]
48% (535 of 1101) |#####| Elapsed Time:
invalid speed 0.0767088997392 -0.677004367874
[[ 9.99985698e-01 3.43767439e-03 4.09711257e-03 5.
[ -3.43406022e-03 9.99993709e-01 -8.88834709e-04 1.
[ -4.10014232e-03 8.74752266e-04 9.99991212e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
48% (537 of 1101) |#####| Elapsed Time:

```

```

invalid speed 0.0424022107961 -0.745151445071
[[ 0.99993895  0.00901745  0.00638613  0.55256286]
[-0.00900044  0.99995588 -0.00268771  0.04558079]
[-0.00641009  0.00263007  0.999976   -1.45095038]
[ 0.          0.          0.          1.          ]]
48% (538 of 1101) |#####| Elapsed Time:
invalid speed 0.00153874191952 -0.98126853065
[[ 9.99991369e-01  5.06369732e-04  4.12373198e-03  5.
[ -5.09160976e-04  9.99999642e-01  6.75851701e-04  4.
[ -4.12338828e-03 -6.77945511e-04  9.99991269e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
48% (539 of 1101) |#####| Elapsed Time:
invalid speed -4.75354543606 -0.889610880959
[[ 9.99995787e-01 -1.19496974e-03  2.64551165e-03 -2.
[ 1.18470157e-03  9.99991773e-01  3.87952530e-03  1.
[ -2.65012580e-03 -3.87637481e-03  9.99988975e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
49% (540 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
115 0.775847031591 [[ 0.99998843  0.00313619  0.00364652
[-0.00314565  0.9999917  0.00258897 -0.02636323]
[-0.00363837 -0.00260041  0.99999  0.77584703]
[ 0.          0.          0.          1.          ]]
invalid speed -5.24385577207 -0.334458243442
[[ 9.99994708e-01  1.94159703e-03  2.61023574e-03  3.
[ -1.94946631e-03  9.99993553e-01  3.01562114e-03 -2.
[ -2.60436379e-03 -3.02069374e-03  9.99992046e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
49% (541 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
114 -2.61046470246 [[ 9.99995425e-01  2.74717631e-03
[ -2.74868071e-03  9.99995516e-01  1.18832808e-03  1.
[ -1.26249659e-03 -1.19180183e-03  9.99998493e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
49% (543 of 1101) |#####| Elapsed Time:
invalid speed -8.97174205152 -0.70271867842
[[ 9.99994026e-01  1.99864487e-03  2.82006172e-03  5.
[ -1.98384881e-03  9.99984304e-01 -5.23979376e-03 -3.
[ -2.83048995e-03  5.23416788e-03  9.99982296e-01 -9.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
49% (544 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
107 -2.38379567273 [[ 9.99994762e-01 -2.91333146e-03
[ 2.91673729e-03  9.99992819e-01 -2.41948086e-03  5.
[ -1.40294257e-03  2.42358079e-03  9.99996079e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.07596221653 -1.26307767652
[[ 9.99972334e-01 -7.21048346e-03  1.82778612e-03 -3.
[ 7.21565252e-03  9.99969941e-01 -2.83740094e-03  1.
[ -1.80727214e-03  2.85051111e-03  9.99994304e-01 -5.

```

```
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
49% (545 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
106 -2.88407901883 [[ 9.99982635e-01 -5.77376011e-03
[ 5.77543564e-03 9.99982312e-01 -1.42135333e-03 8.
[ -1.17189457e-03 1.42814437e-03 9.99998294e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.63842953247 -1.80341145729
[[ 9.99959214e-01 -8.90880570e-03 1.48433255e-03 6
[ 8.90877015e-03 9.99960316e-01 3.05556495e-05 1.
[ -1.48454586e-03 -1.73308257e-05 9.99998898e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
49% (546 of 1101) |#####| Elapsed Time:
invalid speed -5.26559530043 -1.58532734323
[[ 9.99989370e-01 -4.60940084e-03 -1.15592795e-04 5
[ 4.60956739e-03 9.99988274e-01 1.48453910e-03 2.
[ 1.08748603e-04 -1.48505616e-03 9.99998891e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
49% (547 of 1101) |#####| Elapsed Time:
invalid speed -4.55939973023 -1.32997504757
[[ 9.99994855e-01 -3.01887994e-03 1.08488019e-03 9
[ 3.01653753e-03 9.99993130e-01 2.15432675e-03 1.
[ -1.09137639e-03 -2.15104309e-03 9.99997091e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
49% (548 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
136 -3.08289342037 [[ 9.99997321e-01 -2.17992981e-03
[ 2.17911322e-03 9.99997075e-01 1.04918465e-03 1.
[ -7.80076903e-04 -1.04748695e-03 9.99999147e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -6.15777575667 -1.91428117183
[[ 9.99999579e-01 -6.79419117e-04 6.16125964e-04 3
[ 6.78006885e-04 9.99997149e-01 2.28943522e-03 3.
[ -6.17679693e-04 -2.28901652e-03 9.99997189e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
49% (549 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
140 -2.918235005 [[ 9.99998599e-01 6.97381237e-04 1.
[ -7.00450095e-04 9.99997721e-01 2.01670111e-03 3.
[ -1.52061289e-03 -2.01776438e-03 9.99996808e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.41456378673 -2.24893244956
[[ 9.99992655e-01 3.82457849e-03 2.51082651e-04 1
[ -3.82520783e-03 9.99989418e-01 2.55578956e-03 -6.
[ -2.41305176e-04 -2.55673123e-03 9.99996702e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
49% (550 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
134 -2.22581309188 [[ 9.99986878e-01 5.10216129e-03
[ -5.10257877e-03 9.99986566e-01 9.11488317e-04 1.
```

```

[ -4.55100543e-04 -9.13822305e-04 9.99999479e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.09939816062 -2.241225997
[[ 9.99979469e-01 6.38978531e-03 4.82804977e-04 3.
[ -6.39053856e-03 9.99978340e-01 1.57506266e-03 -9.
[ -4.72730207e-04 -1.57811571e-03 9.99998643e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
50% (551 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
118 -2.29647171061 [[ 9.99982531e-01 5.71545116e-03
[ -5.71577903e-03 9.99983642e-01 2.13374341e-04 1.
[ -1.50557835e-03 -2.21983278e-04 9.99998842e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
50% (552 of 1101) |#####| Elapsed Time:
invalid speed -10.4085888097 -1.54306425638
[[ 9.99954518e-01 8.96750648e-03 3.24755352e-03 -8.
[ -8.95892866e-03 9.99956366e-01 -2.64630109e-03 4.
[ -3.27114254e-03 2.61708613e-03 9.99991225e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
50% (553 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
125 -2.86341748309 [[ 9.99999443e-01 1.80872611e-04
[ -1.78810817e-04 9.99998019e-01 -1.98266114e-03 3.
[ -1.04013864e-03 1.98247411e-03 9.99997494e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
50% (554 of 1101) |#####| Elapsed Time:
invalid speed -11.2605317795 -1.39163529547
[[ 9.99989945e-01 2.75275459e-03 3.54014045e-03 -9.
[ -2.75606182e-03 9.99995770e-01 9.29669953e-04 4.
[ -3.53756632e-03 -9.39417451e-04 9.99993302e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
50% (555 of 1101) |#####| Elapsed Time:
invalid speed -4.75702798234 -1.00414808649
[[ 9.99987145e-01 3.62618934e-03 3.54419819e-03 5.
[ -3.64439033e-03 9.99980136e-01 5.14253833e-03 8.
[ -3.52547997e-03 -5.15538866e-03 9.99980496e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
50% (556 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
110 -2.45401818021 [[ 9.99982703e-01 5.54992301e-03
[ -5.55772557e-03 9.99976456e-01 4.02479234e-03 4.
[ -1.92482028e-03 -4.03554474e-03 9.99990005e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -2.92757220526 -1.48743811773
[[ 0.9999385 0.00884649 0.00668886 -0.22395284]
[-0.00887267 0.99995305 0.00389515 0.1129217 ]
[-0.00665409 -0.00395426 0.99997004 -2.92757221]
[ 0. 0. 0. 1. ]]
50% (557 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation

```



```
102 -2.51610401679 [[ 0.99997439  0.00659529  0.00278028
[-0.00660275  0.99997461  0.00268075  0.01382905]
[-0.00276253 -0.00269903  0.99999254 -2.51610402]
[ 0.          0.          0.          1.          ]]
invalid speed -4.86482736435 -1.83032675075
[[ 9.99962240e-01  7.60901552e-03  4.19785864e-03  6.
[ -7.61483246e-03  9.99970066e-01  1.37145253e-03 -1.
[ -4.18729758e-03 -1.40336673e-03  9.99990249e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
50% (558 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
131 -2.46420028849 [[ 9.99991231e-01  3.58634298e-03
[ -3.58356708e-03  9.99992752e-01 -1.28617576e-03  6.
[ -2.16707642e-03  1.27841509e-03  9.99996835e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
50% (559 of 1101) |#####| Elapsed Time:
invalid speed -8.05850682709 -1.58982406882
[[ 9.99982237e-01  3.93107337e-03  4.48029505e-03 -2.
[ -3.91929467e-03  9.99988849e-01 -2.63475676e-03  1.
[ -4.49060251e-03  2.61715036e-03  9.99986492e-01 -8.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
50% (560 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
103 -3.52944539025 [[ 9.99997768e-01 -1.31112064e-03
[ 1.31789683e-03  9.99990747e-01 -4.09497097e-03  5.
[ -1.65161815e-03  4.09714559e-03  9.99990243e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.58682019755 -2.2363645093
[[ 9.99998755e-01 -1.39192264e-03  7.43251340e-04  2.
[ 1.39880815e-03  9.99955353e-01 -9.34530251e-03  2.
[ -7.30210218e-04  9.34633054e-03  9.99956055e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
50% (561 of 1101) |#####| Elapsed Time:
invalid speed -3.29862957498 -1.96485788251
[[ 9.99903034e-01 -1.18392817e-02  7.33169962e-03 -1.
[ 1.18717663e-02  9.99919833e-01 -4.40315217e-03 -1.
[ -7.27898170e-03  4.48976544e-03  9.99963429e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
51% (562 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
112 -2.95811260445 [[ 9.99999073e-01  7.75857807e-04
[ -7.73997059e-04  9.99998318e-01 -1.66307460e-03  7.
[ -1.11979484e-03  1.66220734e-03  9.99997992e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.54584190085 -2.29594278983
[[ 9.99995998e-01  1.25632491e-03  2.53494880e-03 -5.
[ -1.25721341e-03  9.99999149e-01  3.48936385e-04  4.
[ -2.53450826e-03 -3.52121960e-04  9.99996726e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
51% (563 of 1101) |#####| Elapsed Time:
```

```
WARNING: invalid pose estimation
124 -3.40603345043 [[ 9.99994848e-01 -1.54668797e-04
[ 1.52775355e-04 9.9999814e-01 5.90757060e-04 1.
[ -3.20648624e-03 -5.90264158e-04 9.99994685e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -8.91752819461 -2.66597301003
[[ 9.99991829e-01 -1.66605935e-05 4.04246240e-03 -8
[ 4.27952154e-06 9.99995310e-01 3.06274433e-03 4.
[ -4.04249447e-03 -3.06270200e-03 9.99987139e-01 -8.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
51% (564 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
117 -2.94933864147 [[ 9.99997084e-01 4.99235474e-04
[ -5.05181062e-04 9.99996706e-01 2.51635042e-03 1.
[ -2.36158605e-03 -2.51753675e-03 9.99994042e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -6.40651887122 -2.76042822051
[[ 9.99994280e-01 1.43641937e-03 3.06202906e-03 -5
[ -1.44580597e-03 9.99994256e-01 3.06547825e-03 3.
[ -3.05760816e-03 -3.06988781e-03 9.99990613e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
51% (565 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
114 -2.16360643079 [[ 9.99990506e-01 3.59882692e-03
[ -3.60172767e-03 9.99992821e-01 1.17721125e-03 9.
[ -2.45273475e-03 -1.18604948e-03 9.99996289e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.91694713654 -2.56148762394
[[ 9.99990277e-01 3.71453446e-03 2.37672626e-03 2
[ -3.71413382e-03 9.99993088e-01 -1.72959943e-04 2.
[ -2.37735230e-03 1.64130782e-04 9.99997161e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
51% (566 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
121 -2.31978813101 [[ 9.99997315e-01 1.77884964e-03
[ -1.77759767e-03 9.99998064e-01 -8.44003509e-04 1.
[ -1.48645038e-03 8.41361596e-04 9.99998541e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.74707918902 -2.4809211263
[[ 9.99989695e-01 3.63746901e-03 2.71627873e-03 2
[ -3.63141795e-03 9.99990921e-01 -2.22932243e-03 2.
[ -2.72436316e-03 2.21943551e-03 9.99993826e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
51% (567 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
108 -2.3091335069 [[ 9.99998414e-01 7.35296869e-04 1
[ -7.33731347e-04 9.99999265e-01 -9.65558270e-04 1.
[ -1.62271791e-03 9.64366620e-04 9.99998218e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
51% (568 of 1101) |#####| Elapsed Time:
```

```

invalid speed -8.972736611 -1.96626986606
[[ 9.99977030e-01  2.73393776e-03  6.20198445e-03 -9.
[ -2.70988175e-03  9.99988786e-01 -3.88385258e-03  5.
[ -6.21253311e-03  3.86695672e-03  9.99973225e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
51% (569 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
121 -2.28499348173 [[ 9.99997938e-01  2.23213254e-04
[ -2.19365668e-04  9.99998159e-01 -1.90622482e-03  1.
[ -2.01887590e-03  1.90577811e-03  9.99996146e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.26654157255 -2.07251107128
[[ 9.99997097e-01  1.40075849e-03  1.96081535e-03  4.
[ -1.39682429e-03  9.99997012e-01 -2.00634213e-03  2.
[ -1.96361989e-03  2.00359739e-03  9.99996065e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
51% (570 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
114 -3.05012022057 [[ 9.99997913e-01 -1.75537623e-03
[ 1.75565677e-03  9.99998423e-01 -2.67590747e-04  5.
[ -1.04458275e-03  2.69424945e-04  9.99999418e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -6.03131835782 -2.39838078771
[[ 9.99995095e-01 -2.42141975e-03  1.98677009e-03  7.
[ 2.41965525e-03  9.99996677e-01  8.90047977e-04  8.
[ -1.98891867e-03 -8.85236312e-04  9.99997630e-01 -6.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
51% (571 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
133 -2.35539596684 [[ 9.99998938e-01  3.76836878e-04
[ -3.77921527e-04  9.99999632e-01  7.70430085e-04  8.
[ -1.40721768e-03 -7.70961195e-04  9.99998713e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.3103723354 -2.38405251409
[[ 9.99980927e-01  5.47798716e-04  6.15179941e-03 -4.
[ -5.52058992e-04  9.99999609e-01  6.90848378e-04  2.
[ -6.15141856e-03 -6.94231358e-04  9.99980839e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
51% (572 of 1101) |#####| Elapsed Time:
invalid speed 0.0463572824519 -1.62461227567
[[ 9.99988058e-01  2.34725627e-03  4.28652211e-03 -2.
[ -2.34679434e-03  9.99997240e-01 -1.12790130e-04  2.
[ -4.28677503e-03  1.02729198e-04  9.99990806e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
52% (573 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
130 0.00734062051454 [[ 9.99952943e-01  4.63340423e-03
[ -4.63245959e-03  9.99989262e-01 -1.30571533e-04  3.
[ -8.52361647e-03  9.10824584e-05  9.99963669e-01  7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.

```

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invalid speed -2.92461792417 -1.08062797694
[[ 9.99993124e-01 3.65129253e-03 6.48076756e-04 1.
[ -3.65020722e-03 9.99991947e-01 -1.66801179e-03 1.
[ -6.54161936e-04 1.66563470e-03 9.99998399e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
52% (574 of 1101) |#####| Elapsed Time:
invalid speed -2.2500444984 -0.750088022697
[[ 9.99978837e-01 5.92584025e-03 2.68511893e-03 1.
[ -5.92654341e-03 9.99982406e-01 2.53992988e-04 2.
[ -2.68356656e-03 -2.69901087e-04 9.99996363e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
52% (575 of 1101) |#####| Elapsed Time:
invalid speed 0.472253497946 -0.879178882386
[[ 0.9998061 0.00416934 0.01924514 -0.32527592]
[-0.00421485 0.99998842 0.0023248 0.03818545]
[-0.01923522 -0.00240546 0.99981209 -0.6651071 ]
[ 0. 0. 0. 1. ]]
52% (576 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
123 -2.8654134093 [[ 9.99997104e-01 9.75637777e-04 2.
[ -9.79045564e-04 9.99998322e-01 1.54854338e-03 3.
[ -2.19835248e-03 -1.55069267e-03 9.99996381e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -2.90828689723 -1.54125705802
[[ 9.99849356e-01 5.55687975e-03 1.64434186e-02 -6.
[ -5.59629195e-03 9.99981575e-01 2.35179427e-03 1.
[ -1.64300470e-02 -2.44346216e-03 9.99862032e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
52% (577 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
117 -2.48487733019 [[ 9.99998183e-01 -3.43408692e-04
[ 3.42261611e-04 9.9999754e-01 6.12073275e-04 2.
[ -1.87517829e-03 -6.11430434e-04 9.99998055e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -6.57794519231 -1.85579714875
[[ 9.99998143e-01 1.09789640e-03 1.58406150e-03 -9.
[ -1.10104464e-03 9.99997418e-01 1.98794461e-03 4.
[ -1.58187485e-03 -1.98968504e-03 9.99996769e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
52% (578 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
118 -2.7663868311 [[ 9.99999261e-01 2.73235310e-04 1.
[ -2.75026013e-04 9.99998820e-01 1.51141124e-03 1.
[ -1.18445350e-03 -1.51173599e-03 9.99998156e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
52% (579 of 1101) |#####| Elapsed Time:
invalid speed -5.68874377823 -2.0265840897
[[ 9.99993605e-01 2.90018238e-03 2.09241835e-03 3.
[ -2.90425324e-03 9.99993891e-01 1.94512085e-03 9.
[ -2.08676436e-03 -1.95118533e-03 9.99995919e-01 -7.

```

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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
52% (580 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
112 -2.63162447245 [[ 9.99998311e-01 1.05054158e-03
[ -1.05136947e-03 9.99999297e-01 5.48256393e-04 7.
[ -1.50757683e-03 -5.49841094e-04 9.99998712e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.47902351884 -2.22826421728
[[ 9.99997454e-01 9.54448537e-04 2.04451926e-03 -9.
[ -9.54010075e-04 9.99999522e-01 -2.15422035e-04 5.
[ -2.04472389e-03 2.13470995e-04 9.99997887e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
52% (581 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
97 -2.59249938497 [[ 9.99998363e-01 1.23219678e-03 1.
[ -1.23180137e-03 9.99999197e-01 -2.99173361e-04 1.
[ -1.32546987e-03 2.97540608e-04 9.99999077e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.2994911937 -2.34967593985
[[ 9.99999222e-01 3.23333495e-04 1.20489347e-03 1.
[ -3.23082788e-04 9.99999926e-01 -2.08262209e-04 4.
[ -1.20496072e-03 2.07872767e-04 9.99999252e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
52% (582 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
114 -2.7924516178 [[ 9.99999405e-01 5.62839983e-04 9.
[ -5.62653835e-04 9.9999822e-01 -1.99437581e-04 4.
[ -9.34651878e-04 1.98911640e-04 9.99999543e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.39569741494 -2.4972678325
[[ 9.99996832e-01 1.11020980e-03 2.25904313e-03 2.
[ -1.10791474e-03 9.99998869e-01 -1.01693916e-03 8.
[ -2.26016959e-03 1.01443311e-03 9.99996931e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
52% (583 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
113 -2.73320684609 [[ 9.99999412e-01 -5.01423695e-04
[ 5.02605686e-04 9.99999118e-01 -1.22929577e-03 8.
[ -9.61020770e-04 1.22977837e-03 9.99998782e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.7359887831 -2.57591417036
[[ 9.99996628e-01 -2.50622346e-03 6.80848836e-04 -7.
[ 2.50690788e-03 9.99996351e-01 -1.00625777e-03 8.
[ -6.78324445e-04 1.00796120e-03 9.99999262e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
53% (584 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
134 -2.74948559871 [[ 9.99997906e-01 -2.04379892e-03 -
[ 2.04376458e-03 9.99997853e-01 -3.42754945e-04 3.
[ 1.00548212e-04 3.42550162e-04 9.99999936e-01 -2.

```

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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -7.1476233337 -2.63377131314
[[ 9.99825751e-01 -1.40176289e-02 1.23277715e-02 -2.
[ 1.40019601e-02 9.99901048e-01 1.35641177e-03 -3.
[ -1.23455653e-02 -1.18356245e-03 9.99923090e-01 -7.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
53% (585 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
129 -3.07491173376 [[ 9.99998805e-01 -1.38250685e-03 -
[ 1.38236137e-03 9.9999022e-01 -2.10635107e-04 5.
[ 6.92372471e-04 2.09678148e-04 9.9999738e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -6.91298349653 -2.78081812001
[[ 9.99994999e-01 -2.64026968e-03 -1.74122471e-03 1.
[ 2.63910112e-03 9.99996291e-01 -6.73073383e-04 4.
[ 1.74299534e-03 6.68474748e-04 9.99998258e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
53% (586 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
102 -2.84563454844 [[ 9.99999719e-01 -5.33079094e-04
[ 5.33734773e-04 9.99999082e-01 -1.24538595e-03 6.
[ -5.26094431e-04 1.24566675e-03 9.99999086e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -6.37828688843 -2.80242359615
[[ 9.99997130e-01 2.32624113e-03 5.73617596e-04 -2.
[ -2.32504900e-03 9.99995154e-01 -2.07025826e-03 3.
[ -5.78430736e-04 2.06891863e-03 9.99997692e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
53% (589 of 1101) |#####| Elapsed Time:
invalid speed -4.14813107785 -1.77088583049
[[ 9.99995090e-01 2.97707791e-03 -9.78085980e-04 -1.
[ -2.97823574e-03 9.99994864e-01 -1.18445284e-03 1.
[ 9.74554748e-04 1.18735999e-03 9.99998820e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
53% (590 of 1101) |#####| Elapsed Time:
invalid speed -5.72374370034 -1.52828574486
[[ 9.99999494e-01 -4.38509399e-04 9.04964864e-04 -2.
[ 4.37670116e-04 9.99999474e-01 9.27409980e-04 1.
[ -9.05371066e-04 -9.27013435e-04 9.99999160e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
53% (591 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
84 -2.59664633301 [[ 9.99999915e-01 4.11156733e-04 1.
[ -4.11185139e-04 9.99997828e-01 2.04310454e-03 4.
[ -1.34834319e-05 -2.04311026e-03 9.99997913e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.08078867846 -1.88440594091
[[ 9.99998456e-01 1.58920832e-03 7.50003382e-04 -2.
[ -1.59051687e-03 9.99997208e-01 1.74736271e-03 7.
[ -7.47224365e-04 -1.74855290e-03 9.99998192e-01 -5.

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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
53% (592 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
83 -2.59319355348 [[ 9.99999668e-01 7.96255797e-04 1.
[ -7.96206117e-04 9.99999643e-01 -2.84548354e-04 2.
[ -1.74749737e-04 2.84409303e-04 9.99999944e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.01059385284 -2.12066847843
[[ 9.99999433e-01 1.06403538e-03 -5.20832348e-05 -1.
[ -1.06414852e-03 9.99996963e-01 -2.22281518e-03 3.
[ 4.97179226e-05 2.22286934e-03 9.99997528e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
53% (593 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
68 -2.56665098794 [[ 9.99999881e-01 4.88492381e-04 1.
[ -4.88463221e-04 9.99996970e-01 -2.41268868e-03 3.
[ -1.26754502e-05 2.41268278e-03 9.99997089e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.42296085295 -2.26932931494
[[ 9.99999386e-01 2.20433458e-04 1.08575958e-03 -1.
[ -2.18068407e-04 9.99997605e-01 -2.17788275e-03 7.
[ -1.08623706e-03 2.17764464e-03 9.99997039e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
53% (594 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
81 -2.66427639568 [[ 9.99998460e-01 -1.60778891e-03 7.
[ 1.60855699e-03 9.99998110e-01 -1.09206832e-03 5.
[ -7.02087027e-04 1.09319881e-03 9.99999156e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.0688600118365 -2.40097834185
[[ 9.99968359e-01 7.95364500e-03 -1.43239374e-04 8.
[ -7.95357386e-03 9.99968249e-01 4.90582811e-04 -5.
[ 1.47136747e-04 -4.89428024e-04 9.99999869e-01 6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
54% (595 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
77 -2.79608219414 [[ 9.99999978e-01 1.86242939e-04 9.
[ -1.86340125e-04 9.99999469e-01 1.01316517e-03 7.
[ -9.58278657e-05 -1.01318304e-03 9.99999482e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.225348181902 -2.53267962595
[[ 0.99990163 0.01390689 0.00182408 -0.15974141]
[-0.0139125 0.9998984 0.00310283 -0.0485569 ]
[-0.00178074 -0.0031279 0.99999352 0.22534818]
[ 0. 0. 0. 1. ]]
54% (596 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
65 -2.32186515831 [[ 9.99993092e-01 3.12132279e-03 2.
[ -3.12700817e-03 9.99991135e-01 2.82002296e-03 -4.
[ -2.00940747e-03 -2.82631450e-03 9.99993987e-01 -2.

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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.5466046438 -2.46240813674
[[ 9.99988978e-01 4.33026115e-03 1.81464344e-03 -9
[ -4.33271809e-03 9.99989699e-01 1.35221766e-03 1.
[ -1.80876929e-03 -1.36006509e-03 9.99997439e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
54% (597 of 1101) |#####| Elapsed Time:
invalid speed 0.28638389275 -2.19134647933
[[ 9.99971480e-01 7.46953785e-03 -1.11586533e-03 5
[ -7.47504315e-03 9.99959492e-01 -5.01376498e-03 1.
[ 1.07836962e-03 5.02196313e-03 9.99986808e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
54% (598 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
83 -2.59140665595 [[ 9.99999720e-01 1.25025242e-04 5
[ -1.23083306e-04 9.99996529e-01 -2.63179050e-03 4.
[ -7.38051024e-04 2.63169896e-03 9.99996265e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.61798935834 -2.32469987153
[[ 9.99994802e-01 -1.45127262e-03 2.87928707e-03 -1
[ 1.46920069e-03 9.99979488e-01 -6.23425191e-03 6.
[ -2.87018041e-03 6.23844975e-03 9.99976422e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
54% (601 of 1101) |#####| Elapsed Time:
invalid speed -8.71083521373 -1.11963745981
[[ 9.99939998e-01 -1.08332077e-02 1.62516418e-03 2
[ 1.08386310e-02 9.99935594e-01 -3.36624198e-03 -3.
[ -1.58859231e-03 3.38365456e-03 9.99993014e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
54% (602 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
49 -2.62015863789 [[ 9.99989376e-01 -4.55526171e-03 5
[ 4.55564285e-03 9.99989477e-01 -5.39474322e-04 6.
[ -7.03175223e-04 5.42683234e-04 9.99999606e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
54% (603 of 1101) |#####| Elapsed Time:
invalid speed 0.348746443556 -1.19963799605
[[ 9.99993365e-01 -3.62825379e-03 3.23820668e-04 -8
[ 3.62761448e-03 9.99991512e-01 1.95350666e-03 -2.
[ -3.30905738e-04 -1.95231901e-03 9.99998039e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
54% (604 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
58 -2.44514841785 [[ 9.99998504e-01 -1.57757256e-03 5
[ 1.57707853e-03 9.99998514e-01 6.96986469e-04 -3.
[ -7.09923150e-04 -6.95867555e-04 9.99999506e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.7116602886 -1.61480813665
[[ 9.99992961e-01 3.48911108e-03 1.37979640e-03 -6
[ -3.48931656e-03 9.99993902e-01 1.46540722e-04 1.

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[ -1.37927669e-03 -1.51354237e-04 9.99999037e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
55% (606 of 1101) |#####| Elapsed Time:
invalid speed -2.30558886761 -1.24567356044
[[ 9.9998956e-01 1.28740506e-03 6.55864556e-04 2
[ -1.28919224e-03 9.99995438e-01 2.73182433e-03 3.
[ -6.52344600e-04 -2.73266702e-03 9.99996053e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
55% (607 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
67 -2.94502366643 [[ 9.99998213e-01 1.13383622e-03 1
[ -1.13561302e-03 9.99998666e-01 1.17429933e-03 8.
[ -1.51129379e-03 -1.17601499e-03 9.99998166e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.00045166649 -1.81212359577
[[ 9.99991241e-01 4.07447577e-03 9.57450522e-04 2
[ -4.07482798e-03 9.99991631e-01 3.66204548e-04 2.
[ -9.55950417e-04 -3.70102786e-04 9.99999475e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
55% (608 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
77 -3.44065331355 [[ 9.99991634e-01 3.37151638e-03 2
[ -3.37131775e-03 9.99994313e-01 -8.96499552e-05 1.
[ -2.31665204e-03 8.18400096e-05 9.99997313e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
55% (609 of 1101) |#####| Elapsed Time:
invalid speed 0.785015069657 -1.94426267645
[[ 9.99999291e-01 1.02954043e-03 5.98493062e-04 3
[ -1.02886480e-03 9.99998834e-01 -1.12810366e-03 1.
[ -5.99653793e-04 1.12748709e-03 9.99999185e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
55% (610 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
47 0.0888484134222 [[ 9.99997125e-01 -1.68238230e-03
[ 1.68245862e-03 9.99998584e-01 -4.32390601e-05 -1.
[ -1.70842588e-03 4.61134181e-05 9.99998540e-01 8.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.86094676999 -1.26655897983
[[ 9.99998784e-01 1.40218063e-03 6.81836422e-04 1
[ -1.40119478e-03 9.99997975e-01 -1.44422079e-03 1.
[ -6.83860100e-04 1.44326365e-03 9.99998725e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
55% (611 of 1101) |#####| Elapsed Time:
invalid speed 5.79111874262 -1.21002498158
[[ 9.99994520e-01 -2.41570440e-03 2.26370055e-03 -4
[ 2.42187762e-03 9.99993345e-01 -2.72828875e-03 -5.
[ -2.25709475e-03 2.73375621e-03 9.99993716e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
55% (612 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation

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52 -2.63445468153 [[ 9.99998382e-01 -1.34620318e-03 1.
[ 1.34765586e-03 9.99998351e-01 -1.21721052e-03 3.
[ -1.19184271e-03 1.21881696e-03 9.99998547e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 3.72332607872 -1.68483488157
[[ 9.99998083e-01 1.66244801e-03 1.03444220e-03 6.
[ -1.65986325e-03 9.99995511e-01 -2.49456298e-03 1.
[ -1.03858464e-03 2.49284117e-03 9.99996354e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
55% (614 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
52 0.816349730063 [[ 9.99997660e-01 -2.55567597e-04 2.
[ 2.56289899e-04 9.99999911e-01 -3.35969734e-04 -2.
[ -2.14809878e-03 3.36519505e-04 9.99997636e-01 8.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -13.2979725318 -1.13596818414
[[ 9.99993081e-01 3.20888571e-03 1.88158542e-03 3.
[ -3.20707738e-03 9.99994393e-01 -9.63297899e-04 5.
[ -1.88466599e-03 9.57256844e-04 9.99997766e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
55% (615 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
79 -2.69054619141 [[ 9.99997810e-01 1.38720051e-03 1.
[ -1.38809371e-03 9.99998875e-01 5.68994640e-04 3.
[ -1.56640877e-03 -5.71168814e-04 9.99998610e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -2.37656589195 -1.65416085323
[[ 9.99985212e-01 -2.99662216e-04 5.43008636e-03 -9.
[ 2.82691172e-04 9.99995074e-01 3.12587071e-03 -2.
[ -5.43099632e-03 -3.12428945e-03 9.99980371e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
55% (616 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
91 -2.85370817836 [[ 9.99997724e-01 5.57780613e-04 2.
[ -5.60893432e-04 9.99998701e-01 1.51139592e-03 5.
[ -2.05835501e-03 -1.51254748e-03 9.99996738e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.76877378006 -2.05400996161
[[ 9.99993804e-01 -9.62133366e-04 3.38604762e-03 1.
[ 9.50750969e-04 9.99993898e-01 3.36156423e-03 8.
[ -3.38926123e-03 -3.35832412e-03 9.99988617e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
56% (617 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
101 -2.78642253331 [[ 9.99996304e-01 3.55849665e-04
[ -3.61927181e-04 9.99997393e-01 2.25464499e-03 1.
[ -2.69456233e-03 -2.25561219e-03 9.99993826e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.44993493929 -2.29814748551
[[ 9.99973536e-01 1.19184630e-03 7.17679578e-03 -6.

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[ -1.22272281e-03  9.99990010e-01  4.29942035e-03  2.
[ -7.17159984e-03 -4.30808180e-03  9.99965004e-01 -5.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
56% (618 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
85 -2.70841634552 [[ 9.99997919e-01  4.99621960e-04  1.
[ -5.04252453e-04  9.99997132e-01  2.34116964e-03  1.
[ -1.97684268e-03 -2.34216219e-03  9.99995303e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
56% (619 of 1101) |#####| Elapsed Time:
invalid speed 4.22423502473 -1.98865771042
[[ 9.99962154e-01  8.68370727e-03  5.33514128e-04  2.
[ -8.68238446e-03  9.99959346e-01 -2.43364901e-03  6.
[ -5.54625534e-04  2.42892474e-03  9.99996896e-01  3.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
56% (620 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
61 -2.67455560414 [[ 9.99997564e-01  5.61872843e-04  2.
[ -5.60789241e-04  9.99999714e-01 -5.08256433e-04  2.
[ -2.13465556e-03  5.07058263e-04  9.99997593e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -3.45895357315 -2.21729034166
[[ 9.99991964e-01 -3.17941431e-03  2.44198994e-03 -1.
[  3.18189872e-03  9.99994423e-01 -1.01416203e-03 -2.
[ -2.43875188e-03  1.02192405e-03  9.99996504e-01 -3.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
56% (621 of 1101) |#####| Elapsed Time:
invalid speed -4.41631940486 -1.87828419497
[[ 9.99990632e-01 -3.08392094e-03  3.03745164e-03 -2.
[  3.08081522e-03  9.99994727e-01  1.02662469e-03  5.
[ -3.04060165e-03 -1.01725725e-03  9.99994860e-01 -5.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
56% (622 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
73 -2.06422656883 [[ 9.99995442e-01 -1.39423426e-03  2.
[  1.38961562e-03  9.99997545e-01  1.72579117e-03 -6.
[ -2.68033214e-03 -1.72206200e-03  9.99994925e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
56% (623 of 1101) |#####| Elapsed Time:
invalid speed -5.86421942349 -1.894431147
[[ 9.99988257e-01 -4.82555377e-03  4.46626860e-04  8.
[  4.82355887e-03  9.99978841e-01  4.36479700e-03 -4.
[ -4.67679973e-04 -4.36259141e-03  9.99990374e-01 -7.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
56% (624 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
65 -2.94239769479 [[ 9.99999718e-01 -6.09685135e-04  4.
[  6.08905417e-04  9.99998235e-01  1.77715029e-03  2.
[ -4.39320152e-04 -1.77688295e-03  9.99998325e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.

```

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invalid speed -6.41288966723 -2.24375332959
[[ 9.99998778e-01  8.77226357e-04  1.29371271e-03 -9.
[ -8.80172817e-04  9.99997016e-01  2.27871465e-03  8.
[ -1.29170990e-03 -2.27985055e-03  9.99996567e-01 -6.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
56% (625 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
69 -3.00985868433 [[ 9.99999848e-01  5.41020756e-05  5.
[ -5.47024944e-05  9.99999399e-01  1.09526700e-03  1.
[ -5.48156583e-04 -1.09529683e-03  9.99999250e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
56% (626 of 1101) |#####| Elapsed Time:
invalid speed 0.47090616471 -1.9422954297
[[ 9.99999128e-01  1.03125444e-03 -8.25132814e-04  1.
[ -1.03094768e-03  9.99999399e-01  3.72108410e-04  3.
[ 8.25516056e-04 -3.71257417e-04  9.99999590e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
56% (627 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
79 -2.7650226158 [[ 9.99999386e-01  9.49475148e-04  5.
[ -9.49317965e-04  9.99999511e-01 -2.75676606e-04  6.
[ -5.70865043e-04  2.75134752e-04  9.99999799e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.00421590334741 -2.21653782507
[[ 9.99999744e-01 -6.54408250e-04 -2.88703889e-04  2.
[ 6.54203578e-04  9.99999535e-01 -7.08459850e-04  1.
[ 2.89167377e-04  7.08270798e-04  9.99999707e-01  4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
57% (628 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
73 -3.00488783346 [[ 9.99998990e-01  1.21157377e-03  7.
[ -1.21063832e-03  9.99998475e-01 -1.25901640e-03  7.
[ -7.44027088e-04  1.25811622e-03  9.99998932e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.67667386581 -2.4793211612
[[ 9.99999645e-01  7.03811952e-04 -4.63731693e-04  1.
[ -7.04988061e-04  9.99996523e-01 -2.54092000e-03  1.
[ 4.61941751e-04  2.54124602e-03  9.99996664e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
57% (629 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
65 -3.04304631919 [[ 9.99999328e-01 -8.92396927e-04  7.
[ 8.93519300e-04  9.99998451e-01 -1.51660349e-03  8.
[ -7.39218140e-04  1.51726419e-03  9.99998576e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 1.06926193153 -2.66722954719
[[ 9.99998477e-01 -1.74465748e-03  5.03339662e-05 -6.
[ 1.74478663e-03  9.99994856e-01 -2.69139907e-03 -1.
[ -4.56381377e-05  2.69148280e-03  9.99996377e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.

```

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57% (630 of 1101) |#####| Elapsed Time:
invalid speed 1.98805575402 -2.3146552798
[[ 9.99998919e-01 1.22978478e-03 -8.05387084e-04 8.
[ -1.23340153e-03 9.99989089e-01 -4.50570366e-03 2.
[ 7.99837250e-04 4.50669215e-03 9.99989525e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
57% (631 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
75 -3.09902189476 [[ 9.99997590e-01 -7.03053478e-04 2.
[ 7.07142469e-04 9.99997818e-01 -1.96591657e-03 3.
[ -2.07846814e-03 1.96738258e-03 9.99995905e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.19184193661 -2.57611081812
[[ 9.99999999e-01 -4.34403337e-05 -1.46851602e-06 4.
[ 4.34345160e-05 9.99992956e-01 -3.75324262e-03 1.
[ 1.63154779e-06 3.75324255e-03 9.99992957e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
57% (632 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
68 -2.82907482587 [[ 9.99999204e-01 -1.08391716e-03 6.
[ 1.08538732e-03 9.99996811e-01 -2.28048181e-03 3.
[ -6.43331161e-04 2.28118095e-03 9.99997191e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
57% (633 of 1101) |#####| Elapsed Time:
invalid speed 0.355167522604 -2.01273907863
[[ 9.99990536e-01 -4.31137267e-03 -5.83276213e-04 -3.
[ 4.31231185e-03 9.99989392e-01 1.61862214e-03 -1.
[ 5.76291542e-04 -1.62112209e-03 9.99998520e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
57% (634 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
80 -3.0074718236 [[ 9.99993452e-01 -3.55469180e-03 6.
[ 3.55305615e-03 9.99990817e-01 2.39600766e-03 6.
[ -6.87251949e-04 -2.39358037e-03 9.99996899e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -6.60312341135 -2.34431666028
[[ 9.99997618e-01 -2.16593596e-03 2.70452614e-04 1.
[ 2.16374001e-03 9.99966676e-01 7.87174214e-03 6.
[ -2.87493291e-04 -7.87113820e-03 9.99968981e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
57% (635 of 1101) |#####| Elapsed Time:
invalid speed 1.7185249272 -1.85297503377
[[ 9.99986032e-01 -5.28523821e-03 4.65239151e-05 5.
[ 5.28408698e-03 9.99890128e-01 1.38495436e-02 -5.
[ -1.19716941e-04 -1.38491044e-02 9.99904089e-01 8.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
57% (637 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
56 -3.07832878383 [[ 9.99992055e-01 3.76801827e-03 1.
[ -3.77726982e-03 9.99967053e-01 7.18508321e-03 1.

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[ -1.27359033e-03  -7.18993924e-03   9.99973341e-01  -3.
[  0.00000000e+00   0.00000000e+00   0.00000000e+00   1.
invalid speed 3.6881148593 -1.78778024198
[[ 0.99990253  0.01281601  0.00553827  0.16278734]
[-0.01287007  0.99986877  0.00983844  0.03795143]
[-0.00541145 -0.00990876  0.99993626  2.8476267 ]
[ 0.          0.          0.          1.          ]]
57% (638 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
49 -2.85409473038 [[ 9.99999080e-01  6.18350480e-04  1.
[ -6.16657996e-04  9.99998827e-01 -1.40176479e-03 -3.
[ -1.20814806e-03  1.40101902e-03  9.99998289e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 1.26771042515 -2.14321840478
[[ 9.99999993e-01  8.12381545e-05 -8.30974840e-05  2.
[ -8.15786863e-05  9.99991566e-01 -4.10621820e-03  5.
[  8.27632015e-05  4.10622495e-03  9.99991566e-01  1.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
58% (640 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
57 -2.73408303216 [[ 9.99998854e-01 -1.01991728e-03  1.
[  1.02191882e-03  9.99997876e-01 -1.78962646e-03  2.
[ -1.11714511e-03  1.79076790e-03  9.99997773e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -12.6930096773 -1.71936475011
[[ 9.99994802e-01 -4.49233782e-04  3.19272491e-03 -3.
[  4.68651612e-04  9.99981384e-01 -6.08375524e-03  1.
[ -3.18993244e-03  6.08521989e-03  9.99976397e-01 -1.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
58% (641 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
69 -2.8190355955 [[ 9.99998720e-01 -1.58251199e-03  2.
[  1.58316073e-03  9.99994886e-01 -2.77876399e-03  7.
[ -2.31247421e-04  2.77913350e-03  9.99996111e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
58% (642 of 1101) |#####| Elapsed Time:
invalid speed -8.91839932749 -1.51117983067
[[ 9.99978048e-01  5.87526264e-03  3.06344526e-03 -2.
[ -5.86010521e-03  9.99970659e-01 -4.93355951e-03  5.
[ -3.09234133e-03  4.91549909e-03  9.99983138e-01 -9.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
58% (643 of 1101) |#####| Elapsed Time:
invalid speed -4.79553508873 -1.42850883979
[[ 9.99999924e-01  9.95808389e-05 -3.76964204e-04  1.
[ -9.95949079e-05  9.99999994e-01 -3.73033382e-05  1.
[  3.76960487e-04  3.73408790e-05  9.99999928e-01 -6.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
58% (644 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
55 -2.69593880498 [[ 9.99982901e-01 -1.14822327e-03  5.

```

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[ 1.13372506e-03  9.99996154e-01  2.53108521e-03 -1.
[ -5.73686078e-03 -2.52454118e-03  9.99980357e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.140023775526 -1.85098549486
[[ 9.99999875e-01 -3.25091611e-04 -3.80316329e-04 1
[ 3.25869773e-04 9.99997850e-01 2.04782311e-03 -1.
[ 3.79649781e-04 -2.04794679e-03 9.99997831e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
58% (645 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
62 -2.95940325585 [[ 9.99999508e-01 4.81120374e-04 8
[ -4.82548270e-04 9.99998527e-01 1.64692701e-03 3.
[ -8.66498153e-04 -1.64734471e-03 9.99998268e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.0417954874796 -2.22045808185
[[ 9.99999794e-01 -1.58328010e-04 -6.22603838e-04 -2
[ 1.60061834e-04 9.99996107e-01 2.78573117e-03 -8.
[ 6.22160355e-04 -2.78583025e-03 9.99995926e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
58% (646 of 1101) |#####| Elapsed Time:
invalid speed -6.61336309403 -1.51110472659
[[ 9.99994536e-01 1.99148638e-03 2.63858366e-03 -1
[ -2.00217353e-03 9.99989779e-01 4.05390646e-03 -8.
[ -2.63048339e-03 -4.05916721e-03 9.99988302e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
58% (647 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
67 -2.7982226583 [[ 9.99998500e-01 1.00359223e-03 1.
[ -1.00614876e-03 9.99997854e-01 1.81120756e-03 -6.
[ -1.41003705e-03 -1.81262538e-03 9.99997363e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
58% (649 of 1101) |#####| Elapsed Time:
invalid speed -9.67221597057 -1.37873036551
[[ 9.99985219e-01 -5.01563048e-03 2.09904266e-03 5
[ 5.01084252e-03 9.99984846e-01 2.28009537e-03 -4.
[ -2.11044697e-03 -2.26954370e-03 9.99995198e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
59% (650 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
95 -2.77594158174 [[ 9.99999416e-01 9.75573488e-05 1
[ -9.78003350e-05 9.99999970e-01 2.25655583e-04 4.
[ -1.07653895e-03 -2.25760739e-04 9.99999395e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -6.18549130466 -1.84446743758
[[ 9.99998837e-01 -1.07268927e-03 1.08373706e-03 6
[ 1.07277883e-03 9.99999421e-01 -8.20621317e-05 1.
[ -1.08364840e-03 8.32246465e-05 9.99999409e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
59% (652 of 1101) |#####| Elapsed Time:
invalid speed 7.07379130966 -1.53032615122

```

```

[[ 9.99988490e-01 -3.17126996e-03 3.60044075e-03 1.
[ 3.16377194e-03 9.99992819e-01 2.08631694e-03 1.
[ -3.60703117e-03 -2.07490195e-03 9.99991342e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
59% (653 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
67 -3.11385399522 [[ 9.99998996e-01 4.94216246e-04 1.
[ -4.96417448e-04 9.99998502e-01 1.65792524e-03 9.
[ -1.32700958e-03 -1.65858273e-03 9.99997744e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
59% (654 of 1101) |#####| Elapsed Time:
invalid speed 3.08307065844 -1.47691026682
[[ 9.99997469e-01 2.23142422e-03 2.87416349e-04 1.
[ -2.23203580e-03 9.99995208e-01 2.14539553e-03 2.
[ -2.82627684e-04 -2.14603163e-03 9.99997657e-01 2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
59% (655 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
90 -2.80776737795 [[ 9.99999396e-01 8.71200964e-04 6.
[ -8.71387771e-04 9.99999582e-01 2.78596056e-04 5.
[ -6.69706243e-04 -2.79179674e-04 9.99999737e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
59% (656 of 1101) |#####| Elapsed Time:
invalid speed -4.13640114341 -1.79612048285
[[ 9.99972152e-01 1.26939729e-03 -7.35423591e-03 5.
[ -1.27888220e-03 9.99998356e-01 -1.28516154e-03 -1.
[ 7.35259244e-03 1.29453095e-03 9.99972131e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
59% (658 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
74 -2.82001704328 [[ 9.99999673e-01 3.34089458e-05 8.
[ -3.20352603e-05 9.99998555e-01 -1.69974225e-03 -4.
[ -8.08206185e-04 1.69971580e-03 9.99998229e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 2.70409680357 -1.9189783798
[[ 0.99999736 0.00132829 0.00187579 -0.05621645]
[-0.00132594 0.99999834 -0.00125093 -0.05091354]
[-0.00187745 0.00124844 0.99999746 1.22200034]
[ 0. 0. 0. 1. ]]
59% (659 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
65 -2.94748636153 [[ 9.99998632e-01 9.93129160e-04 1.
[ -9.93391444e-04 9.99999487e-01 1.97686999e-04 8.
[ -1.32226896e-03 -1.99000455e-04 9.99999106e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -4.46698121034 -2.26181437371
[[ 9.99996892e-01 2.06129399e-03 1.40234715e-03 -1.
[ -2.06131331e-03 9.99997875e-01 1.23319525e-05 4.
[ -1.40231875e-03 -1.52225910e-05 9.99999017e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.

```



```

59% (660 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
77 -2.92217460609 [[ 9.99999075e-01 6.81833513e-04 1.
[ -6.81501468e-04 9.99999728e-01 -2.82438508e-04 5.
[ -1.17740578e-03 2.81635973e-04 9.99999267e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.65113660775 -2.48193445117
[[ 9.99996629e-01 -7.35529614e-04 2.49025673e-03 -2.
[ 7.36224829e-04 9.99999690e-01 -2.78269014e-04 8.
[ -2.49005128e-03 2.80101465e-04 9.99996861e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
60% (662 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
56 -2.77682665477 [[ 9.99996004e-01 -2.30952282e-03 1.
[ 2.30982235e-03 9.99997316e-01 -1.81859818e-04 4.
[ -1.62994056e-03 1.85624945e-04 9.99998654e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
60% (663 of 1101) |#####| Elapsed Time:
invalid speed -11.0919467094 -1.45277862039
[[ 9.99986157e-01 7.53468848e-04 5.20758306e-03 -5.
[ -7.87441596e-04 9.99978404e-01 6.52473882e-03 -4.
[ -5.20255441e-03 -6.52874917e-03 9.99965154e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
60% (664 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
76 -2.75256915717 [[ 9.99998324e-01 -6.34196170e-04 1.
[ 6.29238775e-04 9.99995640e-01 2.88511574e-03 -2.
[ -1.71949478e-03 -2.88403008e-03 9.99994363e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
60% (665 of 1101) |#####| Elapsed Time:
invalid speed 0.43210335997 -1.26698262188
[[ 9.99983755e-01 1.27380738e-03 5.55590282e-03 -2.
[ -1.27651389e-03 9.99999068e-01 4.83621702e-04 -2.
[ -5.55528160e-03 -4.90706033e-04 9.99984449e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
60% (666 of 1101) |#####| Elapsed Time:
invalid speed 0.904495893188 -1.34559700372
[[ 9.99998591e-01 3.11935388e-04 -1.64957295e-03 3.
[ -3.16180202e-04 9.99996638e-01 -2.57364606e-03 4.
[ 1.64876460e-03 2.57416399e-03 9.99995328e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
60% (667 of 1101) |#####| Elapsed Time:
invalid speed -4.25163384974 -1.34901345046
[[ 9.99998608e-01 -9.18675001e-04 1.39261662e-03 8.
[ 9.19571693e-04 9.99999370e-01 -6.43386523e-04 1.
[ -1.39202468e-03 6.44666239e-04 9.99998823e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
60% (668 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
73 -2.82979453971 [[ 9.99999725e-01 -2.81943782e-04 6.

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[ 2.81439334e-04  9.99999690e-01  7.35957845e-04  5.
[ -6.85623295e-04 -7.35764740e-04  9.99999494e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
60% (671 of 1101) |#####| Elapsed Time:
invalid speed 0.326885752111 -0.610510181347
[[ 9.99986689e-01  8.01620636e-04  5.09688441e-03 -1
[ -8.18809737e-04  9.99993982e-01  3.37128041e-03 -2.
[ -5.09415125e-03 -3.37540892e-03  9.99981328e-01  8.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
61% (672 of 1101) |#####| Elapsed Time:
invalid speed 1.1886909432 -1.07340837237
[[ 9.99998090e-01 -4.54587939e-04  1.90070859e-03 -1
[ 4.56886660e-04  9.99999165e-01 -1.20914284e-03 -1.
[ -1.90015734e-03  1.21000894e-03  9.99997463e-01 -8.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
61% (673 of 1101) |#####| Elapsed Time:
invalid speed 0.501001512845 -1.07266047839
[[ 9.99999776e-01  5.82181435e-04  3.30272131e-04  1
[ -5.81495882e-04  9.99997684e-01 -2.07203384e-03  5.
[ -3.31477666e-04  2.07184132e-03  9.99997799e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
61% (674 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
54 -3.0420221732 [[ 9.99999494e-01  2.64930360e-04  9.
[ -2.63827228e-04  9.99999320e-01 -1.13610569e-03  7.
[ -9.71235884e-04  1.13584895e-03  9.99998883e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
61% (678 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
35 0.231759059171 [[ 9.99999949e-01 -2.88787094e-04 -1
[ 2.88908376e-04  9.99999544e-01  9.10191980e-04 -5.
[ 1.33114562e-04 -9.10230468e-04  9.99999577e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -23.7203797966 -0.695271660139
[[ 9.99998978e-01  2.44920248e-04 -1.40861417e-03  1
[ -2.45055918e-04  9.9999965e-01 -9.61426552e-05  7.
[ 1.40859058e-03  9.64877462e-05  9.99999003e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
61% (680 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
50 -2.7991975954 [[ 9.99999862e-01 -4.86508820e-04  1.
[ 4.86603979e-04  9.99999765e-01 -4.81900885e-04  3.
[ -1.97328237e-04  4.81996954e-04  9.99999864e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.660658143359 -1.53155618595
[[ 9.99987619e-01  9.18086283e-04  4.89067009e-03 -1
[ -9.23074800e-04  9.99999056e-01  1.01784711e-03 -1.
[ -4.88973101e-03 -1.02234896e-03  9.99987523e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
61% (682 of 1101) |#####| Elapsed Time:

```

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WARNING: invalid pose estimation
61 -2.92043208863 [[ 9.99996227e-01 -1.96948531e-04 2.
[ 1.94806844e-04 9.9999675e-01 7.81881882e-04 1.
[ -2.74015513e-03 -7.81345161e-04 9.99995941e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
62% (683 of 1101) |#####| Elapsed Time:
invalid speed 2.73109395002 -1.31467002114
[[ 0.99999445 0.00302633 -0.00139078 0.01894818]
[-0.00302298 0.99999253 0.00240742 0.01501615]
[ 0.00139805 -0.0024032 0.99999614 1.05167428]
[ 0. 0. 0. 1. ]]
62% (684 of 1101) |#####| Elapsed Time:
invalid speed 1.72024664806 -1.03084542072
[[ 9.99998729e-01 8.40005041e-04 -1.35530444e-03 6.
[ -8.37571310e-04 9.99998038e-01 1.79527718e-03 -4.
[ 1.35680982e-03 -1.79413974e-03 9.99997470e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
62% (686 of 1101) |#####| Elapsed Time:
invalid speed 2.82172089565 -0.959213627632
[[ 9.99989106e-01 -1.05588096e-03 -4.54678351e-03 6.
[ 1.07266295e-03 9.99992616e-01 3.69010215e-03 -3.
[ 4.54285363e-03 -3.69493912e-03 9.99982855e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
62% (687 of 1101) |#####| Elapsed Time:
invalid speed 0.058643899628 -0.729169664777
[[ 9.99998656e-01 -4.75722886e-04 -1.56871233e-03 5.
[ 4.74535146e-04 9.99999601e-01 -7.57428399e-04 1.
[ 1.56907203e-03 7.56682972e-04 9.99998483e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
62% (689 of 1101) |#####| Elapsed Time:
invalid speed 0.676726250828 -0.606798622202
[[ 0.99999121 -0.00248349 0.00337776 -0.07866771]
[ 0.00248907 0.99999554 -0.00165006 0.01765307]
[-0.00337365 0.00165845 0.99999293 -0.21215475]
[ 0. 0. 0. 1. ]]
62% (692 of 1101) |#####| Elapsed Time:
invalid speed -5.27142960539 -0.491624856756
[[ 9.99991017e-01 2.67602261e-04 4.23011528e-03 -1.
[ -2.69936772e-04 9.99999812e-01 5.51317556e-04 4.
[ -4.22996695e-03 -5.52454467e-04 9.99990901e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
62% (693 of 1101) |#####| Elapsed Time:
invalid speed -4.38564900058 -0.77567932053
[[ 9.99982983e-01 3.26140741e-03 4.83701608e-03 -1.
[ -3.26608677e-03 9.99994206e-01 9.59822141e-04 1.
[ -4.83385769e-03 -9.75603922e-04 9.99987841e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
63% (697 of 1101) |#####| Elapsed Time:
invalid speed -3.86383126751 -0.852985482206
[[ 9.99993006e-01 2.07524797e-03 3.11133460e-03 -3.

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[ -2.08305148e-03  9.99994688e-01  2.50695193e-03  4.
[ -3.10611553e-03 -2.51341546e-03  9.99992017e-01 -5.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
63% (698 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
37 -2.63960245242 [[ 9.99997716e-01 -1.03406456e-03  1.
[  1.03248825e-03  9.99999111e-01  8.43552382e-04  4.
[ -1.87123523e-03 -8.41619326e-04  9.99997895e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 2.02272963603 -1.44852447228
[[ 9.99966158e-01  3.40903620e-03  7.48735356e-03  5.
[ -3.44122251e-03  9.99984876e-01  4.29008917e-03 -1.
[ -7.47261525e-03 -4.31570964e-03  9.99962767e-01  2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
63% (700 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
50 -2.72130697338 [[ 9.99999810e-01 -2.62416103e-04  5.
[  2.61495607e-04  9.99998609e-01  1.64714271e-03  1.
[ -5.59084318e-04 -1.64699631e-03  9.99998487e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -6.78809519655 -1.65924077809
[[ 9.99977092e-01 -9.87208010e-04  6.69637489e-03 -1.
[  9.78515269e-04  9.99998675e-01  1.30127852e-03  1.
[ -6.69765065e-03 -1.29469620e-03  9.99976732e-01 -8.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
63% (702 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
56 -2.66278071192 [[ 9.99999208e-01 -8.61857662e-04  9.
[  8.61357159e-04  9.99999480e-01  5.46173912e-04  7.
[ -9.17278128e-04 -5.45383781e-04  9.99999431e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.929718765466 -1.73410359255
[[ 0.99983555  0.01688614  0.00661267 -0.96342742]
[-0.01693895  0.99982441  0.00801411 -0.98160984]
[-0.00647618 -0.0081248  0.99994602 -0.28508383]
[ 0. 0. 0. 1. ]]
63% (703 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
52 -2.82527179382 [[ 9.99998888e-01 -1.03387173e-03  1.
[  1.03302676e-03  9.99999157e-01  7.86739489e-04  2.
[ -1.07516873e-03 -7.85628776e-04  9.99999113e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.35636413127 -2.0978263263
[[ 9.99989393e-01  2.37223280e-03  3.94791398e-03 -2.
[ -2.38791646e-03  9.99989258e-01  3.97268498e-03 -1.
[ -3.93844744e-03 -3.98207013e-03  9.99984316e-01 -5.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
63% (704 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
71 -2.74703394444 [[ 9.99998148e-01 -8.10978136e-04  1.

```

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[ 8.06491004e-04  9.99996373e-01  2.56981696e-03 -1.
[ -1.74760452e-03 -2.56840445e-03  9.99995175e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -2.2486912396 -2.31422886568
[[ 9.99925266e-01 -1.13226208e-02  4.61102941e-03 -1
[ 1.13173200e-02  9.99935268e-01  1.17406424e-03  2.
[ -4.62402441e-03 -1.12179201e-03  9.99988680e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
64% (705 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
57 -2.71868624127 [[ 9.99998938e-01 -3.98311116e-04  1
[ 3.95874662e-04  9.99998412e-01  1.73760662e-03  1.
[ -1.40275744e-03 -1.73704973e-03  9.99997507e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -2.67496509076 -2.44904799088
[[ 9.99981536e-01 -4.16412729e-03  4.42572035e-03 -5
[ 4.16090314e-03  9.99991071e-01  7.37460022e-04  9.
[ -4.42875171e-03 -7.19031412e-04  9.99989935e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
64% (706 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
73 -2.84639539315 [[ 9.99997946e-01  2.51649186e-04  2
[ -2.53776332e-04  9.99999409e-01  1.05746608e-03  3.
[ -2.01093012e-03 -1.05797430e-03  9.99997418e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -2.51886143558 -2.58149712497
[[ 9.99987684e-01 -1.09803682e-03  4.84001336e-03 -6
[ 1.09331976e-03  9.99998925e-01  9.77135319e-04  9.
[ -4.84108109e-03 -9.71831603e-04  9.99987810e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
64% (707 of 1101) |#####| Elapsed Time:
invalid speed -2.26770688061 -1.72243713628
[[ 9.99981596e-01 -4.24107064e-03  4.33830406e-03 -5
[ 4.24607179e-03  9.99990331e-01 -1.14422889e-03  8.
[ -4.33340935e-03  1.16262858e-03  9.99989935e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
64% (708 of 1101) |#####| Elapsed Time:
invalid speed 1.6010993281 -1.66532583148
[[ 9.99991176e-01  9.05929611e-04  4.10210065e-03  3
[ -9.06706817e-04  9.99999571e-01  1.87609587e-04 -1.
[ -4.10192893e-03 -1.91327334e-04  9.99991569e-01  4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
64% (710 of 1101) |#####| Elapsed Time:
invalid speed 2.33096384972 -1.50075898802
[[ 9.99968117e-01  2.13497458e-03  7.69457732e-03 -1
[ -2.13692185e-03  9.99997687e-01  2.44858473e-04  2.
[ -7.69403676e-03 -2.61293376e-04  9.99970366e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
64% (713 of 1101) |#####| Elapsed Time:
invalid speed -3.38798900023 -1.23567524832

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[[ 9.99956532e-01  4.08141620e-03  8.38311748e-03  -4.
[ -4.08906628e-03  9.99991239e-01  8.95620702e-04  1.
[ -8.37938863e-03  -9.29860894e-04  9.99964460e-01  -7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
64% (714 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
70 -2.80837094575 [[ 9.99996722e-01  -4.25625143e-04  2.
[ 4.26447336e-04  9.99998556e-01  -3.25100641e-04  4.
[ -2.52479080e-03  3.26176324e-04  9.99996760e-01  -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.00868277252089 -1.75990714746
[[ 9.99982639e-01  2.25498551e-03  5.44391717e-03  5.
[ -2.25453632e-03  9.99997455e-01  -8.86465872e-05  2.
[ -5.44410321e-03  7.63715392e-05  9.99985178e-01  8.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
64% (715 of 1101) |#####| Elapsed Time:
invalid speed -3.1130523325 -1.83104608752
[[ 9.99988468e-01  6.20220829e-04  4.76224691e-03  -1.
[ -6.11239716e-04  9.99998033e-01  -1.88712204e-03  9.
[ -4.76340797e-03  1.88418940e-03  9.99986880e-01  -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
65% (716 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
70 -2.6649384709 [[ 9.99997649e-01  -1.72588613e-04  2.
[ 1.75321441e-04  9.99999186e-01  -1.26404281e-03  5.
[ -2.16153895e-03  1.26441884e-03  9.99996864e-01  -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.36385385122 -2.10901021531
[[ 9.99973921e-01  7.99895729e-04  7.17751295e-03  -1.
[ -7.91904196e-04  9.99999064e-01  -1.11618542e-03  -1.
[ -7.17839906e-03  1.11047241e-03  9.99973618e-01  3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
65% (717 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
62 -2.58154222423 [[ 9.99996351e-01  1.53920428e-03  2.
[ -1.53876225e-03  9.99998796e-01  -2.00793001e-04  5.
[ -2.22045272e-03  1.97375991e-04  9.99997515e-01  -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.85499085343 -2.26652088495
[[ 9.99992102e-01  1.48640793e-03  3.68610190e-03  -2.
[ -1.48541383e-03  9.99998860e-01  -2.72412830e-04  -5.
[ -3.68650261e-03  2.66935291e-04  9.99993169e-01  -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
65% (718 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
52 -2.67186131415 [[ 9.99997036e-01  4.71770928e-04  2.
[ -4.70438722e-04  9.99999734e-01  -5.58228179e-04  2.
[ -2.38902543e-03  5.57102758e-04  9.99996991e-01  -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
65% (719 of 1101) |#####| Elapsed Time:

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invalid speed -5.75099162634 -1.99690409527
[[ 9.99968956e-01  3.61414713e-03  7.00180048e-03  -4.
[ -3.61669619e-03  9.99993398e-01  3.51429820e-04  8.
[ -7.00048414e-03  -3.76742295e-04  9.99975425e-01  -6.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
65% (720 of 1101) |#####| Elapsed Time:
invalid speed -3.8146184725 -1.50199764113
[[ 9.99986238e-01  -1.92542211e-03  4.88031795e-03  -4.
[ 1.92447767e-03  9.99998129e-01  1.98209389e-04  9.
[ -4.88069046e-03  -1.88814598e-04  9.99988072e-01  -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
65% (721 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
63 -2.00181837017 [[ 9.99995077e-01  6.06808310e-04  3.
[ -6.09362794e-04  9.99999471e-01  8.28852214e-04  1.
[ -3.07821687e-03  -8.30724192e-04  9.99994917e-01  -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.1080625465 -1.66860455081
[[ 9.99992185e-01  -1.46720665e-03  3.67103039e-03  -1.
[ 1.46354934e-03  9.99998430e-01  9.98751354e-04  8.
[ -3.67249001e-03  -9.93370815e-04  9.99992763e-01  -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
65% (722 of 1101) |#####| Elapsed Time:
invalid speed -5.24939676508 -1.31107516553
[[ 9.99982066e-01  1.35302437e-03  5.83418484e-03  -2.
[ -1.35913358e-03  9.99998532e-01  1.04330135e-03  4.
[ -5.83276467e-03  -1.05121207e-03  9.99982437e-01  -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
65% (723 of 1101) |#####| Elapsed Time:
invalid speed 0.391436837249 -1.21168881792
[[ 0.99996715  0.00390458  0.00710373 -0.39778814]
[-0.00391636  0.99999098  0.00164578  0.03572374]
[-0.00709724 -0.00167355  0.99997341 -0.62147929]
[ 0.          0.          0.          1.          ]]
66% (727 of 1101) |#####| Elapsed Time:
invalid speed -10.7374272255 -0.732727441671
[[ 9.99942665e-01  -7.38362757e-03  7.75552241e-03  -3.
[ 7.42318467e-03  9.99959523e-01  -5.08416579e-03  4.
[ -7.71766891e-03  5.14144497e-03  9.99957001e-01  -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
66% (729 of 1101) |#####| Elapsed Time:
invalid speed 1.2929341996 -1.07737059307
[[ 9.99986167e-01  1.21372633e-05  5.25979396e-03  -3.
[ -1.39058834e-06  9.99997913e-01  -2.04317298e-03  5.
[ -5.25980778e-03  2.04313740e-03  9.99984080e-01  -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
66% (732 of 1101) |#####| Elapsed Time:
invalid speed 1.17044939371 -1.01505149758
[[ 9.99980777e-01  -1.77102837e-03  5.94212302e-03  -5.
[ 1.78142788e-03  9.99996890e-01  -1.74529630e-03  7.

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[ -5.93901357e-03  1.75584821e-03  9.99980822e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
66% (734 of 1101) |#####| Elapsed Time:
invalid speed 2.67739436656 -1.24860353966
[[ 0.99996778  0.00231335  0.00768709 -0.06714354]
[-0.00232304  0.99999652  0.00125126  0.00814853]
[-0.00768417 -0.00126908  0.99996967 -0.28190043]
[ 0.          0.          0.          1.          ]]
66% (737 of 1101) |#####| Elapsed Time:
invalid speed 2.17338483483 -1.40539170992
[[ 9.99925592e-01  4.22185805e-04  1.21914417e-02 -6.
[ -3.81775940e-04  9.99994427e-01 -3.31674627e-03  9.
[ -1.21927741e-02  3.31184508e-03  9.99920181e-01 -2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
67% (739 of 1101) |#####| Elapsed Time:
invalid speed -8.56494187371 -1.07931025555
[[ 9.99971596e-01  1.28425838e-03  7.42689445e-03 -2.
[ -1.28607625e-03  9.99999144e-01  2.39998737e-04  3.
[ -7.42657987e-03 -2.49543472e-04  9.99972391e-01 -1.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
67% (740 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
79 0.0511778132275 [[ 9.99997012e-01  1.05012759e-04
[ -1.06702443e-04  9.99999755e-01  6.91727896e-04 -4.
[ -2.44220283e-03 -6.91986426e-04  9.99996778e-01  5.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed 0.248307438661 -0.702480899288
[[ 9.99985733e-01 -6.02412416e-04  5.30763404e-03  1.
[  5.96160107e-04  9.99999127e-01  1.17948745e-03 -3.
[ -5.30833995e-03 -1.17630642e-03  9.99985219e-01  2.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
67% (741 of 1101) |#####| Elapsed Time:
invalid speed 0.605381652436 -0.5536706174
[[ 9.99978257e-01 -1.25501240e-03  6.47375794e-03  2.
[  1.25739938e-03  9.99999143e-01 -3.64660097e-04 -1.
[ -6.47329474e-03  3.72792268e-04  9.99978979e-01  3.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
67% (742 of 1101) |#####| Elapsed Time:
invalid speed 1.42775301937 -1.03272225186
[[ 0.9999638  0.00275464  0.00805008 -0.25554104]
[-0.00274647  0.9999957  -0.00102543 -0.04398412]
[-0.00805287  0.00100329  0.99996707 -0.5630725 ]
[ 0.          0.          0.          1.          ]]
67% (743 of 1101) |#####| Elapsed Time:
invalid speed 0.235136517444 -0.892554735082
[[ 9.99986579e-01 -6.20867117e-04  5.14363394e-03 -2.
[  6.37616781e-04  9.99994498e-01 -3.25538774e-03  1.
[ -5.14158448e-03  3.25862372e-03  9.99981473e-01 -3.
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
67% (745 of 1101) |#####| Elapsed Time:

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invalid speed 3.35549800746 -0.685308545057
[[ 9.99967546e-01 2.34564985e-03 7.70747325e-03 -2.
[ -2.33511667e-03 9.99996328e-01 -1.37533322e-03 7.
[ -7.71067100e-03 1.35729074e-03 9.99969351e-01 2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
67% (747 of 1101) |#####| Elapsed Time:
invalid speed 0.607702753677 -0.612712705278
[[ 0.99995653 -0.00104159 0.00926535 -0.316102 ]
[ 0.00100612 0.99999215 0.00383247 -0.00705399]
[-0.00926927 -0.00382298 0.99994973 -0.44077106]
[ 0. 0. 0. 1. ]]
67% (748 of 1101) |#####| Elapsed Time:
invalid speed 0.50671599691 -0.7101773842
[[ 9.99982778e-01 2.55156689e-04 5.86327920e-03 -6.
[ -2.68417230e-04 9.99997408e-01 2.26094971e-03 -1.
[ -5.86268711e-03 -2.26248458e-03 9.99980255e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
68% (749 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
84 -2.02269490393 [[ 9.99997251e-01 -1.24373859e-03 1.
[ 1.24456891e-03 9.99999139e-01 -4.16535240e-04 3.
[ -1.98723493e-03 4.19007992e-04 9.99997938e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
68% (750 of 1101) |#####| Elapsed Time:
invalid speed 0.231939115937 -1.04645979005
[[ 0.99994253 0.00241723 0.01044452 0.0699455 ]
[-0.00236599 0.99998512 -0.00491557 0.01650989]
[-0.01045625 0.00489058 0.99993337 -0.61207381]
[ 0. 0. 0. 1. ]]
68% (754 of 1101) |#####| Elapsed Time:
invalid speed 5.8205548888 -0.524746164829
[[ 9.99900464e-01 3.31503571e-03 1.37139584e-02 2.
[ -3.28772658e-03 9.99992569e-01 -2.01340440e-03 -8.
[ -1.37205309e-02 1.96811625e-03 9.99903932e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
68% (756 of 1101) |#####| Elapsed Time:
invalid speed 2.04319606532 -0.595797293966
[[ 0.99997173 0.00129136 0.0074079 -0.08767389]
[-0.00127786 0.99999751 -0.00182732 -0.004349 ]
[-0.00741024 0.0018178 0.99997089 0.53468029]
[ 0. 0. 0. 1. ]]
68% (757 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
98 -6.99042966091 [[ 9.99997708e-01 -1.14161263e-03 1.
[ 1.14429380e-03 9.99998250e-01 -1.47977000e-03 1.
[ -1.80976822e-03 1.48183945e-03 9.99997264e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 2.98699872758 -2.72734141628
[[ 0.99998223 -0.00332454 0.00494816 1.08856343]
[ 0.00334397 0.99998672 -0.00392246 0.27566709]

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[-0.00493505  0.00393894  0.99998006  2.98699873]
[ 0.          0.          0.          1.          ]]
68% (759 of 1101) |#####| Elapsed Time:
invalid speed -15.5859515366 -1.22390843234
[[ 9.99986344e-01 -4.25896643e-03  3.02883271e-03 -1.
[ 4.27399564e-03  9.99978501e-01 -4.97300472e-03  4.
[ -3.00758773e-03  4.98588203e-03  9.99983048e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
69% (760 of 1101) |#####| Elapsed Time:
invalid speed 0.25492446536 -0.956043373664
[[ 0.99999403 -0.00260987  0.00226424 -0.04927732]
[ 0.00261776  0.99999049 -0.00348943  0.01058109]
[-0.00225511  0.00349534  0.99999135 -0.16538879]
[ 0.          0.          0.          1.          ]]
69% (761 of 1101) |#####| Elapsed Time:
invalid speed 0.0377913023598 -0.661102262236
[[ 9.99998585e-01 -3.70011803e-05  1.68190907e-03 -9.
[ 3.80064456e-05  9.9999821e-01 -5.97664947e-04  1.
[ -1.68188665e-03  5.97728024e-04  9.99998407e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
69% (762 of 1101) |#####| Elapsed Time:
invalid speed 0.031940804509 -0.451534506922
[[ 9.99998341e-01 -9.40146936e-04  1.56010844e-03  1.
[ 9.38313670e-04  9.99998869e-01  1.17540504e-03 -1.
[ -1.56121173e-03 -1.17393922e-03  9.99998092e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
69% (768 of 1101) |#####| Elapsed Time:
invalid speed 0.258765075609 -0.0769132776631
[[ 9.99934366e-01 -8.11897862e-03  8.08369756e-03 -9.
[ 8.13781542e-03  9.99964242e-01 -2.30006139e-03  4.
[ -8.06473435e-03  2.36569407e-03  9.99964681e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
69% (769 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
148 0.366554104897 [[ 9.99999365e-01 -2.32332384e-04
[ 2.32635273e-04  9.9999935e-01 -2.74648932e-04 -3.
[ -1.10227369e-03  2.74905200e-04  9.99999355e-01  3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.98758575185 0.0709091831902
[[ 9.99999952e-01  1.37686615e-05 -3.08437546e-04 -8.
[ -1.38769335e-05  9.99999938e-01 -3.51034451e-04  9.
[ 3.08432694e-04  3.51038714e-04  9.99999891e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
69% (770 of 1101) |#####| Elapsed Time:
invalid speed 0.921835454335 -0.275730860977
[[ 9.99998189e-01  1.83511018e-04  1.89441375e-03 -7.
[ -1.81712167e-04  9.99999533e-01 -9.49684313e-04  2.
[ -1.89458714e-03  9.49338355e-04  9.99997755e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
70% (771 of 1101) |#####| Elapsed Time:

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invalid speed -8.66220057191 -0.507448630445
[[ 9.99993517e-01 -6.74402074e-04 3.53715222e-03 -4.
[ 6.77214144e-04 9.99999456e-01 -7.93872270e-04 -3.
[ -3.53661490e-03 7.96262533e-04 9.99993429e-01 -9.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
70% (772 of 1101) |#####| Elapsed Time:
invalid speed -2.08101775851 -0.342843058264
[[ 9.99964101e-01 -8.47329981e-03 -1.60299591e-05 -8.
[ 8.47311697e-03 9.99951878e-01 -4.94449249e-03 1.
[ 5.79253549e-05 4.94417916e-03 9.99987776e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
70% (777 of 1101) |#####| Elapsed Time:
invalid speed -17.5668533758 -0.0826599779435
[[ 9.99994324e-01 -2.65429531e-03 -2.07534705e-03 -6.
[ 2.64453704e-03 9.99985502e-01 -4.69068562e-03 1.
[ 2.08776742e-03 4.68517067e-03 9.99986845e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
70% (778 of 1101) |#####| Elapsed Time:
invalid speed -4.95994809822 -0.461386316582
[[ 9.99998627e-01 -1.06629070e-03 -1.26812087e-03 -2.
[ 1.06662045e-03 9.99999398e-01 2.59381450e-04 3.
[ 1.26784353e-03 -2.60733698e-04 9.99999162e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
70% (780 of 1101) |#####| Elapsed Time:
invalid speed 0.861368736996 -0.695985713407
[[ 9.99988107e-01 -4.04654054e-04 -4.86026243e-03 -3.
[ 4.04509942e-04 9.9999918e-01 -3.06340996e-05 5.
[ 4.86027442e-03 2.86677107e-05 9.99988188e-01 -8.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
70% (781 of 1101) |#####| Elapsed Time:
invalid speed -6.26431449409 -0.94551708325
[[ 9.99997715e-01 1.39845992e-03 -1.61685930e-03 -2.
[ -1.40225516e-03 9.99996259e-01 -2.34854554e-03 5.
[ 1.61356891e-03 2.35080742e-03 9.99995935e-01 -7.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
71% (782 of 1101) |#####| Elapsed Time:
invalid speed -2.81465360032 -1.08936942185
[[ 9.99997357e-01 2.04314936e-03 -1.05382516e-03 -5.
[ -2.04584793e-03 9.99994615e-01 -2.56604564e-03 1.
[ 1.04857667e-03 2.56819482e-03 9.99996152e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
71% (783 of 1101) |#####| Elapsed Time:
invalid speed -6.03953917984 -1.26392241878
[[ 9.99987753e-01 4.80034125e-03 1.20424669e-03 -3.
[ -4.80190420e-03 9.99987628e-01 1.29834835e-03 -1.
[ -1.19799928e-03 -1.30411512e-03 9.99998432e-01 -7.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
71% (784 of 1101) |#####| Elapsed Time:
invalid speed -3.3155699856 -1.26737374665
[[ 9.99994878e-01 -4.56080222e-05 3.20022318e-03 -3.

```

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[ 4.84541560e-05  9.99999603e-01 -8.89282889e-04  1.
[ -3.20018135e-03  8.89433398e-04  9.99994484e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
71% (785 of 1101) |#####| Elapsed Time:
invalid speed 1.59268226407 -1.27149651489
[[ 9.99998182e-01 -1.81275238e-03 -5.91881587e-04 -2.
[ 1.81199981e-03  9.99997552e-01 -1.26956116e-03 -3.
[ 5.94181538e-04  1.26848636e-03  9.99999019e-01  3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
71% (786 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
111 -3.54059957517 [[ 9.99999222e-01 -3.92023939e-04
[ 3.90836686e-04  9.99999421e-01  1.00236987e-03 -6.
[ -1.18491544e-03 -1.00190613e-03  9.99998796e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
71% (787 of 1101) |#####| Elapsed Time:
invalid speed 0.0663821023605 -1.73679479473
[[ 9.99992489e-01  3.56532273e-03  1.52012896e-03 -9.
[ -3.56447981e-03  9.99993492e-01 -5.56851245e-04 -1.
[ -1.52210442e-03  5.51428593e-04  9.99998690e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
71% (788 of 1101) |#####| Elapsed Time:
invalid speed -4.79992500779 -1.52470122565
[[ 9.99989705e-01  1.73800815e-03  4.19162249e-03 -2.
[ -1.73499982e-03  9.99998235e-01 -7.21230299e-04  3.
[ -4.19286860e-03  7.13950409e-04  9.99990955e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
71% (790 of 1101) |#####| Elapsed Time:
invalid speed 0.462816355685 -1.19117309997
[[ 0.99998021  0.00372597  0.00506866 -0.99507021]
[-0.00373852  0.99998996  0.00246979 -0.15124222]
[-0.0050594 -0.00248869  0.9999841 -1.08781177]
[ 0.          0.          0.          1.          ]]
71% (791 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
143 0.145254581644 [[ 9.99999313e-01  5.77287761e-05
[ -5.87608233e-05  9.99999610e-01  8.81396518e-04  1.
[ -1.17085115e-03 -8.81464715e-04  9.99998926e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -7.58065827738 -0.7456972061
[[ 9.99993386e-01 -1.18774150e-03  3.43752126e-03 -2.
[ 1.17800662e-03  9.99995294e-01  2.83258796e-03  3.
[ -3.44086947e-03 -2.82851980e-03  9.99990080e-01 -7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
72% (793 of 1101) |#####| Elapsed Time:
invalid speed -3.58334378 -0.792651633584
[[ 9.99956997e-01  1.64763060e-03  9.12630434e-03 -3.
[ -1.68986462e-03  9.99987891e-01  4.62194825e-03 -6.
[ -9.11857857e-03 -4.63717171e-03  9.99947673e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.

```

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72% (794 of 1101) |#####| Elapsed Time:
invalid speed 0.615584830917 -0.600337982233
[[ 9.99997735e-01 6.77465582e-04 2.01750325e-03 3.
[ -6.80077368e-04 9.99998931e-01 1.29415881e-03 -1.
[ -2.01662434e-03 -1.29552794e-03 9.99997127e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
72% (795 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
122 -2.32255343338 [[ 9.99999750e-01 6.99315424e-04
[ -6.99418334e-04 9.99999274e-01 9.80786406e-04 4.
[ -1.04579792e-04 -9.80859786e-04 9.99999513e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
72% (796 of 1101) |#####| Elapsed Time:
invalid speed 1.55481844581 -0.836370431599
[[ 9.99966013e-01 2.70738148e-03 7.78742097e-03 -5.
[ -2.70111088e-03 9.99996019e-01 -8.15626336e-04 -6.
[ -7.78959818e-03 7.94563927e-04 9.99969345e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
72% (797 of 1101) |#####| Elapsed Time:
invalid speed 0.120323055177 -0.661514983839
[[ 9.99985878e-01 -1.33332646e-04 5.31279066e-03 -8.
[ 1.36689759e-04 9.9999791e-01 -6.31534525e-04 2.
[ -5.31270535e-03 6.32251811e-04 9.99985688e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
72% (798 of 1101) |#####| Elapsed Time:
invalid speed -6.21883064343 -0.479353970111
[[ 9.99983333e-01 -6.04448689e-04 5.74186156e-03 -1.
[ 5.95097052e-04 9.99998494e-01 1.63024567e-03 -7.
[ -5.74283832e-03 -1.62680153e-03 9.99982187e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
72% (799 of 1101) |#####| Elapsed Time:
invalid speed 0.531084724721 -0.51761682816
[[ 0.99997922 -0.00142778 0.00628654 -0.12353245]
[ 0.00144559 0.99999495 -0.00283077 0.05832995]
[-0.00628246 0.0028398 0.99997623 -0.06305782]
[ 0. 0. 0. 1. ]]
72% (800 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
129 0.235422869039 [[ 9.99994094e-01 -5.93827912e-04
[ 6.01146151e-04 9.99997484e-01 -2.16132080e-03 7.
[ -3.38375990e-03 2.16334295e-03 9.99991935e-01 2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
72% (801 of 1101) |#####| Elapsed Time:
invalid speed 0.591849295245 -0.247437200879
[[ 0.99992378 0.00244443 0.01210217 -0.31416222]
[-0.00233384 0.99995547 -0.00914414 -0.00375172]
[-0.01212399 0.0091152 0.99988495 0.38274488]
[ 0. 0. 0. 1. ]]
72% (802 of 1101) |#####| Elapsed Time:
invalid speed 0.43438630722 -0.280246174323

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[[ 0.99996474 -0.00188483  0.00818318 -0.32401359]
[ 0.00195109  0.99996533 -0.00809571  0.07836564]
[-0.00816764  0.00811139  0.99993375  0.08852219]
[ 0.          0.          0.          1.          ]]
72% (803 of 1101) |#####| Elapsed Time:
invalid speed 0.680668531808 -0.197503900421
[[ 0.99990406 -0.00972066  0.00986833 -0.10054127]
[ 0.00980616  0.99991447 -0.00865367  0.08807851]
[-0.00978336  0.00874961  0.99991386  0.64864918]
[ 0.          0.          0.          1.          ]]
73% (804 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
126 0.276477429474 [[ 0.99996221 -0.00805373  0.00327212
[ 0.00806416  0.99996241 -0.00318646  0.00407448]
[-0.00324633  0.00321272  0.99998957  0.27647743]
[ 0.          0.          0.          1.          ]]
invalid speed 0.600014660792 -0.0395101237893
[[ 9.99892309e-01 -1.21332390e-02  8.25562320e-03  7.
[ 1.21410098e-02  9.99925898e-01 -8.91802594e-04  9.
[ -8.24419098e-03  9.91938157e-04  9.99965524e-01  6.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
73% (805 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
143 0.355709933872 [[ 9.99990865e-01 -1.93858204e-04
[ 1.74739010e-04  9.99989961e-01  4.47753043e-03 -3.
[ -4.27077813e-03 -4.47674340e-03  9.99980859e-01  3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.9834271753 0.0922298954311
[[ 9.99953437e-01  6.97176274e-05  9.64976750e-03 -2.
[ -1.88784549e-04  9.99923860e-01  1.23384776e-02 -8.
[ -9.64817256e-03 -1.23397248e-02  9.99877314e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
73% (806 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
132 0.676831637085 [[ 0.99997895  0.0021986  0.00610478
[-0.00224166  0.9999726  0.007055  0.16730183]
[-0.0060891 -0.00706853  0.99995648  0.67683164]
[ 0.          0.          0.          1.          ]]
invalid speed -7.46382623829 0.287097142649
[[ 9.99939811e-01  2.52383856e-03  1.06773203e-02 -1.
[ -2.60184522e-03  9.99969982e-01  7.29825542e-03  1.
[ -1.06585802e-02 -7.32559687e-03  9.99916362e-01 -7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
73% (807 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
134 0.354618788099 [[ 0.99997784  0.00328164  0.00579307
[-0.00329572  0.99999163  0.002423 -0.00763485]
[-0.00578507 -0.00244204  0.99998028  0.35461879]
[ 0.          0.          0.          1.          ]]
73% (809 of 1101) |#####| Elapsed Time:

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invalid speed -4.80228528084 0.0717579043701
[[ 9.99628678e-01 4.97885773e-03 2.67902591e-02 -4.
[ -4.86705672e-03 9.99979180e-01 -4.23678635e-03 -6.
[ -2.68107957e-02 4.10482342e-03 9.99632098e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
73% (810 of 1101) |#####| Elapsed Time:
invalid speed 0.947190700001 -0.213079241861
[[ 0.99993474 -0.00226969 0.01119668 -0.57338549]
[ 0.00233292 0.99998139 -0.00563791 0.07255035]
[-0.01118367 0.00566367 0.99992142 0.16443717]
[ 0. 0. 0. 1. ]]
73% (812 of 1101) |#####| Elapsed Time:
invalid speed 0.386751188385 -0.162709279338
[[ 0.99989107 -0.0017318 0.0146579 -0.46737729]
[ 0.00179038 0.99999046 -0.00398423 0.10808966]
[-0.01465086 0.00401004 0.99988463 0.15106095]
[ 0. 0. 0. 1. ]]
73% (813 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
149 0.400167139735 [[ 9.99991067e-01 9.23527424e-04
[ -9.20389790e-04 9.99999286e-01 -7.62534652e-04 -2.
[ -4.12536049e-03 7.58731546e-04 9.99991203e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.03248933793 0.0249161936863
[[ 9.99961895e-01 -4.71264034e-04 8.71702056e-03 -1.
[ 4.98390144e-04 9.99995040e-01 -3.10994520e-03 -2.
[ -8.71551171e-03 3.11417117e-03 9.99957170e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
73% (814 of 1101) |#####| Elapsed Time:
invalid speed 0.911693124328 -0.421527987591
[[ 0.99996629 -0.00222296 0.00790425 -0.09506571]
[ 0.0022491 0.99999203 -0.00329967 0.01591299]
[-0.00789685 0.00331733 0.99996332 -0.40272323]
[ 0. 0. 0. 1. ]]
74% (815 of 1101) |#####| Elapsed Time:
invalid speed -2.87166116336 -0.314033237408
[[ 9.99990537e-01 -4.12888027e-03 1.37048388e-03 1.
[ 4.13032365e-03 9.99990917e-01 -1.05203866e-03 -1.
[ -1.36612769e-03 1.05768925e-03 9.99998507e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
74% (817 of 1101) |#####| Elapsed Time:
invalid speed 0.422976569899 -0.241094361945
[[ 9.99939581e-01 -6.40987032e-03 8.93019024e-03 -1.
[ 6.41436627e-03 9.99979315e-01 -4.74904225e-04 -1.
[ -8.92696144e-03 5.32157043e-04 9.99960012e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
74% (818 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
135 -4.1127140479 [[ 9.99994407e-01 -2.83691478e-03 1.
[ 2.83614082e-03 9.99995882e-01 4.39329020e-04 -8.

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[ -1.77242786e-03 -4.34303222e-04 9.99998335e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
74% (820 of 1101) |#####| Elapsed Time:
invalid speed -3.64535104477 -1.17275481803
[[ 9.99913541e-01 -2.60212593e-03 1.28895435e-02 -1
[ 2.63264479e-03 9.99993770e-01 -2.35132081e-03 2.
[ -1.28833448e-02 2.38505110e-03 9.99914162e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
74% (821 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
190 -2.45535666883 [[ 9.99996309e-01 6.24397168e-04
[ -6.26012112e-04 9.99999618e-01 6.09946184e-04 -2.
[ -2.64390371e-03 -6.11599288e-04 9.99996318e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
74% (822 of 1101) |#####| Elapsed Time:
invalid speed -6.94991339971 -1.55341036677
[[ 9.99982705e-01 -4.04343520e-04 5.86735310e-03 -1
[ 3.92551524e-04 9.99997901e-01 2.01077659e-03 -6.
[ -5.86815383e-03 -2.00843858e-03 9.99980765e-01 -8.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
74% (824 of 1101) |#####| Elapsed Time:
invalid speed -6.5055639174 -1.16277563807
[[ 9.99981327e-01 1.49927759e-04 6.10919565e-03 -1
[ -1.67105346e-04 9.99996034e-01 2.81134574e-03 -6.
[ -6.10874992e-03 -2.81231413e-03 9.99977387e-01 -8.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
74% (825 of 1101) |#####| Elapsed Time:
invalid speed -2.91681876308 -1.1847461438
[[ 9.99961035e-01 3.37734798e-03 8.15614096e-03 -1
[ -3.37454256e-03 9.99994242e-01 -3.57701732e-04 -3.
[ -8.15730208e-03 3.30164549e-04 9.99966674e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
75% (826 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
121 -2.69704013838 [[ 9.99998655e-01 6.79199705e-04
[ -6.77099326e-04 9.99998781e-01 -1.40681346e-03 2.
[ -1.49401737e-03 1.40580061e-03 9.99997896e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
75% (827 of 1101) |#####| Elapsed Time:
invalid speed -2.58263672818 -1.56315393039
[[ 9.99944433e-01 7.15521567e-03 7.74172232e-03 -1
[ -7.14209546e-03 9.99973014e-01 -1.72106144e-03 -4.
[ -7.75382797e-03 1.66567369e-03 9.99968551e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
75% (830 of 1101) |#####| Elapsed Time:
invalid speed 2.66739415572 -0.9103338929
[[ 0.99981089 -0.00910786 0.01718238 0.06829571]
[ 0.00925856 0.99991919 -0.0087114 0.14643484]
[-0.01710165 0.00886884 0.99981442 1.16555053]
[ 0. 0. 0. 1. ]]

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75% (832 of 1101) |#####| Elapsed Time:
invalid speed -2.40198712478 -0.478714444246
[[ 9.99841319e-01 4.89204959e-03 1.71290747e-02 -2.
[ -4.91816809e-03 9.99986806e-01 1.48301182e-03 -4.
[ -1.71215937e-02 -1.56702016e-03 9.99852187e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
75% (833 of 1101) |#####| Elapsed Time:
invalid speed 0.787305758469 -0.983821507302
[[ 9.99921074e-01 8.94945689e-04 1.25317928e-02 -1.
[ -9.45404795e-04 9.99991468e-01 4.02114244e-03 -3.
[ -1.25280872e-02 -4.03267268e-03 9.99913389e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
75% (834 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
145 -3.88864010772 [[ 9.99995175e-01 1.67264547e-03
[ -1.68248733e-03 9.99991507e-01 3.76235671e-03 -8.
[ -2.61117821e-03 -3.76674246e-03 9.99989497e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
75% (835 of 1101) |#####| Elapsed Time:
invalid speed -7.49099360599 -1.51175534053
[[ 9.99906673e-01 -2.41033876e-05 1.36618081e-02 -2.
[ 5.60299095e-05 9.99997269e-01 -2.33653982e-03 1.
[ -1.36617145e-02 2.33708723e-03 9.99903943e-01 -8.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
75% (836 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
135 -2.96083645441 [[ 9.99984909e-01 -1.83064833e-03
[ 1.83459307e-03 9.99998031e-01 -7.56915921e-04 -7.
[ -5.17838453e-03 7.66407288e-04 9.99986298e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -6.31285377846 -1.99478237849
[[ 9.99981510e-01 -3.11345352e-03 5.22354192e-03 -8.
[ 3.13250339e-03 9.99988459e-01 -3.64271532e-03 -3.
[ -5.21214021e-03 3.65901073e-03 9.99979722e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
76% (839 of 1101) |#####| Elapsed Time:
invalid speed -9.9933246538 -1.50694052117
[[ 9.99942427e-01 -5.47407563e-03 9.22913082e-03 -1.
[ 5.51984469e-03 9.99972558e-01 -4.94103825e-03 -3.
[ -9.20182994e-03 4.99169715e-03 9.99945203e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
76% (840 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
143 -3.49112687804 [[ 9.99996715e-01 -2.21413920e-04
[ 2.21337710e-04 9.99999975e-01 3.01265809e-05 8.
[ -2.55364000e-03 -2.95612666e-05 9.99996739e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -3.34737423147 -2.16833597346
[[ 9.99940688e-01 -1.34600575e-04 1.08905127e-02 -1.
[ 8.99725016e-05 9.99991598e-01 4.09827155e-03 -8.

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[ -1.08909729e-02 -4.09704862e-03 9.99932298e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
76% (841 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
180 0.517247418382 [[ 9.99980580e-01 -2.57373144e-03
[ 2.57747183e-03 9.99996466e-01 -6.51776745e-04 2.
[ -5.67421541e-03 6.66393593e-04 9.99983679e-01 5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -8.4996313987 -1.27314150951
[[ 9.99988421e-01 -7.42474933e-04 4.75453605e-03 -5.
[ 7.41036288e-04 9.99999679e-01 3.04338177e-04 3.
[ -4.75476049e-03 -3.00811370e-04 9.99988651e-01 -8.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
76% (842 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
170 -3.09100282722 [[ 9.99995648e-01 3.64642660e-04
[ -3.61867517e-04 9.99999485e-01 -9.48376353e-04 2.
[ -2.92801130e-03 9.47312798e-04 9.99995265e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -3.64976087945 -1.87909528208
[[ 9.99949994e-01 -9.30200704e-05 1.00000166e-02 -1.
[ 8.31917972e-05 9.99999513e-01 9.83237160e-04 -8.
[ -1.00001032e-02 -9.82356073e-04 9.99949515e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
76% (843 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
164 -2.60452123216 [[ 9.99991447e-01 1.75647730e-04
[ -1.70500405e-04 9.99999209e-01 -1.24601299e-03 -7.
[ -4.13231103e-03 1.24529781e-03 9.99990687e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -8.02878292902 -2.12090393211
[[ 9.99989100e-01 4.24283153e-04 4.64971263e-03 -8.
[ -4.25031422e-04 9.99999897e-01 1.59941125e-04 3.
[ -4.64964429e-03 -1.61915655e-04 9.99989177e-01 -8.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
76% (844 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
155 -2.82188361245 [[ 9.99996271e-01 -9.31038360e-05
[ 9.12143237e-05 9.99999756e-01 6.92425415e-04 9.
[ -2.72935373e-03 -6.92173883e-04 9.99996036e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -7.44119657749 -2.35456382556
[[ 9.99996071e-01 1.85313434e-03 2.10321225e-03 5.
[ -1.85604610e-03 9.99997321e-01 1.38332627e-03 1.
[ -2.10064313e-03 -1.38722450e-03 9.99996831e-01 -7.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
76% (845 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
169 -2.16851833789 [[ 9.99997817e-01 1.58288691e-03
[ -1.58308125e-03 9.99998737e-01 1.41437135e-04 4.

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[ -1.36350159e-03 -1.43595717e-04 9.99999060e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.97757402337 -2.292548663
[[ 9.99986564e-01 4.15644457e-03 3.09765000e-03 -6
[ -4.15510631e-03 9.99991271e-01 -4.38336063e-04 2.
[ -3.09944488e-03 4.25459108e-04 9.99995106e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
76% (846 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
169 -2.1343517756 [[ 9.99985467e-01 2.19373266e-03 4
[ -2.18606145e-03 9.99996390e-01 -1.56255414e-03 3.
[ -4.92807616e-03 1.55176581e-03 9.99986653e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
76% (847 of 1101) |#####| Elapsed Time:
invalid speed -3.89837232666 -1.92254299578
[[ 9.99806465e-01 1.38519843e-02 1.39697991e-02 -2
[ -1.38863963e-02 9.99900772e-01 2.36932786e-03 -6.
[ -1.39355930e-02 -2.56285948e-03 9.99899610e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
77% (848 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
139 -3.05038964794 [[ 9.99993991e-01 2.53270475e-03
[ -2.53042065e-03 9.99996331e-01 -9.67371490e-04 -2.
[ -2.36969798e-03 9.61375522e-04 9.99996730e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -2.89010301266 -2.29849187984
[[ 9.99962046e-01 2.89314636e-03 8.21802687e-03 -1
[ -2.84341680e-03 9.99977616e-01 -6.05652933e-03 4.
[ -8.23536534e-03 6.03293219e-03 9.99947890e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
77% (849 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
183 -2.71377798344 [[ 9.99995370e-01 9.05699940e-04
[ -9.02423542e-04 9.99998956e-01 -1.12889070e-03 -2.
[ -2.90619921e-03 1.12626377e-03 9.99995143e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -2.10971997651 -2.43692058104
[[ 9.99975726e-01 7.33695655e-04 6.92891496e-03 -6
[ -7.17990838e-04 9.99997169e-01 -2.26877766e-03 -2.
[ -6.93055993e-03 2.26374769e-03 9.99973421e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
77% (850 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
213 -2.93580599276 [[ 9.99996341e-01 -1.85052310e-03
[ 1.85424270e-03 9.99996505e-01 -1.88466968e-03 3.
[ -1.96994726e-03 1.88832203e-03 9.99996277e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
77% (857 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
172 -2.62751266028 [[ 9.99993957e-01 -1.62433211e-03
```

```
[ 1.63144237e-03  9.99995996e-01 -2.31227023e-03  3.
[ -3.06979463e-03  2.31727060e-03  9.99992603e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -6.66410010644 -1.19784771115
[[ 9.99984456e-01 -4.90551823e-03  2.65026409e-03 -2.
[ 4.90517902e-03  9.99987960e-01  1.34477091e-04 -8.
[ -2.65089187e-03 -1.21474981e-04  9.99996479e-01 -6.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
78% (859 of 1101) |#####| Elapsed Time:
invalid speed -6.22593930904 -0.920137038773
[[ 9.99941649e-01  9.07587435e-03  5.85886412e-03 -1.
[ -9.10068545e-03  9.99949674e-01  4.22211796e-03 -8.
[ -5.82024986e-03 -4.27519128e-03  9.99973923e-01 -7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
78% (860 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
198 -2.23397904843 [[ 9.99998113e-01  1.65870191e-03 -
[ -1.65933515e-03  9.99998428e-01 -6.25615408e-04  3.
[ 1.01031154e-03  6.27292397e-04  9.99999293e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.26348320255 -1.35808437533
[[ 9.99990496e-01  4.32160880e-03 -5.76294308e-04 -5.
[ -4.32217916e-03  9.99990167e-01 -9.92151841e-04 -1.
[ 5.72000949e-04  9.94633259e-04  9.99999342e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
78% (861 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
206 -3.42774783674 [[ 9.99992590e-01  3.74841323e-03 -
[ -3.74999583e-03  9.99991330e-01 -1.81030563e-03  8.
[ 8.70025290e-04  1.81358028e-03  9.99997977e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -6.95077549606 -2.0479721958
[[ 9.99980393e-01  6.19390051e-03  9.21791203e-04 -1.
[ -6.19332686e-03  9.99980627e-01 -6.23881990e-04 -3.
[ -9.25637608e-04  6.18160803e-04  9.99999381e-01 -6.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
78% (862 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
175 -3.63752718465 [[ 9.99991980e-01  3.52893343e-03
[ -3.52775733e-03  9.99993583e-01 -6.23970684e-04 -2.
[ -1.89611408e-03  6.17284375e-04  9.99998012e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
78% (863 of 1101) |#####| Elapsed Time:
invalid speed -2.71005984367 -2.33194753345
[[ 9.99967860e-01  4.50105746e-03  6.63468118e-03 -5.
[ -4.46962181e-03  9.99978752e-01 -4.74531609e-03 -1.
[ -6.65589914e-03  4.71550906e-03  9.99966731e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
78% (864 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
```

```
193 -2.26927722701 [[ 9.99994148e-01 3.41810347e-03 -
[ -3.41791464e-03 9.99993292e-01 1.31655041e-03 -5.
[ 1.45703695e-04 -1.31606008e-03 9.99999123e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
78% (865 of 1101) |#####| Elapsed Time:
invalid speed 0.512447412387 -1.68599559164
[[ 0.99994676 0.00342232 0.00973471 -0.13117165]
[-0.00336085 0.99997435 -0.0063246 0.02615017]
[-0.00975611 0.00629155 0.99993262 0.0765755 ]
[ 0. 0. 0. 1. ]]
78% (866 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
240 -2.39704774034 [[ 9.99992122e-01 3.94402059e-03 -
[ -3.94400217e-03 9.99992222e-01 4.20056904e-05 4.
[ 4.47807666e-04 -4.02398447e-05 9.99998999e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.57306491751 -1.92301297454
[[ 0.99993454 0.00773799 0.00842841 -0.35356832]
[-0.00772589 0.99996908 -0.0014673 -0.03191469]
[-0.0084395 0.00140208 0.9999634 0.57306492]
[ 0. 0. 0. 1. ]]
78% (868 of 1101) |#####| Elapsed Time:
invalid speed -2.70002052513 -1.4217249963
[[ 0.99981654 0.01594854 0.01060812 -2.07211846]
[-0.01601706 0.9998512 0.00640615 -0.63927829]
[-0.01050437 -0.00657488 0.99992321 -4.95927228]
[ 0. 0. 0. 1. ]]
78% (869 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
206 -2.30519444568 [[ 9.99996093e-01 2.48319575e-03 -
[ -2.48354285e-03 9.99996880e-01 -2.68950058e-04 8.
[ 1.28263791e-03 2.72136162e-04 9.99999140e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -2.04487785571 -1.71621481276
[[ 9.99950852e-01 9.27731341e-03 3.49642854e-03 -3.
[ -9.28078387e-03 9.99956455e-01 9.77656227e-04 -1.
[ -3.48720626e-03 -1.01005777e-03 9.99993410e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
79% (870 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
244 -2.47321230669 [[ 9.99993784e-01 2.92053137e-03 -
[ -2.92202717e-03 9.99995446e-01 -7.54691204e-04 5.
[ 1.97334046e-03 7.60459133e-04 9.99997764e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -5.3465862883 -1.96854731073
[[ 9.99971834e-01 5.23626238e-03 -5.37704869e-03 -1.
[ -5.23893753e-03 9.99986160e-01 -4.83548544e-04 6.
[ 5.37444228e-03 5.11704946e-04 9.99985427e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
79% (871 of 1101) |#####| Elapsed Time:
```

```
WARNING: invalid pose estimation
228 -2.53938326118 [[ 9.99989145e-01  4.14600687e-03 -
[ -4.14769161e-03  9.99991087e-01 -7.88526549e-04  6.
[ 2.12303657e-03  7.97337329e-04  9.99997428e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
79% (872 of 1101) |#####| Elapsed Time:
invalid speed -6.14052875807 -1.90959625621
[[ 9.99899900e-01  1.08122761e-02 -9.12599271e-03  2.
[ -1.08212518e-02  9.99941012e-01 -9.34727117e-04  1.
[ 9.11534785e-03  1.03338822e-03  9.99957920e-01 -7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
79% (873 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
239 -2.32935886267 [[ 9.99993035e-01  2.88721938e-03 -
[ -2.88792082e-03  9.99995787e-01 -2.93228142e-04  5.
[ 2.36418691e-03  3.00056158e-04  9.99997160e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -4.92189594999 -2.04951712503
[[ 9.99973279e-01  3.71814742e-03 -6.29417220e-03 -2.
[ -3.71558602e-03  9.99993010e-01  4.18593350e-04  8.
[ 6.29568460e-03 -3.95195626e-04  9.99980104e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
79% (874 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
242 -2.86018787591 [[ 9.99990152e-01  3.16849296e-03 -
[ -3.16901613e-03  9.99994965e-01 -1.63455503e-04  1.
[ 3.10684243e-03  1.73301218e-04  9.99995159e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -5.95993621831 -2.31974070866
[[ 9.99961356e-01  3.11051336e-03 -8.22254989e-03 -6.
[ -3.10549230e-03  9.99994984e-01  6.23342153e-04  6.
[ 8.22444755e-03 -5.97783000e-04  9.99966000e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
79% (875 of 1101) |#####| Elapsed Time:
WARNING: invalid pose estimation
213 -2.15109085416 [[ 9.99986171e-01  1.84275750e-03 -
[ -1.85037989e-03  9.99997097e-01 -1.54338421e-03  1.
[ 4.92278004e-03  1.55247717e-03  9.99986678e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
invalid speed -6.37779299265 -2.26352409049
[[ 9.99904158e-01  3.33556942e-03 -1.34368713e-02 -1.
[ -3.35923129e-03  9.99992846e-01 -1.73878100e-03  1.
[ 1.34309753e-02  1.78375191e-03  9.99908209e-01 -6.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
79% (876 of 1101) |#####| Elapsed Time:
invalid speed -2.41320068158 -2.11745825966
[[ 9.99886767e-01  1.99111976e-03 -1.49160248e-02  1.
[ -2.01759069e-03  9.99996416e-01 -1.75982621e-03  1.
[ 1.49124673e-02  1.78972137e-03  9.99887201e-01 -4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
```

```

79% (879 of 1101) |#####| Elapsed Time:
invalid speed -5.19193704694 -1.71751500627
[[ 9.99058360e-01 1.32248936e-03 -4.33664013e-02 4
[ -1.34457466e-03 9.99998981e-01 -4.80107688e-04 5.
[ 4.33657221e-02 5.37964964e-04 9.99059120e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
80% (881 of 1101) |#####| Elapsed Time:
invalid speed 1.07271056427 -1.20405392312
[[ 0.99961879 -0.00193587 -0.02754121 -0.44764481]
[ 0.00187019 0.99999535 -0.00241042 0.0568627 ]
[ 0.02754575 0.00235799 0.99961776 -0.83188425]
[ 0. 0. 0. 1. ]]
80% (883 of 1101) |#####| Elapsed Time:
invalid speed 2.03614051147 -1.44003786182
[[ 0.99932852 0.00519149 -0.03627065 -0.39519111]
[-0.00531218 0.99998067 -0.00323185 -0.02469644]
[ 0.03625317 0.00342235 0.99933678 -1.23495911]
[ 0. 0. 0. 1. ]]
80% (884 of 1101) |#####| Elapsed Time:
invalid speed 0.0502119685206 -1.07723761811
[[ 0.99966172 0.00410652 -0.02568248 -0.14639471]
[-0.0042002 0.99998472 -0.00359474 0.06285827]
[ 0.02566733 0.0037014 0.99966369 -0.30142516]
[ 0. 0. 0. 1. ]]
80% (885 of 1101) |#####| Elapsed Time:
invalid speed 0.0429875877073 -0.788310793094
[[ 0.99961373 0.00441455 -0.02743914 -0.11698486]
[-0.0045022 0.99998496 -0.00313329 0.01476416]
[ 0.02742489 0.00325561 0.99961857 -0.16746956]
[ 0. 0. 0. 1. ]]
80% (889 of 1101) |#####| Elapsed Time:
invalid speed 0.00280014282058 -1.07108736795
[[ 9.95065141e-01 4.18540981e-03 -9.91355033e-02 1
[ -3.85596994e-03 9.99986390e-01 3.51449843e-03 -1.
[ 9.91488636e-02 -3.11489135e-03 9.95067737e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
80% (891 of 1101) |#####| Elapsed Time:
invalid speed 0.121485156047 -1.47197325962
[[ 9.97611949e-01 7.00620814e-03 -6.87118109e-02 9
[ -7.24207359e-03 9.99968706e-01 -3.18417238e-03 7.
[ 6.86873517e-02 3.67418440e-03 9.97631469e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
81% (896 of 1101) |#####| Elapsed Time:
invalid speed 2.81278720424 -1.61052025672
[[ 9.85878728e-01 -2.91017595e-03 -1.67435554e-01 3
[ 1.97252326e-03 9.99981430e-01 -5.76611816e-03 4.
[ 1.67449225e-01 5.35442271e-03 9.85866161e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
81% (900 of 1101) |#####| Elapsed Time:
invalid speed 1.3165128295 -1.70129612847

```

```

[[ 9.92774272e-01  1.69732109e-02 -1.18790384e-01 -6.
[ -1.62209208e-02  9.99841805e-01  7.29699638e-03 -9.
[ 1.18895445e-01 -5.31738087e-03  9.92892541e-01 -5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
82% (907 of 1101) |#####| Elapsed Time:
invalid speed 3.22912790727 -1.59075556048
[[ 9.79714639e-01  3.90875819e-03 -2.00359545e-01 -1.
[ -2.19234534e-03  9.99958983e-01  8.78782710e-03 -5.
[ 2.00385676e-01 -8.17030554e-03  9.79683024e-01 -7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
82% (909 of 1101) |#####| Elapsed Time:
invalid speed 0.510930026882 -1.61262408606
[[ 0.99695477  0.00494186 -0.07782519 -1.03057583]
[-0.00469702  0.99998343  0.00332877 -0.41822355]
[ 0.07784035 -0.00295309  0.99696146 -2.75408801]
[ 0.          0.          0.          1.          ]]
82% (912 of 1101) |#####| Elapsed Time:
invalid speed 1.66098356488 -1.68624686746
[[ 9.94576267e-01  1.43927425e-03 -1.03999888e-01 -1.
[ -1.12592997e-03  9.99994649e-01  3.07157368e-03 -7.
[ 1.04003752e-01 -2.93781769e-03  9.94572566e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
83% (916 of 1101) |#####| Elapsed Time:
invalid speed -2.00756237657 -1.57157472313
[[ 9.90930338e-01  6.11485537e-03 -1.34237380e-01  1.
[ -5.70719507e-03  9.99977861e-01  3.42145568e-03  2.
[ 1.34255330e-01 -2.62430532e-03  9.90943298e-01 -8.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
83% (919 of 1101) |#####| Elapsed Time:
invalid speed -2.00991090959 -1.64628249547
[[ 9.94109870e-01  6.25365596e-03 -1.08196383e-01  4.
[ -5.90470375e-03  9.99976283e-01  3.54525121e-03  1.
[ 1.08215987e-01 -2.88550164e-03  9.94123219e-01 -6.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
83% (920 of 1101) |#####| Elapsed Time:
invalid speed -2.64035081711 -1.6101927306
[[ 0.99762603  0.00672425 -0.06853535  2.82034914]
[-0.0061853  0.99994828  0.0080729 -0.73084381]
[ 0.06858609 -0.00762982  0.99761603 -4.17836402]
[ 0.          0.          0.          1.          ]]
83% (922 of 1101) |#####| Elapsed Time:
invalid speed -2.18920092974 -1.65865141682
[[ 0.99529809  0.00920559 -0.09642084  3.59616889]
[-0.00829241  0.99991693  0.00986726 -0.91770528]
[ 0.09650366 -0.00902131  0.99529175 -5.52980612]
[ 0.          0.          0.          1.          ]]
84% (926 of 1101) |#####| Elapsed Time:
invalid speed -2.16635031371 -1.73035423159
[[ 9.89528164e-01  9.07944142e-03 -1.44054071e-01  3.
[ -7.33133473e-03  9.99892966e-01  1.26612695e-02 -1.

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[ 1.44153610e-01 -1.14725741e-02 9.89488816e-01 -9.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
84% (931 of 1101) |#####| Elapsed Time:
invalid speed 18.2554208192 -1.65984235503
[[ 9.85152318e-01 -5.88207527e-03 -1.71581790e-01 1
[ 6.14867150e-03 9.99980574e-01 1.02235199e-03 1.
[ 1.71572443e-01 -2.06217249e-03 9.85169348e-01 9.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
84% (934 of 1101) |#####| Elapsed Time:
invalid speed -2.40206106154 -1.50136404865
[[ 9.93667154e-01 3.23799166e-03 -1.12316971e-01 5
[ -3.00124828e-03 9.99992904e-01 2.27683176e-03 2.
[ 1.12323546e-01 -1.92532182e-03 9.93669821e-01 -7.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
85% (937 of 1101) |#####| Elapsed Time:
invalid speed 3.86210791459 -1.53653181621
[[ 9.92606391e-01 5.52630775e-04 -1.21376466e-01 1
[ -2.89724715e-04 9.99997574e-01 2.18367562e-03 -2.
[ 1.21377378e-01 -2.13236462e-03 9.92604143e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
85% (940 of 1101) |#####| Elapsed Time:
invalid speed 1.55804008742 -1.5723868522
[[ 9.91368699e-01 1.34491356e-03 -1.31096507e-01 3
[ -7.58942458e-04 9.99989498e-01 4.51962952e-03 -3.
[ 1.31101208e-01 -4.38112453e-03 9.91359309e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
85% (944 of 1101) |#####| Elapsed Time:
invalid speed 1.39793067944 -1.76918244846
[[ 9.87756454e-01 -2.65453378e-04 -1.56003578e-01 2
[ 9.49060866e-04 9.99990272e-01 4.30753069e-03 -7.
[ 1.56000917e-01 -4.40284813e-03 9.87747098e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
86% (948 of 1101) |#####| Elapsed Time:
invalid speed 1.78195558358 -1.55837106595
[[ 9.86967138e-01 -1.18592523e-03 -1.60917565e-01 2
[ 2.32407439e-03 9.99973599e-01 6.88483653e-03 -8.
[ 1.60905152e-01 -7.16909180e-03 9.86943836e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
86% (952 of 1101) |#####| Elapsed Time:
invalid speed -2.9023865142 -1.20111850241
[[ 9.88469440e-01 5.76234842e-03 -1.51310811e-01 8
[ -5.19449140e-03 9.99977906e-01 4.14791978e-03 1.
[ 1.51331369e-01 -3.31410924e-03 9.88477533e-01 -8.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
86% (953 of 1101) |#####| Elapsed Time:
invalid speed -2.20924854601 -1.24648164268
[[ 9.98254633e-01 2.64367637e-03 -5.89974411e-02 -6
[ -2.37820948e-03 9.99986732e-01 4.56939596e-03 5.
[ 5.90087383e-02 -4.42111241e-03 9.98247676e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.

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86% (956 of 1101) |#####| Elapsed Time:
invalid speed 1.25898887017 -1.55630420067
[[ 9.90739661e-01 -3.13947986e-03 -1.35738969e-01 2
[ 4.80160155e-03 9.99917434e-01 1.19193218e-02 -1.
[ 1.35690341e-01 -1.24607092e-02 9.90672934e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
86% (957 of 1101) |#####| Elapsed Time:
invalid speed -2.28295585224 -1.07967409653
[[ 9.98034337e-01 4.68296899e-04 -6.26677111e-02 5
[ -4.89700016e-04 9.9999827e-01 -3.26174565e-04 -6.
[ 6.26675475e-02 3.56221795e-04 9.98034394e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
87% (958 of 1101) |#####| Elapsed Time:
invalid speed 2.77555792801 -1.30326448905
[[ 0.99792197 0.006193 -0.06413565 0.6962666 ]
[-0.00641576 0.99997408 -0.00326791 -0.10720087]
[ 0.06411375 0.0036726 0.99793584 1.02511265]
[ 0. 0. 0. 1. ]]
87% (960 of 1101) |#####| Elapsed Time:
invalid speed 1.25175138607 -1.5874939049
[[ 0.99490579 0.00442963 -0.10071172 1.75228183]
[-0.00404157 0.9999836 0.00405693 -0.35191404]
[ 0.10072804 -0.00362923 0.99490738 -2.35008237]
[ 0. 0. 0. 1. ]]
87% (962 of 1101) |#####| Elapsed Time:
invalid speed 0.650823948987 -1.62849577494
[[ 0.99531419 0.00348485 -0.09663086 1.61052099]
[-0.00278197 0.99996869 0.00740759 -0.65625679]
[ 0.09665365 -0.00710406 0.99529272 -2.68267734]
[ 0. 0. 0. 1. ]]
87% (966 of 1101) |#####| Elapsed Time:
invalid speed 4.34434995284 -1.73213317435
[[ 0.98777041 0.00894489 -0.15565864 2.41435994]
[-0.009518 0.99995039 -0.00293693 -0.28368273]
[ 0.15562465 0.00438257 0.98780654 -2.55413404]
[ 0. 0. 0. 1. ]]
88% (971 of 1101) |#####| Elapsed Time:
invalid speed -3.75112857403 -1.2647704872
[[ 9.92485238e-01 5.75842659e-03 -1.22228855e-01 5
[ -5.48511940e-03 9.99981648e-01 2.57239482e-03 2.
[ 1.22241425e-01 -1.88262402e-03 9.92498609e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
88% (974 of 1101) |#####| Elapsed Time:
invalid speed 4.95168614914 -1.67631627063
[[ 0.99819307 0.00715561 -0.05966071 0.34243434]
[-0.0069351 0.99996834 0.00390231 -0.00123874]
[ 0.05968675 -0.00348151 0.99821109 -0.47057606]
[ 0. 0. 0. 1. ]]
88% (976 of 1101) |#####| Elapsed Time:
invalid speed 3.69050844426 -1.66158766019

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[[ 9.99363176e-01  2.23310058e-03 -3.56125656e-02 -2.
[ -2.20056290e-03  9.99997125e-01  9.52827499e-04  1.
[ 3.56145910e-02 -8.73853025e-04  9.99365217e-01  3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
89% (981 of 1101) |#####| Elapsed Time:
invalid speed 3.00888454097 -1.59593226694
[[ 0.99973394  0.00168146 -0.02300476 -0.02626669]
[-0.00178468  0.99998843 -0.00446698  0.11867261]
[ 0.02299699  0.00450685  0.99972538 -0.34287579]
[ 0.          0.          0.          1.          ]]
89% (982 of 1101) |#####| Elapsed Time:
invalid speed 0.378024174817 -1.65837422403
[[ 9.99787782e-01  5.66142577e-03 -1.98075560e-02  5.
[ -5.67891367e-03  9.99983533e-01 -8.26753289e-04 -1.
[ 1.98025492e-02  9.39063237e-04  9.99803469e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
89% (983 of 1101) |#####| Elapsed Time:
invalid speed 1.21616473136 -1.41535502151
[[ 9.99947148e-01  2.75484175e-03 -9.90516586e-03  1.
[ -2.75776924e-03  9.99996158e-01 -2.81905312e-04 -2.
[ 9.90435120e-03  3.09206575e-04  9.99950903e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
89% (984 of 1101) |#####| Elapsed Time:
invalid speed 1.19845442302 -1.20780210299
[[ 0.99992833  0.00362196 -0.0114112  0.26737545]
[-0.00363609  0.99999265 -0.00121706 -0.03602141]
[ 0.01140671  0.00125847  0.99993415  0.40575816]
[ 0.          0.          0.          1.          ]]
89% (986 of 1101) |#####| Elapsed Time:
invalid speed 1.93190041108 -0.89277635178
[[ 0.99984034 -0.00120243 -0.0178285  0.40930188]
[ 0.001152  0.99999531 -0.00283879 -0.05738477]
[ 0.01783183  0.0028178  0.99983703  0.62466793]
[ 0.          0.          0.          1.          ]]
89% (987 of 1101) |#####| Elapsed Time:
invalid speed 0.642908874285 -0.859906012075
[[ 9.99978225e-01  8.61259711e-05 -6.59859868e-03 -1.
[ -9.73052327e-05  9.99998561e-01 -1.69388491e-03  2.
[ 6.59844330e-03  1.69449010e-03  9.99976794e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
89% (988 of 1101) |#####| Elapsed Time:
invalid speed 1.57588388197 -1.17108692796
[[ 0.9999862  0.00117633 -0.00512092 -0.15120543]
[-0.00118237  0.99999861 -0.00117594  0.02036328]
[ 0.00511953  0.00118198  0.9999862  -0.21756488]
[ 0.          0.          0.          1.          ]]
89% (989 of 1101) |#####| Elapsed Time:
invalid speed 1.83951723515 -1.3647589324
[[ 9.99976969e-01 -3.83204480e-04 -6.77606828e-03  5.
[ 3.77366879e-04  9.99999557e-01 -8.62760252e-04 -5.

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[ 6.77639589e-03  8.60183318e-04  9.99976670e-01  8.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
89% (990 of 1101) |#####| Elapsed Time:
invalid speed -2.67310449567 -1.22214935938
[[ 9.99986319e-01  1.54085481e-03 -4.99872899e-03  3.
[ -1.53863574e-03  9.99998716e-01  4.47741081e-04  5.
[ 4.99941248e-03 -4.40043732e-04  9.99987406e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
90% (991 of 1101) |#####| Elapsed Time:
invalid speed 0.119719138819 -0.858678171105
[[ 9.99994407e-01  1.52154227e-03 -2.97852022e-03 -7.
[ -1.52136758e-03  9.99998841e-01  6.09142879e-05  4.
[ 2.97860945e-03 -5.63825230e-05  9.99995562e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
90% (992 of 1101) |#####| Elapsed Time:
invalid speed 0.413862039214 -0.655399172162
[[ 9.99999336e-01 -4.57702429e-04 -1.05739552e-03  1.
[ 4.57154252e-04  9.99999761e-01 -5.18604769e-04 -2.
[ 1.05763263e-03  5.18121032e-04  9.99999306e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
90% (993 of 1101) |#####| Elapsed Time:
invalid speed 0.442744160337 -0.494479539143
[[ 9.99996585e-01 -6.76994535e-04 -2.52413612e-03  1.
[ 6.75700836e-04  9.99999640e-01 -5.13349047e-04 -2.
[ 2.52448274e-03  5.11641733e-04  9.99996683e-01  2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
90% (994 of 1101) |#####| Elapsed Time:
invalid speed 0.0355777569805 -0.580057337007
[[ 0.99999835 -0.00100951 -0.00150717 -0.01987637]
[ 0.00100757  0.99999866 -0.00129272  0.04317622]
[ 0.00150848  0.0012912  0.99999803 -0.71563518]
[ 0. 0. 0. 1. ]]
90% (995 of 1101) |#####| Elapsed Time:
invalid speed 0.254625737521 -0.633314421709
[[ 0.99999264 -0.0013178 -0.00360371  0.26942907]
[ 0.00131051  0.99999709 -0.00202369 -0.03260093]
[ 0.00360637  0.00201895  0.99999146 -0.48520285]
[ 0. 0. 0. 1. ]]
90% (996 of 1101) |#####| Elapsed Time:
invalid speed 1.71749404525 -1.03599237978
[[ 9.99999969e-01  1.12700634e-04 -2.21522563e-04  3.
[ -1.13213755e-04  9.99997308e-01 -2.31768821e-03 -2.
[ 2.21260761e-04  2.31771321e-03  9.99997290e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
90% (997 of 1101) |#####| Elapsed Time:
invalid speed 0.656472580177 -0.984006544568
[[ 9.99997616e-01  8.15118714e-04 -2.02586759e-03  2.
[ -8.22032040e-04  9.99993834e-01 -3.41403953e-03  3.
[ 2.02307225e-03  3.41569671e-03  9.99992120e-01 -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.

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90% (998 of 1101) |#####| Elapsed Time:
invalid speed -2.01227171819 -1.29306113578
[[ 9.99996472e-01 2.38176645e-04 -2.64571107e-03 -5.
[ -2.44538519e-04 9.99997079e-01 -2.40453579e-03 1.
[ 2.64513064e-03 2.40517428e-03 9.99993609e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
90% (1000 of 1101) |#####| Elapsed Time:
invalid speed 7.17546160385 -1.62819360416
[[ 9.99972995e-01 -7.05590574e-03 2.05504462e-03 -1.
[ 7.06594199e-03 9.99962942e-01 -4.91810058e-03 4.
[ -2.02026681e-03 4.93248859e-03 9.99985794e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
90% (1001 of 1101) |#####| Elapsed Time:
invalid speed 0.956860573072 -1.69145817466
[[ 9.99998720e-01 -3.22416295e-04 -1.56720743e-03 8.
[ 3.19765414e-04 9.99998518e-01 -1.69142425e-03 2.
[ 1.56775045e-03 1.69092094e-03 9.99997341e-01 -8.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
91% (1002 of 1101) |#####| Elapsed Time:
invalid speed 3.80529380636 -1.74417306433
[[ 9.99994332e-01 -3.35854490e-03 2.37162734e-04 -5.
[ 3.35956962e-03 9.99984405e-01 -4.46131366e-03 2.
[ -2.22175514e-04 4.46208514e-03 9.99990020e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
91% (1003 of 1101) |#####| Elapsed Time:
invalid speed -2.20106275439 -1.76246181918
[[ 9.99993721e-01 1.03275483e-03 -3.38989654e-03 1.
[ -1.04150926e-03 9.99996125e-01 -2.58175717e-03 2.
[ 3.38721708e-03 2.58527157e-03 9.99990922e-01 -4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
91% (1005 of 1101) |#####| Elapsed Time:
invalid speed 1.78372608079 -1.79308425299
[[ 9.99996861e-01 -2.38438450e-03 7.70515580e-04 -1.
[ 2.38303856e-03 9.99995641e-01 1.74303076e-03 2.
[ -7.74668277e-04 -1.74118912e-03 9.99998184e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
91% (1006 of 1101) |#####| Elapsed Time:
invalid speed -2.90706379657 -1.42847847208
[[ 9.99997221e-01 -5.19379040e-04 -2.29944804e-03 -5.
[ 5.29012366e-04 9.99991079e-01 4.19078392e-03 1.
[ 2.29725092e-03 -4.19198871e-03 9.99988575e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
91% (1007 of 1101) |#####| Elapsed Time:
invalid speed -2.31714353403 -1.14542968795
[[ 9.99997444e-01 -1.59412813e-03 -1.60354416e-03 -3.
[ 1.59790090e-03 9.99995952e-01 2.35424427e-03 9.
[ 1.59978470e-03 -2.35680056e-03 9.99995943e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed 0.060314747328 -1.34663483619
[[ 9.99982532e-01 -1.19178526e-03 -5.78931690e-03 4.

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[ 1.20212578e-03  9.99997688e-01  1.78298627e-03 -1.
[ 5.78717858e-03 -1.78991461e-03  9.99981652e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
91% (1010 of 1101) |##### | Elapsed Time:
invalid speed 3.53737381171 -1.56323107174
[[ 0.99993401 -0.00120781 -0.01142439  0.15874509]
[ 0.00117921  0.99999615 -0.00251023 -0.02855099]
[ 0.01142738  0.00249659  0.99993159  0.06313649]
[ 0.          0.          0.          1.          ]]
91% (1011 of 1101) |##### | Elapsed Time:
invalid speed 1.05527771156 -1.60422901329
[[ 0.99994412 -0.00172012 -0.01043093  0.03664718]
[ 0.00170296  0.99999718 -0.00165381  0.05437679]
[ 0.01043374  0.00163596  0.99994423 -0.63094718]
[ 0.          0.          0.          1.          ]]
91% (1012 of 1101) |##### | Elapsed Time:
invalid speed 1.63344245619 -1.5980517289
[[ 0.99983195 -0.00428904 -0.01782341  0.4532732 ]
[ 0.00425804  0.99998936 -0.00177659  0.03504883]
[ 0.01783084  0.0017004  0.99983957  0.0477453 ]
[ 0.          0.          0.          1.          ]]
92% (1013 of 1101) |##### | Elapsed Time:
invalid speed 0.911740669551 -1.60534611235
[[ 9.99654860e-01 -4.27805252e-03 -2.59202591e-02  8.
[ 4.26661925e-03  9.99990775e-01 -4.96383535e-04 -1.
[ 2.59221436e-02  3.85620336e-04  9.99663890e-01 -7.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
92% (1014 of 1101) |##### | Elapsed Time:
invalid speed 1.35526547931 -1.58387819185
[[ 9.99575534e-01 -8.24024693e-04 -2.91216812e-02  4.
[ 8.16596271e-04  9.99999631e-01 -2.66974101e-04  1.
[ 2.91218904e-02  2.43080123e-04  9.99575838e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
92% (1016 of 1101) |##### | Elapsed Time:
invalid speed 2.4891053711 -1.4507094549
[[ 0.9992647 -0.00270278 -0.0382459  0.91701477]
[ 0.00262691  0.99999448 -0.00203395 -0.03999826]
[ 0.03825119  0.00193198  0.99926629 -0.40286244]
[ 0.          0.          0.          1.          ]]
92% (1018 of 1101) |##### | Elapsed Time:
invalid speed 1.59082461878 -0.798534936787
[[ 0.99898001 -0.0038295 -0.04499186  0.34126796]
[ 0.00374605  0.9999911 -0.00193888  0.14975501]
[ 0.04499888  0.00176836  0.99898547  1.03784751]
[ 0.          0.          0.          1.          ]]
92% (1019 of 1101) |##### | Elapsed Time:
invalid speed -2.48321630422 -0.821929684549
[[ 9.99419332e-01  1.82862842e-04 -3.40729491e-02  6.
[ -7.88055769e-05  9.99995330e-01  3.05527328e-03  5.
[ 3.40733487e-02 -3.05081404e-03  9.99414678e-01 -3.

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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
92% (1020 of 1101) |##### | Elapsed Time:
invalid speed 1.08381031974 -0.951164625995
[[ 9.99250336e-01 1.57607362e-05 -3.87139004e-02 2.
[ 8.11610833e-05 9.99996867e-01 2.50196765e-03 6.
[ 3.87138186e-02 -2.50323408e-03 9.99247204e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
92% (1021 of 1101) |##### | Elapsed Time:
invalid speed 1.57238966576 -1.16708892533
[[ 0.99917591 -0.00374924 -0.04041585 -0.00147559]
[ 0.00381843 0.99999137 0.00163507 0.00139379]
[ 0.04040938 -0.00178805 0.99918161 -0.02654786]
[ 0. 0. 0. 1. ]]
92% (1023 of 1101) |##### | Elapsed Time:
invalid speed 1.39660061357 -1.40278156298
[[ 9.97825668e-01 1.95724430e-03 -6.58794803e-02 1.
[ -1.84209193e-03 9.99996668e-01 1.80862331e-03 -2.
[ 6.58828007e-02 -1.68333471e-03 9.97825948e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
93% (1026 of 1101) |##### | Elapsed Time:
invalid speed -2.17215555603 -1.42418981756
[[ 9.94749054e-01 3.57553333e-03 -1.02281648e-01 3.
[ -3.34638685e-03 9.99991492e-01 2.41184778e-03 1.
[ 1.02289402e-01 -2.05690934e-03 9.94752556e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
93% (1030 of 1101) |##### | Elapsed Time:
invalid speed -4.53913591114 -1.4919274392
[[ 9.89263475e-01 1.31677930e-02 -1.45548567e-01 9.
[ -1.21463636e-02 9.99894989e-01 7.90427838e-03 4.
[ 1.45637365e-01 -6.05152808e-03 9.89319532e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
93% (1031 of 1101) |##### | Elapsed Time:
invalid speed -2.28990141911 -1.49011180389
[[ 9.98110903e-01 4.90241807e-03 -6.12420816e-02 -2.
[ -4.87599823e-03 9.99987944e-01 5.80841912e-04 1.
[ 6.12441907e-02 -2.81128363e-04 9.98122773e-01 -3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
94% (1035 of 1101) |##### | Elapsed Time:
invalid speed -2.61469826019 -1.37321090845
[[ 9.85734435e-01 5.15790500e-03 -1.68229068e-01 6.
[ -4.54496915e-03 9.99981558e-01 4.02830073e-03 1.
[ 1.68246744e-01 -3.20623882e-03 9.85739699e-01 -7.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
94% (1036 of 1101) |##### | Elapsed Time:
invalid speed -2.24024880216 -1.41241196148
[[ 0.99743414 0.00434366 -0.07145813 0.19301664]
[-0.00392686 0.99997446 0.00597216 0.07877545]
[ 0.07148225 -0.00567623 0.99742572 -3.73106287]
[ 0. 0. 0. 1. ]]
94% (1037 of 1101) |##### | Elapsed Time:

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invalid speed -2.01642544032 -1.4367745407
[[ 9.97418916e-01  4.33598795e-03 -7.16708089e-02  2.
[ -4.16398051e-03  9.99988081e-01  2.54920176e-03  9.
[ 7.16810080e-02 -2.24418620e-03  9.97425083e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
94% (1038 of 1101) |##### | Elapsed Time:
invalid speed 0.5806158396 -1.44850097708
[[ 9.97373209e-01  3.02566540e-03 -7.23707693e-02 -1.
[ -2.98117922e-03  9.99995295e-01  7.22707191e-04  8.
[ 7.23726155e-02 -5.05058556e-04  9.97377536e-01 -8.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
94% (1043 of 1101) |##### | Elapsed Time:
invalid speed 3.1667141951 -1.50937006114
[[ 9.94079535e-01  1.44463194e-03 -1.08645257e-01  2.
[ -8.86337117e-04  9.99986156e-01  5.18681042e-03  9.
[ 1.08651246e-01 -5.05980577e-03  9.94067053e-01 -3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
95% (1046 of 1101) |##### | Elapsed Time:
invalid speed 1.98161815399 -1.20620905557
[[ 0.99722089  0.00879604 -0.07398056  0.34298227]
[-0.0085376  0.9999563  0.00380886 -0.02063411]
[ 0.07401083 -0.00316666  0.99725241  1.4237418 ]
[ 0. 0. 0. 1. ]]
95% (1048 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
38 1.92138346871 [[ 9.99247630e-01  5.68675487e-03 -3.
[ -5.63401852e-03  9.99983030e-01  1.48258662e-03 -8.
[ 3.83722864e-02 -1.26532482e-03  9.99262711e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
95% (1051 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
32 0.014736320401 [[ 0.99925683 -0.00573511 -0.03811681
[ 0.00599383  0.99995975  0.00667673 -0.08493298]
[ 0.03807699 -0.00690024  0.99925098  0.01473632]
[ 0. 0. 0. 1. ]]
95% (1052 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
25 0.504767353348 [[ 9.99400569e-01  1.60083142e-03 -3.
[ -1.57150029e-03  9.99998382e-01  8.75317396e-04 -4.
[ 3.45837012e-02 -8.20446521e-04  9.99401468e-01  5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
95% (1054 of 1101) |##### | Elapsed Time:
invalid speed 2.45873288107 -0.727639141815
[[ 9.95932791e-01  3.59800436e-03 -9.00273875e-02 -1.
[ -3.63062718e-03  9.99993390e-01 -1.98607222e-04 -3.
[ 9.00260778e-02  5.24655325e-04  9.95939270e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
96% (1057 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
16 -4.18920172446 [[ 0.99969098  0.02347337 -0.00818227 -

```



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[-0.02324859  0.99937681  0.02656131 -0.4904426 ]
[ 0.00880066 -0.02636288  0.9996137  -4.18920172]
[ 0.          0.          0.          1.          ]]
96% (1058 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
18 -0.610027744766 [[ 9.98931932e-01  5.92753393e-03 -
[ -5.96731984e-03  9.99981928e-01 -7.31480406e-04 -2.
[ 4.58190713e-02  1.00414700e-03  9.98949250e-01 -6.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
96% (1059 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
19 -2.03168851573 [[ 0.9997967  0.01665947  0.01135909 -
[-0.01659605  0.99984629 -0.00565451  0.26482225]
[-0.01145154  0.00546484  0.9999195  -2.03168852]
[ 0.          0.          0.          1.          ]]
invalid speed -3.86433306211 -1.76675084956
[[ 0.99817588 -0.02828824 -0.0533357  -0.52420619]
[ 0.02878637  0.99954864  0.00859441 -0.47269225]
[ 0.0530685  -0.01011407  0.99853965 -3.86433306]
[ 0.          0.          0.          1.          ]]
96% (1061 of 1101) |##### | Elapsed Time:
invalid speed -5.33429678439 -1.51143301638
[[ 0.9980705  -0.04373394 -0.04407511 -2.02423715]
[ 0.04549408  0.99817321  0.03975602 -0.55353166]
[ 0.04225591 -0.04168446  0.99823687 -8.11159376]
[ 0.          0.          0.          1.          ]]
96% (1062 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
19 -2.1236342067 [[ 9.99392742e-01  -7.09376010e-04  -3.
[ 1.12700320e-03  9.99927725e-01  1.19697238e-02  6.
[ 3.48263934e-02  -1.20017169e-02  9.99321310e-01  -2.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
96% (1064 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
11 -0.461284147996 [[ 0.8875358  -0.46038513  0.01804802
[ 0.45938953  0.88126192 -0.11107962 -0.55153888]
[ 0.03523438  0.10687821  0.99364762 -0.46128415]
[ 0.          0.          0.          1.          ]]
96% (1065 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
6 -1.83497655319 [[ 0.99958279  0.00696306 -0.02803153 -(
[-0.00677177  0.99995318  0.00691305 -0.33255829]
[ 0.02807835 -0.00672035  0.99958313 -1.83497655]
[ 0.          0.          0.          1.          ]]
96% (1066 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
13 -0.145231142344 [[ 0.99955557 -0.00596988 -0.02920668
[ 0.00585918  0.99997533 -0.00387448 -0.02543813]
[ 0.02922909  0.00370163  0.99956588 -0.14523114]
[ 0.          0.          0.          1.          ]]
```

```
96% (1067 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
13 -0.50472398978 [[ 0.99945493  0.00355502 -0.03282094 -
[-0.00338437  0.99998047  0.00525369 -0.1505094 ]
[ 0.03283898 -0.00513975  0.99944744 -0.50472399]
[ 0.          0.          0.          1.          ]]
97% (1068 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
9 -1.71477675342 [[ 9.99414119e-01  4.78198207e-04 -3.
[-2.69716124e-04  9.99981381e-01  6.09629182e-03  2.
[ 3.42249182e-02 -6.08348973e-03  9.99395640e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
97% (1069 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
4 -0.177644495031 [[ 0.99948473 -0.00618583 -0.03149628 -
[ 0.006284  0.9999757  0.00301889 -0.04535768]
[ 0.03147684 -0.00321526  0.99949931 -0.1776445 ]
[ 0.          0.          0.          1.          ]]
97% (1070 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
6 4.53552686977e-05 [[ 9.99529694e-01 -2.84073287e-04
[ 4.47634560e-04  9.99985710e-01  5.32716979e-03  3.
[ 3.06625127e-02 -5.33839087e-03  9.99515539e-01  4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
97% (1071 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
1 4.53552686977e-05 [[ 9.99529694e-01 -2.84073287e-04
[ 4.47634560e-04  9.99985710e-01  5.32716979e-03  3.
[ 3.06625127e-02 -5.33839087e-03  9.99515539e-01  4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
97% (1072 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
9 -0.222170259227 [[ 0.99940828  0.00801747 -0.03344861 -
[-0.00791384  0.99996347  0.00322946 -0.40127459]
[ 0.03347328 -0.00296284  0.99943522 -0.22217026]
[ 0.          0.          0.          1.          ]]
97% (1073 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
2 -0.222170259227 [[ 0.99940828  0.00801747 -0.03344861 -
[-0.00791384  0.99996347  0.00322946 -0.40127459]
[ 0.03347328 -0.00296284  0.99943522 -0.22217026]
[ 0.          0.          0.          1.          ]]
97% (1074 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
2 -0.222170259227 [[ 0.99940828  0.00801747 -0.03344861 -
[-0.00791384  0.99996347  0.00322946 -0.40127459]
[ 0.03347328 -0.00296284  0.99943522 -0.22217026]
[ 0.          0.          0.          1.          ]]
97% (1075 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
```

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9 -1.82070398635 [[ 9.99546012e-01 -1.38555207e-03 -3.
[ 1.41945809e-03 9.99998382e-01 1.10520840e-03 5.
[ 3.00957733e-02 -1.14742858e-03 9.99546361e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
97% (1076 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
13 -0.976800971461 [[ 9.99545249e-01 -1.26896180e-04 -
[ 1.01443248e-04 9.99999637e-01 -8.45619219e-04 9.
[ 3.01543516e-02 8.42175728e-04 9.99544899e-01 -9.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
97% (1077 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
10 -0.0849325410312 [[ 0.99964129 0.00344724 -0.02655941
[-0.0034022 0.9999927 0.00174082 0.00866414]
[ 0.02656521 -0.00164984 0.99964572 -0.08493254]
[ 0. 0. 0. 1. ]]
97% (1078 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
12 -2.23915719334 [[ 9.99690385e-01 -7.68119397e-05 -2.
[ 5.09109396e-05 9.99999456e-01 -1.04157236e-03 4.
[ 2.48823715e-02 1.03998309e-03 9.99689845e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
98% (1079 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
12 -16.4773061113 [[ 9.99626604e-01 -1.22314990e-02 -2.
[ 1.19883941e-02 9.99877418e-01 -1.00710942e-02 2.
[ 2.45546705e-02 9.77440350e-03 9.99650704e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
98% (1080 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
16 -9.62107555849 [[ 9.99614274e-01 -1.32447250e-03 -2.
[ 1.32685021e-03 9.99999117e-01 6.73044426e-05 8.
[ 2.77406354e-02 -1.04086300e-04 9.99615149e-01 -9.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
98% (1081 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
13 -5.17511669144 [[ 9.98965055e-01 -6.84021372e-04 -4.
[ 7.92115717e-04 9.99996904e-01 2.35881061e-03 2.
[ 4.54773809e-02 -2.39239410e-03 9.98962504e-01 -5.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
98% (1082 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
13 -6.57982468501 [[ 9.99869558e-01 3.74315414e-03 -1.
[ -3.71727529e-03 9.99991686e-01 1.67599686e-03 9.
[ 1.57177630e-02 -1.61737382e-03 9.99875160e-01 -6.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
98% (1083 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
10 9.06497836282 [[ 0.99953989 0.02784492 -0.01202745 -6.
[-0.027664 0.9995054 0.01495522 -0.74244445]

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[ 0.01243793 -0.01461562  0.99981582  9.06497836]
[ 0.          0.          0.          1.          ]]
98% (1084 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
10 15.0666562922 [[ 0.99961899 -0.02203599 -0.01662202
[ 0.0216891  0.99954903 -0.02076835  1.20204015]
[ 0.01707217  0.02039992  0.99964613  15.06665629]
[ 0.          0.          0.          1.          ]]
98% (1085 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
10 3.65146346101 [[ 3.98648576e-01 -8.47893286e-01  3.
[ 6.71518140e-01  1.03115325e-02 -7.40916365e-01  1.
[ 6.24614042e-01  5.30066645e-01  5.73486400e-01  3.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
98% (1086 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
10 11.1653729554 [[ 9.99992302e-01 -1.25732755e-03 -3.
[ 1.25189674e-03  9.99998146e-01 -1.46306807e-03 -7.
[ 3.71876247e-03  1.45840360e-03  9.99992022e-01  1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
98% (1088 of 1101) |##### | Elapsed Time:
invalid speed 1.56121178649 2.30024889781
[[ 9.99859374e-01  4.44662220e-03 -1.61697143e-02  2
[ -4.45337789e-03  9.99990011e-01 -3.81815688e-04 -4.
[ 1.61678550e-02  4.53771843e-04  9.99869189e-01  5.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
99% (1090 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
11 4.3342947925 [[ 9.99923277e-01  4.95850467e-03 -1.1
[ -4.96696243e-03  9.99987408e-01 -7.17016842e-04 -5.
[ 1.13476664e-02  7.73343632e-04  9.99935314e-01  4.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
99% (1091 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
9 -1.52314645467 [[ 9.99995970e-01 -2.08292353e-03 -1.
[ 2.08056013e-03  9.99997084e-01 -1.22618547e-03  1.
[ 1.93187600e-03  1.22216644e-03  9.99997387e-01 -1.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
99% (1092 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
17 -0.874154710764 [[ 0.99999485 -0.00302654 -0.00106451
[ 0.00302541  0.99999486 -0.00105959  0.1009621 ]
[ 0.00106771  0.00105636  0.99999887 -0.87415471]
[ 0.          0.          0.          1.          ]]
invalid speed 6.85695290509 0.393688792277
[[ 9.99999954e-01 -1.88641903e-04 -2.35616395e-04 -1
[ 1.88068110e-04  9.99997023e-01 -2.43294019e-03  9.
[ 2.36074648e-04  2.43289577e-03  9.99997013e-01  6.
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.
99% (1093 of 1101) |##### | Elapsed Time:

```

```

invalid speed 0.269527468565 0.184152177866
[[ 9.99995837e-01 -2.82184044e-03 -6.02065092e-04 -4.
[ 2.81777909e-03 9.99973964e-01 -6.64316678e-03 4.
[ 6.20795373e-04 6.64144264e-03 9.99977753e-01 3.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
99% (1094 of 1101) |##### | Elapsed Time:
invalid speed 2.69492823377 -0.22641476611
[[ 9.99997165e-01 -1.80898060e-03 1.54861181e-03 8.
[ 1.81843484e-03 9.99979586e-01 -6.12548873e-03 -2.
[ -1.53749931e-03 6.12828741e-03 9.99980040e-01 1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
99% (1095 of 1101) |##### | Elapsed Time:
invalid speed 0.934301380636 -0.363841283578
[[ 9.99998793e-01 1.44458464e-03 5.71572119e-04 -5.
[ -1.44336503e-03 9.99996693e-01 -2.12846842e-03 -1.
[ -5.74644982e-04 2.12764087e-03 9.99997571e-01 2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
99% (1096 of 1101) |##### | Elapsed Time:
invalid speed 0.605018062724 -0.491419166074
[[ 9.99993854e-01 3.31547226e-03 1.13960543e-03 -2.
[ -3.31654408e-03 9.99994059e-01 9.39923144e-04 4.
[ -1.13648237e-03 -9.43696920e-04 9.99998909e-01 -1.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
99% (1097 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
24 0.405163298885 [[ 9.99998695e-01 -1.11356337e-04 1.
[ 1.12577668e-04 9.99999707e-01 -7.57637762e-04 7.
[ -1.61178877e-03 7.57818234e-04 9.99998414e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
invalid speed -2.29126141151 -0.192558344421
[[ 9.99996183e-01 2.64321783e-03 8.04485759e-04 -6.
[ -2.64607219e-03 9.99990134e-01 3.56792085e-03 -2.
[ -7.95047030e-04 -3.57003596e-03 9.99993311e-01 -2.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
99% (1100 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
10 0.489831631157 [[ 9.99997251e-01 2.12379395e-03 9.
[ -2.12545771e-03 9.99996335e-01 1.67702919e-03 -2.
[ -9.89682800e-04 -1.67913568e-03 9.99998101e-01 4.
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.
100% (1101 of 1101) |##### | Elapsed Time:
WARNING: invalid pose estimation
12 0.00703872045174 [[ 0.99999532 -0.0026087 0.00160127
[ 0.00261792 0.99997984 -0.00578476 0.00335321]
[-0.00158614 0.00578892 0.99998199 0.00703872]
[ 0. 0. 0. 1. ]]

```

Run1

speed < -2 or speed > C  
rotation > 0.2  
#os.environ['STEREO\_C  
#os.environ['SEQUENC  
#os.environ['PATCH\_SI  
points\_left < 10 or inva

: 0:00:09 ETA: 0:33:53

0% (5 of 1101)  
invalid speed key  
[[ 0.97477079 0  
[-0.00251859 0.  
[ 0.22319402 -0.  
[ 0. 0.

: 0:00:23 ETA: 0:14:17

2% (32 of 1101)  
invalid speed key  
[[ 0.98742278 -0  
[ 0.03668748 0.  
[ 0.15378648 -0.  
[ 0. 0.

-4.59560289e-02 -2.08941232e-02]  
.17438652e-03]  
.00338852e+00]  
.00000000e+00]]

3% (36 of 1101)  
invalid speed key  
[[ 0.99758151  
[ 0.01946682  
[ 0.06672463 -  
[ 0.

5.39715736e-02]  
.22341005e-02]  
.08640786e+00]  
.00000000e+00]]

: 0:00:26 ETA: 0:18:26

3% (44 of 1101)  
invalid speed key  
[[ 9.87459801e-  
[ -3.01028341e-0  
[ 1.54974066e-0  
[ 0.00000000e+0

-4.64852676e-02 -1.64516709e-02]  
.21980523e-02]  
.00517670e+00]  
.00000000e+00]]

4% (49 of 1101)  
invalid speed key  
[[ 0.99775973 0  
[-0.01093439 0.  
[ 0.06599972 -0.  
[ 0. 0.

3.86356017e-02]  
.24173737e-02]  
.04236293e+00]  
.00000000e+00]]

: 0:00:38 ETA: 0:16:23

4% (53 of 1101)  
invalid speed key  
[[ 9.99663598e-  
[ -8.56322602e-0  
[ 2.44818840e-0  
[ 0.00000000e+0

1.16544995e-01]  
.61644327e-01]  
.36437807e+00]  
.00000000e+00]]

: 0:00:44 ETA: 0:23:47

5% (60 of 1101)  
invalid speed key  
[[ 9.99968011e-

```

[ 7.99681069e-0
[ 1.65404018e-0
[ 0.00000000e+0
5% (61 of 1101)
invalid speed key
[[ 9.99989001e-
[ 1.19996905e-0
[ 4.53413246e-0
[ 0.00000000e+0
5% (64 of 1101)
invalid speed key
[[ 9.99794397e-
[ 2.15686308e-0
[ -2.01621374e-0
[ 0.00000000e+0
6% (68 of 1101)
invalid speed key
[[ 0.99983147 0
[-0.01777641 0.
[-0.00458665 0.
[ 0. 0.
7% (84 of 1101)
invalid speed key
[[ 9.99700995e-
[ 1.75602020e-0
[ 2.43892728e-0
[ 0.00000000e+0
7% (88 of 1101)
invalid speed key
[[ 9.99644278e-
[ -1.97742388e-0
[ 1.78968356e-0
[ 0.00000000e+0
8% (92 of 1101)
invalid speed key
[[ 0.99976084 0
[-0.0079312 0.
[ 0.02038027 -0.
[ 0. 0.
8% (95 of 1101)
invalid speed key
[[ 9.99564112e-
[ 1.21651011e-0
[ 2.68997413e-0
[ 0.00000000e+0
9% (103 of 1101)
WARNING: invalid
101 102 14 -2.222
[ -1.78694929e-0
[ 4.08836328e-0

```

```
[ 0.00000000e+0
9% (104 of 1101
WARNING: invalid
102 103 9 -1.3666
[ 1.12502668e-0
[ -3.54720438e-0
[ 0.00000000e+0
9% (107 of 1101
invalid speed key
[[ 0.99852031 0
[-0.04454669 0.
[ 0.03118938 0.
[ 0. 0.
9% (108 of 1101
invalid speed key
[[ 0.9999604 -0
[ 0.0038278 0.
[ 0.00803468 0.
[ 0. 0.
10% (112 of 1101
WARNING: invalid
110 111 16 54.210
[ 9.28112468e-0
[ 3.67773052e-0
[ 0.00000000e+0
10% (113 of 1101
WARNING: invalid
111 112 9 2.23591
[ 1.37814403e-0
[ 2.70130654e-0
[ 0.00000000e+0
10% (117 of 1101
invalid speed key
[[ 9.99925623e-
[ -3.05373782e-0
[ 1.18077290e-0
[ 0.00000000e+0
10% (121 of 1101
invalid speed key
[[ 9.99736269e-
[ 3.69815245e-0
[ 2.26653053e-0
[ 0.00000000e+0
11% (130 of 1101
invalid speed key
[[ 9.99830171e-
[ 6.20205009e-0
[ 1.73540414e-0
[ 0.00000000e+0
12% (135 of 1101
```



```
invalid speed key
[[ 0.99980814 -0
[ 0.01862163 0.
[ 0.00607652 0.
[ 0. 0.
12% (138 of 1101
invalid speed key
[[ 9.99853470e-
[ 1.82048095e-0
[ 1.71173993e-0
[ 0.00000000e+0
12% (142 of 1101
invalid speed key
[[ 9.99192741e-
[ -1.93119497e-0
[ 3.52266100e-0
[ 0.00000000e+0
14% (156 of 1101
invalid speed key
[[ 9.99714963e-
[ 2.90566561e-0
[ 2.36970226e-0
[ 0.00000000e+0
14% (158 of 1101
invalid speed key
[[ 0.99960217 0
[-0.01037021 0.
[-0.02622902 -0.
[ 0. 0.
15% (170 of 1101
invalid speed key
[[ 9.99947130e-
[ -9.83961618e-0
[ 2.98655243e-0
[ 0.00000000e+0
15% (173 of 1101
invalid speed key
[[ 0.99968324 -0
[ 0.01289417 0.
[ 0.02161394 0.
[ 0. 0.
15% (176 of 1101
invalid speed key
[[ 9.99661828e-
[ 2.56507949e-0
[ -4.27399813e-0
[ 0.00000000e+0
16% (182 of 1101
invalid speed key
[[ 9.99587616e-
```

```
[ 2.61973692e-0
[ -1.17599125e-0
[ 0.00000000e+0
16% (184 of 1101
invalid speed key
[[ 9.99802296e-
[ 1.98556284e-0
[ 1.05963308e-0
[ 0.00000000e+0
16% (187 of 1101
invalid speed key
[[ 0.99973204 0
[-0.01731488 0.
[-0.0153637 0.
[ 0. 0.
17% (191 of 1101
invalid speed key
[[ 0.99954597 0
[-0.02504167 0.
[-0.01675619 0.
[ 0. 0.
19% (215 of 1101
WARNING: invalid
213 214 13 -0.101
[ 3.02124503e-0
[ 4.61221915e-0
[ 0.00000000e+0
19% (217 of 1101
WARNING: invalid
215 216 22 -1.598
[ 0.01877829 0.
[ 0.00658233 -0.
[ 0. 0.
19% (220 of 1101
invalid speed key
[[ 0.99995164 -0
[ 0.00624191 0.
[ 0.0075993 0.
[ 0. 0.
20% (221 of 1101
invalid speed key
[[ 0.99988961 -0
[ 0.01126157 0.
[ 0.00969267 0.
[ 0. 0.
20% (225 of 1101
WARNING: invalid
223 224 22 0.0406
[-0.00474956 0.
[ 0.00354696 -0.
```

```
[ 0.          0.
20% (228 of 1101
invalid speed key
[[ 0.99957604 -0
[ 0.02168073  0.
[ 0.01943429  0.
[ 0.          0.
20% (229 of 1101
invalid speed key
[[ 0.99995834  0
[-0.00152346  0.
[ 0.00900005  0.
[ 0.          0.
21% (234 of 1101
WARNING: invalid
231 232 33 0.0926
[ -6.65183729e-0
[  6.59202785e-0
[  0.00000000e+0
21% (235 of 1101
invalid speed key
[[ 0.99997192  0
[-0.00533688  0.
[ 0.005261    0.
[ 0.          0.
21% (240 of 1101
WARNING: invalid
237 238 20 -0.043
[  1.46172239e-0
[  3.00300918e-0
[  0.00000000e+0
22% (248 of 1101
invalid speed key
[[  9.99902020e-
[  1.39961902e-0
[ -2.39157972e-0
[  0.00000000e+0
22% (252 of 1101
invalid speed key
[[ 0.99999487  0
[-0.00177271  0.
[-0.0026677   -0.
[ 0.          0.
22% (253 of 1101
invalid speed key
[[ 0.99996272 -0
[ 0.00824115  0.
[-0.002577    -0.
[ 0.          0.
23% (254 of 1101
```

```
invalid speed key
[[ 9.99600545e-
[ 2.77624732e-0
[ -5.29112218e-0
[ 0.00000000e+0
23% (258 of 1101
invalid speed key
[[ 9.99990262e-
[ -3.13897230e-0
[ -3.10206924e-0
[ 0.00000000e+0
23% (260 of 1101
invalid speed key
[[ 9.99998122e-
[ 4.73193657e-0
[ -1.93730801e-0
[ 0.00000000e+0
23% (263 of 1101
invalid speed key
[[ 0.99998571 0
[-0.00142421 0.
[ 0.00515236 -0.
[ 0. 0.
23% (264 of 1101
invalid speed key
[[ 9.99994011e-
[ -3.43295393e-0
[ 4.39027365e-0
[ 0.00000000e+0
24% (266 of 1101
invalid speed key
[[ 9.99983815e-
[ -6.18021089e-0
[ 5.65576158e-0
[ 0.00000000e+0
24% (267 of 1101
invalid speed key
[[ 0.99999227 -0
[ 0.00287669 0.
[-0.00267972 0.
[ 0. 0.
24% (268 of 1101
invalid speed key
[[ 0.99997049 -0
[ 0.00246425 0.
[ 0.00727645 0.
[ 0. 0.
24% (269 of 1101
WARNING: invalid
267 268 40 -4.302
```

```
[ 1.68944707e-0
[ -4.08844306e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99984115e-
[ 1.43560113e-0
[ -5.45060076e-0
[ 0.00000000e+0
24% (270 of 1101
invalid speed key
[[ 9.99993903e-
[ 6.08228449e-0
[ -3.43864537e-0
[ 0.00000000e+0
24% (273 of 1101
invalid speed key
[[ 0.99993952 -0
[ 0.00210703 0.
[ 0.01079459 0.
[ 0. 0.
24% (275 of 1101
invalid speed key
[[ 9.99997131e-
[ 1.77908947e-0
[ -1.60408124e-0
[ 0.00000000e+0
25% (277 of 1101
invalid speed key
[[ 9.99971322e-
[ -2.88472288e-0
[ -7.56785828e-0
[ 0.00000000e+0
25% (280 of 1101
invalid speed key
[[ 9.99992458e-
[ 2.75768607e-0
[ 2.73494544e-0
[ 0.00000000e+0
25% (281 of 1101
invalid speed key
[[ 9.99980295e-
[ 1.85984886e-0
[ -5.99593448e-0
[ 0.00000000e+0
25% (282 of 1101
invalid speed key
[[ 9.99999586e-
[ -8.06052276e-0
[ -4.21938909e-0
[ 0.00000000e+0
```

```
25% (284 of 1101
invalid speed key
[[ 9.99968585e-
[ 7.86510410e-0
[ -9.84794446e-0
[ 0.00000000e+0
25% (285 of 1101
invalid speed key
[[ 9.99934582e-
[ -1.15178152e-0
[ -1.13800476e-0
[ 0.00000000e+0
25% (286 of 1101
invalid speed key
[[ 9.9999473e-
[ 9.02907053e-0
[ 4.88623593e-0
[ 0.00000000e+0
26% (287 of 1101
invalid speed key
[[ 9.9999680e-
[ -7.88605591e-0
[ -1.35016603e-0
[ 0.00000000e+0
26% (289 of 1101
invalid speed key
[[ 9.99885465e-
[ 4.61185705e-0
[ 1.44148595e-0
[ 0.00000000e+0
26% (290 of 1101
invalid speed key
[[ 9.99988494e-
[ -2.34559456e-0
[ 4.79131064e-0
[ 0.00000000e+0
26% (292 of 1101
invalid speed key
[[ 0.99990673 0
[-0.00179697 0.
[ 0.01353928 0.
[ 0. 0.
26% (293 of 1101
invalid speed key
[[ 9.99999009e-
[ 1.10451089e-0
[ -8.73319268e-0
[ 0.00000000e+0
26% (294 of 1101
invalid speed key
```

```
[[ 9.99999708e-
[ 7.62271529e-0
[ -4.53977879e-0
[ 0.00000000e+0
26% (295 of 1101
WARNING: invalid
293 294 43 1.1133
[ -4.10314029e-0
[ -1.10126480e-0
[ 0.00000000e+0
invalid speed key
[[ 0.99998535 -0
[ 0.00501695 0.
[-0.00203185 0.
[ 0. 0.
26% (296 of 1101
invalid speed key
[[ 9.99999432e-
[ -1.39779132e-0
[ -1.05615552e-0
[ 0.00000000e+0
27% (298 of 1101
invalid speed key
[[ 9.99996640e-
[ -2.50151497e-0
[ -6.79660643e-0
[ 0.00000000e+0
27% (299 of 1101
invalid speed key
[[ 0.99990762 -0
[ 0.00630903 0.
[ 0.01203972 -0.
[ 0. 0.
27% (300 of 1101
WARNING: invalid
298 299 42 -4.520
[ -1.32137154e-0
[ 1.19147750e-0
[ 0.00000000e+0
27% (302 of 1101
WARNING: invalid
299 300 33 0.3174
[ -1.76782888e-0
[ 5.94181039e-0
[ 0.00000000e+0
27% (303 of 1101
invalid speed key
[[ 0.99989193 0
[-0.0036932 0.
[ 0.01422993 0.
```

```
[ 0.          0.
27% (306 of 1101
invalid speed key
[[ 0.99967026  0
[-0.01456779  0.
[ 0.02114593  0.
[ 0.          0.
27% (308 of 1101
invalid speed key
[[ 0.99999211  0
[-0.00355147  0.
[-0.00178001  0.
[ 0.          0.
28% (309 of 1101
invalid speed key
[[ 9.99999339e-
[ -3.91484699e-0
[ -1.08078604e-0
[ 0.00000000e+0
28% (311 of 1101
invalid speed key
[[ 0.99998929  0
[-0.00394759  0.
[ 0.00241567  0.
[ 0.          0.
28% (312 of 1101
invalid speed key
[[ 9.99998285e-
[ 7.78275526e-0
[ -1.68034778e-0
[ 0.00000000e+0
28% (314 of 1101
invalid speed key
[[ 9.99991607e-
[ 3.21424241e-0
[ -2.54043433e-0
[ 0.00000000e+0
28% (315 of 1101
invalid speed key
[[ 9.99996566e-
[ -1.09242495e-0
[ -2.38231611e-0
[ 0.00000000e+0
28% (316 of 1101
invalid speed key
[[ 9.99994019e-
[ -2.60757243e-0
[ -2.27220985e-0
[ 0.00000000e+0
28% (318 of 1101
```



```
WARNING: invalid
315 316 62 -5.004
[ -1.53685666e-0
[ -3.27885241e-0
[ 0.00000000e+0
invalid speed key
[[ 0.99998937 0
[-0.00184544 0.
[-0.00422456 0.
[ 0. 0.
28% (319 of 1101
invalid speed key
[[ 9.99993097e-
[ -2.27114109e-0
[ -2.94067687e-0
[ 0.00000000e+0
29% (320 of 1101
invalid speed key
[[ 9.99995872e-
[ 1.43606790e-0
[ -2.86967700e-0
[ 0.00000000e+0
29% (321 of 1101
invalid speed key
[[ 9.99995807e-
[ 5.58738992e-0
[ -2.84128791e-0
[ 0.00000000e+0
29% (322 of 1101
invalid speed key
[[ 9.99992835e-
[ 2.81933868e-0
[ -2.52604866e-0
[ 0.00000000e+0
29% (324 of 1101
invalid speed key
[[ 9.99981707e-
[ 4.00135367e-0
[ -4.53602979e-0
[ 0.00000000e+0
29% (325 of 1101
invalid speed key
[[ 9.99986723e-
[ 4.97753906e-0
[ -1.33343232e-0
[ 0.00000000e+0
29% (326 of 1101
invalid speed key
[[ 9.99996033e-
[ 2.60397639e-0
```

```
[ -1.07395501e-0
[ 0.00000000e+0
29% (327 of 1101
invalid speed key
[[ 9.99996231e-
[ -2.26999918e-0
[ -1.54466891e-0
[ 0.00000000e+0
29% (328 of 1101
invalid speed key
[[ 9.99999560e-
[ -8.33514604e-0
[ -4.29655114e-0
[ 0.00000000e+0
29% (329 of 1101
invalid speed key
[[ 9.99999551e-
[ 1.42307739e-0
[ -9.36832837e-0
[ 0.00000000e+0
29% (330 of 1101
invalid speed key
[[ 9.99996640e-
[ 2.59082891e-0
[ -8.77930917e-0
[ 0.00000000e+0
30% (332 of 1101
invalid speed key
[[ 9.99990881e-
[ 4.15173475e-0
[ -1.00004114e-0
[ 0.00000000e+0
30% (334 of 1101
WARNING: invalid
331 332 50 0.0596
[ -1.05033300e-0
[ -7.35253696e-0
[ 0.00000000e+0
30% (335 of 1101
invalid speed key
[[ 9.99993661e-
[ 3.45314018e-0
[ -8.68110331e-0
[ 0.00000000e+0
30% (336 of 1101
invalid speed key
[[ 0.99999618 0
[-0.00222622 0.
[-0.00163619 0.
[ 0. 0.
```

```
30% (337 of 1101
invalid speed key
[[ 9.99998484e-
[ 1.46344887e-0
[ -9.43666623e-0
[ 0.00000000e+0
30% (338 of 1101
invalid speed key
[[ 9.99996057e-
[ -5.94534608e-0
[ -2.80767778e-0
[ 0.00000000e+0
30% (339 of 1101
invalid speed key
[[ 9.9999367e-
[ 3.34993295e-0
[ -1.07448843e-0
[ 0.00000000e+0
30% (340 of 1101
invalid speed key
[[ 9.99969054e-
[ -7.31183125e-0
[ -2.90298609e-0
[ 0.00000000e+0
30% (341 of 1101
invalid speed key
[[ 0.99998756 -0
[ 0.00442185 0.
[-0.00230837 0.
[ 0. 0.
31% (342 of 1101
invalid speed key
[[ 0.99999457 -0
[ 0.00229877 0.
[-0.00236118 0.
[ 0. 0.
31% (343 of 1101
invalid speed key
[[ 9.99994591e-
[ 2.22067244e-0
[ -2.42625755e-0
[ 0.00000000e+0
31% (345 of 1101
invalid speed key
[[ 9.99988593e-
[ 2.82400029e-0
[ -3.85207545e-0
[ 0.00000000e+0
31% (346 of 1101
invalid speed key
```

```
[[ 9.99993964e-
[ 9.69130616e-0
[ -3.33670160e-0
[ 0.00000000e+0
31% (348 of 1101
invalid speed key
[[ 9.99990946e-
[ 6.43624816e-0
[ -4.25488362e-0
[ 0.00000000e+0
31% (349 of 1101
invalid speed key
[[ 0.99998757 0
[-0.00293809 0.
[-0.00402897 -0.
[ 0. 0.
31% (350 of 1101
WARNING: invalid
348 349 64 0.1545
[ -2.43675436e-0
[ -2.06087171e-0
[ 0.00000000e+0
invalid speed key
[[ 0.99999066 0
[-0.00253025 0.
[-0.00350466 0.
[ 0. 0.
31% (351 of 1101
WARNING: invalid
349 350 79 0.7635
[-0.00256939 0.
[-0.00369246 0.
[ 0. 0.
invalid speed key
[[ 0.99998739 0
[-0.00314042 0.
[-0.00391846 0.
[ 0. 0.
31% (352 of 1101
invalid speed key
[[ 0.9999737 -0
[ 0.00491644 0.
[-0.00533206 0.
[ 0. 0.
32% (353 of 1101
invalid speed key
[[ 9.99998628e-
[ 1.19888186e-0
[ -1.14342836e-0
[ 0.00000000e+0
```

```
32% (356 of 1101
invalid speed key
[[ 0.99997451  0
[-0.00544408  0.
[-0.00461887 -0.
[ 0.          0.
32% (358 of 1101
WARNING: invalid
355 356 51 0.9891
[-0.00209491  0.
[-0.00251314 -0.
[ 0.          0.
32% (360 of 1101
invalid speed key
[[ 9.99999494e-
[ 8.67420986e-0
[ -5.08652769e-0
[ 0.00000000e+0
32% (362 of 1101
WARNING: invalid
359 360 73 0.1161
[ 7.30768719e-0
[ -8.18321500e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99997079e-
[ 1.71268022e-0
[ -1.70520461e-0
[ 0.00000000e+0
32% (363 of 1101
invalid speed key
[[ 9.99998202e-
[ -1.75558529e-0
[ -7.16198356e-0
[ 0.00000000e+0
33% (365 of 1101
WARNING: invalid
362 363 76 0.4413
[ 7.09930061e-0
[ -9.47903913e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99995041e-
[ -3.14867309e-0
[ -6.53723555e-0
[ 0.00000000e+0
33% (366 of 1101
invalid speed key
[[ 9.99999127e-
[ 2.00997855e-0
```

```
[ -1.30603974e-0
[ 0.00000000e+0
33% (367 of 1101
invalid speed key
[[ 9.99999400e-
[ -5.98864148e-0
[ -9.17322263e-0
[ 0.00000000e+0
33% (368 of 1101
invalid speed key
[[ 0.99999315 0
[-0.00233839 0.
[-0.00286941 -0.
[ 0. 0.
33% (370 of 1101
invalid speed key
[[ 0.99998801 0
[-0.00454721 0.
[-0.00181885 -0.
[ 0. 0.
33% (371 of 1101
WARNING: invalid
369 370 63 0.2219
[ 5.37356053e-0
[ -1.23338563e-0
[ 0.00000000e+0
33% (372 of 1101
invalid speed key
[[ 9.99988931e-
[ -2.80869765e-0
[ -3.77482983e-0
[ 0.00000000e+0
33% (373 of 1101
invalid speed key
[[ 9.99992446e-
[ 6.68724577e-0
[ -3.82891835e-0
[ 0.00000000e+0
33% (374 of 1101
invalid speed key
[[ 9.99987083e-
[ 3.04741615e-0
[ -4.06787996e-0
[ 0.00000000e+0
34% (375 of 1101
WARNING: invalid
373 374 79 0.0057
[ 7.12393208e-0
[ -3.12427909e-0
[ 0.00000000e+0
```

```
34% (379 of 1101
invalid speed key
[[ 9.99964597e-
[ 1.06725620e-0
[ -8.34662952e-0
[ 0.00000000e+0
34% (380 of 1101
invalid speed key
[[ 9.99988720e-
[ -8.34011595e-0
[ -4.67589872e-0
[ 0.00000000e+0
34% (383 of 1101
invalid speed key
[[ 0.99997796 0
[-0.00117599 0.
[-0.00653397 -0.
[ 0. 0.
34% (385 of 1101
invalid speed key
[[ 0.99997731 0
[-0.00103339 0.
[-0.00665712 -0.
[ 0. 0.
35% (386 of 1101
invalid speed key
[[ 9.99983281e-
[ 3.05483583e-0
[ -4.90971575e-0
[ 0.00000000e+0
35% (388 of 1101
WARNING: invalid
385 386 80 0.1021
[ 1.84133589e-0
[ -2.23101374e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99984529e-
[ 3.92912913e-0
[ -3.93750599e-0
[ 0.00000000e+0
35% (390 of 1101
invalid speed key
[[ 0.99998036 0
[-0.00188186 0.
[-0.00597874 -0.
[ 0. 0.
35% (391 of 1101
WARNING: invalid
389 390 74 0.1720
```

```
[-0.00152595  0.
[-0.00460792 -0.
[ 0.          0.
invalid speed key
[[ 9.99990047e-
[ 1.43960146e-0
[ -4.22297013e-0
[ 0.00000000e+0
35% (393 of 1101
WARNING: invalid
390 391 86 0.0113
[ -1.02518578e-0
[ -3.60667448e-0
[ 0.00000000e+0
35% (394 of 1101
invalid speed key
[[ 9.99969085e-
[ -1.10444338e-0
[ -7.78516308e-0
[ 0.00000000e+0
35% (395 of 1101
WARNING: invalid
393 394 87 0.0111
[ 2.66784275e-0
[ -7.73713967e-0
[ 0.00000000e+0
invalid speed key
[[ 0.99999749 -0
[ 0.00157047  0.
[-0.00159985 -0.
[ 0.          0.
36% (397 of 1101
invalid speed key
[[ 9.99990496e-
[ -2.04847480e-0
[ -3.84846418e-0
[ 0.00000000e+0
36% (398 of 1101
invalid speed key
[[ 9.99974074e-
[ -5.99120279e-0
[ -3.99459690e-0
[ 0.00000000e+0
36% (399 of 1101
invalid speed key
[[ 9.99981766e-
[ -2.42722421e-0
[ -5.52952167e-0
[ 0.00000000e+0
36% (400 of 1101
```



```
invalid speed key
[[ 9.99971782e-
[ 4.31272923e-0
[ -6.15109124e-0
[ 0.00000000e+0
36% (401 of 1101
invalid speed key
[[ 9.99995514e-
[ -9.40353889e-0
[ -2.84381287e-0
[ 0.00000000e+0
36% (402 of 1101
invalid speed key
[[ 9.99982553e-
[ -4.78759791e-0
[ -5.88764626e-0
[ 0.00000000e+0
36% (403 of 1101
invalid speed key
[[ 9.99986655e-
[ -6.84368846e-0
[ -5.12074712e-0
[ 0.00000000e+0
36% (405 of 1101
invalid speed key
[[ 9.99961470e-
[ -1.28656477e-0
[ -8.68349202e-0
[ 0.00000000e+0
36% (406 of 1101
invalid speed key
[[ 9.99976528e-
[ 2.87399372e-0
[ -6.21958008e-0
[ 0.00000000e+0
36% (407 of 1101
invalid speed key
[[ 9.99970518e-
[ 4.53462593e-0
[ -6.19678331e-0
[ 0.00000000e+0
37% (408 of 1101
invalid speed key
[[ 0.99998446 0
[-0.00123363 0.
[-0.00543623 -0.
[ 0. 0.
37% (409 of 1101
invalid speed key
[[ 0.99997783 -0
```

```
[ 0.00171646  0.
[-0.00643394 -0.
[ 0.          0.
37% (410 of 1101
invalid speed key
[[ 9.99981443e-
[ 5.51019222e-0
[ -2.59845966e-0
[ 0.00000000e+0
37% (411 of 1101
invalid speed key
[[ 9.99991062e-
[ 1.37655347e-0
[ -3.99751807e-0
[ 0.00000000e+0
37% (412 of 1101
invalid speed key
[[ 0.99999013 -0
[ 0.00299607  0.
[-0.00328225  0.
[ 0.          0.
37% (413 of 1101
invalid speed key
[[ 0.99998017 -0
[ 0.00462246  0.
[-0.00427596  0.
[ 0.          0.
37% (414 of 1101
invalid speed key
[[ 9.99988339e-
[ 4.81431734e-0
[ -3.78460452e-0
[ 0.00000000e+0
37% (415 of 1101
invalid speed key
[[ 0.99999551 -0
[ 0.00278766  0.
[-0.00110224 -0.
[ 0.          0.
37% (416 of 1101
invalid speed key
[[ 0.99999058 -0
[ 0.00411685  0.
[-0.0013744  -0.
[ 0.          0.
37% (417 of 1101
WARNING: invalid
415 416 105 0.349
[ 1.32051595e-0
[ -9.90798145e-0
```

```
[ 0.00000000e+0
invalid speed key
[[ 9.99995980e-
[ 2.74547402e-0
[ -7.08386821e-0
[ 0.00000000e+0
37% (418 of 1101
invalid speed key
[[ 9.99991179e-
[ -4.19837065e-0
[ -1.22642665e-0
[ 0.00000000e+0
38% (419 of 1101
invalid speed key
[[ 9.99995326e-
[ -9.16286994e-0
[ -2.91692420e-0
[ 0.00000000e+0
38% (420 of 1101
WARNING: invalid
418 419 80 0.7587
[ -1.10858468e-0
[ -5.48480603e-0
[ 0.00000000e+0
38% (421 of 1101
invalid speed key
[[ 9.99998549e-
[ 5.74506922e-0
[ -1.60389108e-0
[ 0.00000000e+0
38% (422 of 1101
WARNING: invalid
420 421 77 0.6229
[ 1.02097550e-0
[ -9.08572717e-0
[ 0.00000000e+0
38% (423 of 1101
invalid speed key
[[ 0.99999499 0
[-0.00114619 0.
[-0.00295225 -0.
[ 0. 0.
38% (425 of 1101
WARNING: invalid
422 423 80 0.4565
[-0.00131343 0.
[-0.00286027 -0.
[ 0. 0.
invalid speed key
[[ 9.99985679e-
```

```
[ 1.71892465e-0
[ -5.34900272e-0
[ 0.00000000e+0
38% (426 of 1101
invalid speed key
[[ 9.99986742e-
[ 4.89352765e-0
[ -5.12609562e-0
[ 0.00000000e+0
38% (427 of 1101
WARNING: invalid
425 426 99 0.7470
[ 4.88372706e-0
[ -3.13673852e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99971260e-
[ -2.91953302e-0
[ -7.57586644e-0
[ 0.00000000e+0
38% (428 of 1101
invalid speed key
[[ 9.99981657e-
[ -9.32127215e-0
[ -5.98467692e-0
[ 0.00000000e+0
38% (429 of 1101
WARNING: invalid
427 428 98 0.9702
[-0.00206951 0.
[-0.0041206 0.
[ 0. 0.
invalid speed key
[[ 9.99952004e-
[ -2.29057922e-0
[ -9.79475921e-0
[ 0.00000000e+0
39% (430 of 1101
WARNING: invalid
428 429 136 0.640
[ -1.30335155e-0
[ -4.45481988e-0
[ 0.00000000e+0
39% (431 of 1101
invalid speed key
[[ 0.99994843 0
[-0.001347 0.
[-0.01006611 0.
[ 0. 0.
39% (432 of 1101
```

```
invalid speed key
[[ 9.99983647e-
[ -1.20665508e-0
[ -5.71758463e-0
[ 0.00000000e+0
39% (433 of 1101
invalid speed key
[[ 0.99993009 -0
[ 0.00172195 0.
[-0.01169832 0.
[ 0. 0.
39% (435 of 1101
invalid speed key
[[ 9.99961817e-
[ 9.37721046e-0
[ -8.68823638e-0
[ 0.00000000e+0
39% (436 of 1101
invalid speed key
[[ 0.99994006 -0
[ 0.00527834 0.
[-0.00959237 0.
[ 0. 0.
39% (437 of 1101
invalid speed key
[[ 9.99992164e-
[ 2.03565747e-0
[ -3.39520497e-0
[ 0.00000000e+0
39% (438 of 1101
invalid speed key
[[ 9.99977671e-
[ 1.06887435e-0
[ -6.59654277e-0
[ 0.00000000e+0
39% (439 of 1101
WARNING: invalid
437 438 109 0.214
[ -2.12389134e-0
[ -4.14139088e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99959524e-
[ -6.20719529e-0
[ -8.97577619e-0
[ 0.00000000e+0
39% (440 of 1101
WARNING: invalid
438 439 103 0.090
[ -1.57086666e-0
```

```
[ -4.42194393e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99990941e-
[ -1.69721734e-0
[ -4.25323076e-0
[ 0.00000000e+0
40% (441 of 1101
invalid speed key
[[ 9.99996038e-
[ 1.36439153e-0
[ -2.46231794e-0
[ 0.00000000e+0
40% (442 of 1101
invalid speed key
[[ 9.99966577e-
[ 8.11672690e-0
[ -9.82021376e-0
[ 0.00000000e+0
40% (443 of 1101
invalid speed key
[[ 0.99998629 -0
[ 0.00484423 0.
[-0.00198819 0.
[ 0. 0.
40% (445 of 1101
invalid speed key
[[ 0.9999932 -0
[ 0.00112103 0.
[-0.00351334 -0.
[ 0. 0.
40% (446 of 1101
invalid speed key
[[ 0.99998767 -0
[ 0.00180895 0.
[-0.00462533 0.
[ 0. 0.
40% (447 of 1101
invalid speed key
[[ 9.99990284e-
[ -1.29583518e-0
[ -4.40615833e-0
[ 0.00000000e+0
40% (448 of 1101
WARNING: invalid
446 447 112 0.824
[ -3.17119527e-0
[ -4.12672519e-0
[ 0.00000000e+0
40% (449 of 1101
```

```
invalid speed key
[[ 0.9999744  0
[-0.00263394  0.
[-0.00665279 -0.
[ 0.          0.
40% (450 of 1101
WARNING: invalid
448 449 113 0.218
[ -2.10394659e-0
[ -3.70635199e-0
[  0.00000000e+0
invalid speed key
[[  9.99979732e-
[ -5.01352982e-0
[ -3.92441196e-0
[  0.00000000e+0
41% (452 of 1101
invalid speed key
[[ 0.999988  0
[-0.00242101  0.
[-0.00425835  0.
[ 0.          0.
41% (453 of 1101
WARNING: invalid
451 452 129 0.000
[  3.61875903e-0
[ -3.22848004e-0
[  0.00000000e+0
41% (454 of 1101
invalid speed key
[[ 0.99997806 -0
[ 0.0044287  0.
[-0.00492681  0.
[ 0.          0.
41% (455 of 1101
WARNING: invalid
453 454 95 0.0633
[  2.80052224e-0
[ -3.72984108e-0
[  0.00000000e+0
invalid speed key
[[ 0.99997551  0
[-0.00240661  0.
[-0.00657203 -0.
[ 0.          0.
41% (456 of 1101
WARNING: invalid
454 455 111 0.606
[ -1.84337182e-0
[ -4.86828235e-0
```

```
[ 0.00000000e+0
41% (457 of 1101
invalid speed key
[[ 9.99955159e-
[ -5.24370819e-0
[ -7.88570816e-0
[ 0.00000000e+0
41% (458 of 1101
WARNING: invalid
456 457 118 0.110
[ -1.40782238e-0
[ -4.80580625e-0
[ 0.00000000e+0
invalid speed key
[[ 0.99997984 0
[-0.00137455 0.
[-0.00619971 0.
[ 0. 0.
41% (459 of 1101
invalid speed key
[[ 0.99997811 0
[-0.0017783 0.
[-0.00637345 0.
[ 0. 0.
41% (461 of 1101
invalid speed key
[[ 0.99991174 0
[-0.00183027 0.
[-0.01315919 0.
[ 0. 0.
41% (462 of 1101
WARNING: invalid
460 461 123 0.137
[ 1.97865312e-0
[ -4.72980867e-0
[ 0.00000000e+0
invalid speed key
[[ 0.99995644 -0
[ 0.00430262 0.
[-0.00828256 0.
[ 0. 0.
42% (463 of 1101
WARNING: invalid
461 462 118 0.137
[ 1.89011351e-0
[ -4.67041854e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99973176e-
[ 2.11430098e-0
```



```
[ -7.01262661e-0
[ 0.00000000e+0
42% (464 of 1101
WARNING: invalid
462 463 132 0.117
[ 1.92673189e-0
[ -4.45772328e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99991798e-
[ 1.90512620e-0
[ -3.57415825e-0
[ 0.00000000e+0
42% (465 of 1101
WARNING: invalid
463 464 127 0.100
[ 1.31793166e-0
[ -4.28086356e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99987938e-
[ 2.04471478e-0
[ -4.90726133e-0
[ 0.00000000e+0
42% (466 of 1101
WARNING: invalid
464 465 110 0.266
[ -5.54694851e-0
[ -4.11618327e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99970051e-
[ -1.03878597e-0
[ -7.66929513e-0
[ 0.00000000e+0
42% (467 of 1101
WARNING: invalid
465 466 123 0.128
[ -3.00683724e-0
[ -3.87235668e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99984729e-
[ -3.24868671e-0
[ -5.51685458e-0
[ 0.00000000e+0
42% (468 of 1101
WARNING: invalid
466 467 101 0.307
[ 7.23926361e-0
```

```
[ -4.74309424e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99979735e-
[ -8.72933242e-0
[ -6.30620352e-0
[ 0.00000000e+0
42% (469 of 1101
WARNING: invalid
467 468 117 0.300
[ 3.57051964e-0
[ -4.17382114e-0
[ 0.00000000e+0
invalid speed key
[[ 0.99998348 -0
[ 0.00101307 0.
[-0.00565809 0.
[ 0. 0.
42% (470 of 1101
WARNING: invalid
468 469 103 0.433
[ 0.00121179 0.
[-0.00401461 0.
[ 0. 0.
invalid speed key
[[ 0.99996783 -0
[ 0.00332373 0.
[-0.00729975 0.
[ 0. 0.
42% (471 of 1101
WARNING: invalid
469 470 108 0.241
[ 0.00276992 0.
[-0.00341377 0.
[ 0. 0.
invalid speed key
[[ 9.99977554e-
[ 2.82643493e-0
[ -6.07476142e-0
[ 0.00000000e+0
42% (472 of 1101
WARNING: invalid
470 471 90 0.4619
[ 0.00409744 0.
[-0.00569006 0.
[ 0. 0.
invalid speed key
[[ 0.99988193 -0
[ 0.00564478 0.
[-0.01429235 0.
```

```
[ 0.          0.
42% (473 of 1101
WARNING: invalid
471 472 105 0.154
[ 3.40808052e-0
[ -2.84527358e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99986035e-
[ 3.57102488e-0
[ -3.89571756e-0
[ 0.00000000e+0
43% (474 of 1101
WARNING: invalid
472 473 98 0.2047
[ 1.67094820e-0
[ -2.41451483e-0
[ 0.00000000e+0
43% (475 of 1101
invalid speed key
[[ 0.99999032 -0
[ 0.00137165 0.
[-0.00418162 -0.
[ 0.          0.
43% (476 of 1101
WARNING: invalid
474 475 78 0.6193
[-0.0010621 0.
[-0.00186847 -0.
[ 0.          0.
invalid speed key
[[ 9.99995304e-
[ -1.61172980e-0
[ -2.60672847e-0
[ 0.00000000e+0
43% (477 of 1101
WARNING: invalid
475 476 69 0.1117
[ -2.70710881e-0
[ -2.99232505e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99992096e-
[ -3.50124799e-0
[ -1.88381368e-0
[ 0.00000000e+0
43% (478 of 1101
invalid speed key
[[ 0.99997888 -0
[ 0.00630011 0.
```

```
[-0.00159716  0.  
[ 0.          0.  
43% (479 of 1101  
WARNING: invalid  
477 478 58 0.2653  
[ 9.07259197e-0  
[ -5.19931068e-0  
[ 0.00000000e+0  
invalid speed key  
[[ 9.99986702e-  
[ 5.06528094e-0  
[ -9.68732218e-0  
[ 0.00000000e+0  
43% (480 of 1101  
WARNING: invalid  
478 479 54 0.0581  
[ 1.32095868e-0  
[ -4.76354580e-0  
[ 0.00000000e+0  
invalid speed key  
[[ 0.99997813 -0  
[ 0.00649303  0.  
[-0.00125735 -0.  
[ 0.          0.  
43% (481 of 1101  
WARNING: invalid  
479 480 71 0.2729  
[ 1.21808865e-0  
[ -4.67806998e-0  
[ 0.00000000e+0  
invalid speed key  
[[ 9.99995571e-  
[ 2.94739187e-0  
[ -4.13121326e-0  
[ 0.00000000e+0  
43% (482 of 1101  
invalid speed key  
[[ 9.99996070e-  
[ -2.67396063e-0  
[ -8.42443007e-0  
[ 0.00000000e+0  
43% (483 of 1101  
WARNING: invalid  
481 482 87 0.6230  
[ 4.52653338e-0  
[ -4.67256303e-0  
[ 0.00000000e+0  
invalid speed key  
[[ 0.99999135  0  
[-0.00293553  0.
```

```
[-0.00294797  0.
[ 0.          0.
44% (485 of 1101
invalid speed key
[[ 0.99998133  0
[-0.00436593  0.
[-0.00427646  0.
[ 0.          0.
44% (486 of 1101
WARNING: invalid
484 485 94 0.1613
[ 8.40866492e-0
[ -1.93053645e-0
[ 0.00000000e+0
44% (488 of 1101
invalid speed key
[[ 0.99993312 -0
[ 0.00729244  0.
[-0.008976    0.
[ 0.          0.
44% (489 of 1101
WARNING: invalid
487 488 116 0.080
[ 0.00102107  0.
[-0.00360809  0.
[ 0.          0.
44% (490 of 1101
invalid speed key
[[ 9.99950865e-
[ -2.84588906e-0
[ -9.49567828e-0
[ 0.00000000e+0
44% (491 of 1101
WARNING: invalid
489 490 110 0.071
[ -5.36399022e-0
[ -3.18528776e-0
[ 0.00000000e+0
44% (494 of 1101
invalid speed key
[[ 9.99945697e-
[ -2.59365775e-0
[ -1.00933232e-0
[ 0.00000000e+0
44% (495 of 1101
WARNING: invalid
493 494 100 0.521
[ -6.20259584e-0
[ -2.59255898e-0
[ 0.00000000e+0
```

```
invalid speed key
[[ 9.99982182e-
[ 1.76656375e-0
[ -5.96954097e-0
[ 0.00000000e+0
45% (496 of 1101
invalid speed key
[[ 9.99977793e-
[ 2.55738194e-0
[ -6.65944900e-0
[ 0.00000000e+0
45% (497 of 1101
WARNING: invalid
495 496 120 0.070
[ 0.00133649 0.
[-0.00328041 0.
[ 0. 0.
invalid speed key
[[ 9.99974006e-
[ 6.50703591e-0
[ -7.18079574e-0
[ 0.00000000e+0
45% (498 of 1101
WARNING: invalid
496 497 119 0.351
[ 0.00152963 0.
[-0.00342474 0.
[ 0. 0.
invalid speed key
[[ 0.99997918 -0
[ 0.00285859 0.
[-0.00578585 0.
[ 0. 0.
45% (499 of 1101
WARNING: invalid
497 498 95 0.0167
[ 0.00224734 0.
[-0.00298618 0.
[ 0. 0.
45% (500 of 1101
invalid speed key
[[ 0.99991396 -0
[ 0.01208779 0.
[-0.0050956 0.
[ 0. 0.
45% (502 of 1101
invalid speed key
[[ 0.99990992 -0
[ 0.00941585 0.
[-0.00956546 0.
```

```
[ 0.          0.
45% (504 of 1101
invalid speed key
[[ 9.99991682e-
[ 3.28206712e-0
[ -4.06537470e-0
[ 0.00000000e+0
45% (505 of 1101
invalid speed key
[[ 9.99996483e-
[ -6.34704860e-0
[ -2.57498790e-0
[ 0.00000000e+0
45% (506 of 1101
WARNING: invalid
504 505 89 1.2379
[ 4.05844996e-0
[ -2.84234186e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99979372e-
[ 6.36149232e-0
[ -8.86588369e-0
[ 0.00000000e+0
46% (507 of 1101
WARNING: invalid
505 506 76 0.0178
[ 2.30286214e-0
[ -1.86101158e-0
[ 0.00000000e+0
46% (509 of 1101
invalid speed key
[[ 0.99993239  0
[-0.00125218  0.
[-0.01156064  0.
[ 0.          0.
46% (511 of 1101
invalid speed key
[[ 9.99998338e-
[ 2.58384405e-0
[ -1.80489583e-0
[ 0.00000000e+0
46% (513 of 1101
invalid speed key
[[ 9.99992289e-
[ -1.78889087e-0
[ -3.49597528e-0
[ 0.00000000e+0
46% (514 of 1101
invalid speed key
```

```
[[ 9.99999319e-
[ 3.99249558e-0
[ -1.09651047e-0
[ 0.00000000e+0
46% (515 of 1101
invalid speed key
[[ 9.99995519e-
[ 7.78450970e-0
[ -2.89083480e-0
[ 0.00000000e+0
46% (517 of 1101
invalid speed key
[[ 0.99998153 0
[-0.00382475 0.
[-0.00472398 0.
[ 0. 0.
47% (519 of 1101
invalid speed key
[[ 9.99994859e-
[ 5.42643524e-0
[ -3.16032945e-0
[ 0.00000000e+0
47% (520 of 1101
invalid speed key
[[ 9.99979738e-
[ 6.36199213e-0
[ -2.19516203e-0
[ 0.00000000e+0
47% (522 of 1101
invalid speed key
[[ 0.99999667 -0
[ 0.00185171 0.
[-0.00179535 -0.
[ 0. 0.
47% (524 of 1101
invalid speed key
[[ 9.99996261e-
[ -1.69593508e-0
[ -2.14507967e-0
[ 0.00000000e+0
47% (526 of 1101
invalid speed key
[[ 9.9989843e-
[ -4.47762974e-0
[ 5.14011885e-0
[ 0.00000000e+0
47% (527 of 1101
invalid speed key
[[ 9.99971842e-
[ -6.33687274e-0
```



```
[ -4.01975413e-0
[ 0.00000000e+0
48% (529 of 1101
invalid speed key
[[ 9.99982601e-
[ -3.99944756e-0
[ -4.33624358e-0
[ 0.00000000e+0
48% (530 of 1101
invalid speed key
[[ 9.99991339e-
[ 4.09180301e-0
[ -7.61590778e-0
[ 0.00000000e+0
48% (531 of 1101
invalid speed key
[[ 9.99953004e-
[ 9.65122970e-0
[ -9.17914231e-0
[ 0.00000000e+0
48% (532 of 1101
invalid speed key
[[ 9.99932324e-
[ 1.16306328e-0
[ -2.75759433e-0
[ 0.00000000e+0
48% (535 of 1101
invalid speed key
[[ 9.99975586e-
[ 6.69625460e-0
[ -1.99669312e-0
[ 0.00000000e+0
48% (537 of 1101
invalid speed key
[[ 0.99994011 0
[-0.0081681 0.
[-0.00728382 0.
[ 0. 0.
49% (541 of 1101
invalid speed key
[[ 9.99883393e-
[ -1.38007029e-0
[ -6.53761237e-0
[ 0.00000000e+0
49% (543 of 1101
invalid speed key
[[ 9.99988855e-
[ -2.43268834e-0
[ -4.04628069e-0
[ 0.00000000e+0
```

```
49% (545 of 1101
invalid speed key
[[ 9.99956254e-
[ 9.05500774e-0
[ 2.34439540e-0
[ 0.00000000e+0
49% (550 of 1101
invalid speed key
[[ 9.99917598e-
[ 7.99345278e-0
[ -1.28124366e-0
[ 0.00000000e+0
50% (551 of 1101
invalid speed key
[[ 9.99985209e-
[ -4.75657997e-0
[ -2.63749727e-0
[ 0.00000000e+0
50% (552 of 1101
invalid speed key
[[ 0.99998087 0
[-0.00529671 0.
[-0.00319487 0.
[ 0. 0.
50% (553 of 1101
invalid speed key
[[ 9.99976801e-
[ 2.32961689e-0
[ -6.81150644e-0
[ 0.00000000e+0
50% (554 of 1101
invalid speed key
[[ 0.99999269 0
[-0.00135913 0.
[-0.00357335 -0.
[ 0. 0.
50% (555 of 1101
invalid speed key
[[ 0.99988799 0
[-0.00402157 0.
[-0.01441664 -0.
[ 0. 0.
50% (556 of 1101
WARNING: invalid
554 555 110 0.310
[ -6.51524125e-0
[ -4.07415664e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99916461e-
```

```
[ -1.24593340e-0
[ -3.44029530e-0
[ 0.00000000e+0
50% (558 of 1101
invalid speed key
[[ 0.99964284 0
[-0.01607353 0.
[-0.02135031 -0.
[ 0. 0.
50% (559 of 1101
invalid speed key
[[ 9.99991896e-
[ 2.84389874e-0
[ -2.84971951e-0
[ 0.00000000e+0
50% (560 of 1101
WARNING: invalid
558 559 105 -4.87
[ 4.26001606e-0
[ -2.68548853e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99996238e-
[ 2.46234050e-0
[ -1.20832556e-0
[ 0.00000000e+0
51% (562 of 1101
invalid speed key
[[ 9.99990976e-
[ -9.55109890e-0
[ -4.13952383e-0
[ 0.00000000e+0
51% (564 of 1101
invalid speed key
[[ 0.99980914 0
[-0.00369669 0.
[-0.01918394 -0.
[ 0. 0.
51% (566 of 1101
invalid speed key
[[ 9.9998903e-
[ 2.77878391e-0
[ -1.45519604e-0
[ 0.00000000e+0
51% (568 of 1101
invalid speed key
[[ 0.99971588 -0
[ 0.02241725 0.
[-0.00810123 0.
[ 0. 0.
```

```
52% (575 of 1101
invalid speed key
[[ 9.99773005e-
[ 1.38419982e-0
[ -2.12608432e-0
[ 0.00000000e+0
52% (576 of 1101
invalid speed key
[[ 0.99970752 0
[-0.00747654 0.
[-0.0229996 -0.
[ 0. 0.
52% (578 of 1101
invalid speed key
[[ 9.99849685e-
[ 8.78801585e-0
[ -1.73157367e-0
[ 0.00000000e+0
52% (580 of 1101
invalid speed key
[[ 9.99981471e-
[ -5.66632076e-0
[ -2.22493743e-0
[ 0.00000000e+0
52% (582 of 1101
invalid speed key
[[ 9.99997207e-
[ 1.34838816e-0
[ -2.35947380e-0
[ 0.00000000e+0
53% (587 of 1101
invalid speed key
[[ 9.99887591e-
[ -1.44417023e-0
[ -4.03008874e-0
[ 0.00000000e+0
53% (589 of 1101
invalid speed key
[[ 9.99987761e-
[ -4.87964323e-0
[ 8.16928582e-0
[ 0.00000000e+0
53% (590 of 1101
invalid speed key
[[ 9.99987993e-
[ -4.48874643e-0
[ -1.96572857e-0
[ 0.00000000e+0
53% (592 of 1101
invalid speed key
```

```
[[ 9.99999721e-
[ 7.00356888e-0
[ -2.59462368e-0
[ 0.00000000e+0
53% (593 of 1101
invalid speed key
[[ 9.99999636e-
[ -4.31071015e-0
[ 7.35773798e-0
[ 0.00000000e+0
53% (594 of 1101
invalid speed key
[[ 9.99973503e-
[ -7.27950583e-0
[ 4.12600422e-0
[ 0.00000000e+0
54% (595 of 1101
invalid speed key
[[ 0.99988647 0
[-0.01490894 0.
[-0.00218407 -0.
[ 0. 0.
54% (600 of 1101
invalid speed key
[[ 0.999883 -0
[ 0.01487749 0.
[-0.00355715 0.
[ 0. 0.
54% (605 of 1101
invalid speed key
[[ 9.99994533e-
[ 3.28003104e-0
[ -4.19125566e-0
[ 0.00000000e+0
55% (607 of 1101
invalid speed key
[[ 9.99998946e-
[ -1.28075457e-0
[ -6.84301811e-0
[ 0.00000000e+0
55% (608 of 1101
invalid speed key
[[ 9.99999151e-
[ -4.03293482e-0
[ -1.30235580e-0
[ 0.00000000e+0
55% (610 of 1101
invalid speed key
[[ 9.99982756e-
[ -4.36508892e-0
```

```
[ -3.92863501e-0
[ 0.00000000e+0
55% (611 of 1101
WARNING: invalid
609 610 49 0.3292
[-0.0020076 0.
[-0.00105277 0.
[ 0. 0.
invalid speed key
[[ 9.99971885e-
[ -6.21290270e-0
[ -4.19867895e-0
[ 0.00000000e+0
55% (612 of 1101
invalid speed key
[[ 9.99996084e-
[ -2.67857064e-0
[ -8.10694051e-0
[ 0.00000000e+0
55% (614 of 1101
invalid speed key
[[ 9.99990047e-
[ -3.70227954e-0
[ -2.48979187e-0
[ 0.00000000e+0
55% (615 of 1101
invalid speed key
[[ 9.99985571e-
[ 5.34327433e-0
[ -5.34528977e-0
[ 0.00000000e+0
56% (619 of 1101
invalid speed key
[[ 0.99995017 -0
[ 0.00298884 0.
[-0.00952519 -0.
[ 0. 0.
56% (621 of 1101
invalid speed key
[[ 9.99993690e-
[ 6.96850574e-0
[ -3.48342636e-0
[ 0.00000000e+0
56% (622 of 1101
invalid speed key
[[ 0.99998024 -0
[ 0.00606349 0.
[-0.00165741 -0.
[ 0. 0.
56% (624 of 1101
```

```
invalid speed key
[[ 9.99989037e-
[ 4.36078733e-0
[ -1.70562115e-0
[ 0.00000000e+0
56% (625 of 1101
invalid speed key
[[ 9.99999727e-
[ -6.37644593e-0
[ 3.72517253e-0
[ 0.00000000e+0
56% (626 of 1101
WARNING: invalid
624 625 72 0.2958
[ -2.85527675e-0
[ -1.35728526e-0
[ 0.00000000e+0
56% (627 of 1101
invalid speed key
[[ 9.99998616e-
[ -9.49163411e-0
[ -1.36610295e-0
[ 0.00000000e+0
57% (629 of 1101
invalid speed key
[[ 9.99998791e-
[ 1.20908745e-0
[ -9.77403374e-0
[ 0.00000000e+0
57% (630 of 1101
invalid speed key
[[ 9.99995406e-
[ -2.97089637e-0
[ -6.01550348e-0
[ 0.00000000e+0
57% (632 of 1101
invalid speed key
[[ 9.99998119e-
[ -4.24177757e-0
[ -1.89248786e-0
[ 0.00000000e+0
57% (634 of 1101
invalid speed key
[[ 0.99998683 -0
[ 0.00367972 0.
[-0.00357729 -0.
[ 0. 0.
57% (635 of 1101
invalid speed key
[[ 9.99998453e-
```

```
[ 1.73806314e-0
[ -2.71551939e-0
[ 0.00000000e+0
57% (636 of 1101
invalid speed key
[[ 9.99965502e-
[ -8.28040466e-0
[ -6.56041001e-0
[ 0.00000000e+0
57% (637 of 1101
invalid speed key
[[ 9.99973319e-
[ -7.04400955e-0
[ -1.93485475e-0
[ 0.00000000e+0
57% (638 of 1101
invalid speed key
[[ 9.99996341e-
[ -2.27681711e-0
[ -1.46096739e-0
[ 0.00000000e+0
58% (639 of 1101
invalid speed key
[[ 9.9999662e-
[ -5.25320024e-0
[ -6.31893737e-0
[ 0.00000000e+0
58% (640 of 1101
invalid speed key
[[ 9.99998075e-
[ -1.89203847e-0
[ -5.19993123e-0
[ 0.00000000e+0
58% (642 of 1101
invalid speed key
[[ 9.99990952e-
[ -2.89694748e-0
[ -3.11522054e-0
[ 0.00000000e+0
58% (643 of 1101
invalid speed key
[[ 9.9999963e-
[ -1.44567095e-0
[ 2.72963895e-0
[ 0.00000000e+0
58% (644 of 1101
invalid speed key
[[ 9.9999721e-
[ -5.74787678e-0
[ 4.77831772e-0
```



```
[ 0.00000000e+0
58% (645 of 1101
invalid speed key
[[ 9.99999794e-
[ 1.60061834e-0
[ 6.22160355e-0
[ 0.00000000e+0
58% (646 of 1101
invalid speed key
[[ 9.99995255e-
[ -1.56029379e-0
[ -2.65618159e-0
[ 0.00000000e+0
58% (647 of 1101
invalid speed key
[[ 9.99999634e-
[ -8.30966441e-0
[ -2.01384669e-0
[ 0.00000000e+0
58% (648 of 1101
invalid speed key
[[ 9.99995495e-
[ -5.41382384e-0
[ -2.95244701e-0
[ 0.00000000e+0
58% (649 of 1101
invalid speed key
[[ 9.99991711e-
[ 2.64811927e-0
[ -3.09294309e-0
[ 0.00000000e+0
59% (651 of 1101
invalid speed key
[[ 9.99989952e-
[ -4.31934969e-0
[ -1.19968085e-0
[ 0.00000000e+0
59% (653 of 1101
invalid speed key
[[ 9.99998629e-
[ -1.63687615e-0
[ 2.50320124e-0
[ 0.00000000e+0
59% (654 of 1101
invalid speed key
[[ 0.99999365 0
[-0.00322467 0.
[ 0.00151983 -0.
[ 0. 0.
59% (656 of 1101
```

```
invalid speed key
[[ 9.99999964e-
[ 2.31745965e-0
[ -1.37200499e-0
[ 0.00000000e+0
59% (657 of 1101
invalid speed key
[[ 9.99997769e-
[ -1.92254767e-0
[ -8.75374171e-0
[ 0.00000000e+0
59% (658 of 1101
invalid speed key
[[ 9.99994007e-
[ -3.27632790e-0
[ -1.11862619e-0
[ 0.00000000e+0
59% (660 of 1101
invalid speed key
[[ 0.99942193 0
[-0.03311465 0.
[-0.00769536 -0.
[ 0. 0.
60% (661 of 1101
invalid speed key
[[ 9.99996646e-
[ 2.44721793e-0
[ 8.48094773e-0
[ 0.00000000e+0
60% (662 of 1101
invalid speed key
[[ 0.99958763 0
[-0.02810138 0.
[-0.00590574 -0.
[ 0. 0.
60% (663 of 1101
invalid speed key
[[ 9.99999632e-
[ 8.19384567e-0
[ -2.53052149e-0
[ 0.00000000e+0
60% (664 of 1101
invalid speed key
[[ 9.99998709e-
[ 6.27314724e-0
[ -1.47948627e-0
[ 0.00000000e+0
60% (665 of 1101
invalid speed key
[[ 9.99994365e-
```

```
[ -3.35346637e-0
[ 1.52843959e-0
[ 0.00000000e+0
60% (667 of 1101
invalid speed key
[[ 9.99991835e-
[ -4.44289275e-0
[ -4.01645516e-0
[ 0.00000000e+0
60% (669 of 1101
invalid speed key
[[ 0.99998642 0
[-0.00252386 0.
[-0.00456035 -0.
[ 0. 0.
60% (671 of 1101
invalid speed key
[[ 0.99998278 0
[-0.00490052 0.
[-0.00322992 -0.
[ 0. 0.
61% (673 of 1101
invalid speed key
[[ 9.99992232e-
[ -3.85446383e-0
[ -8.23819036e-0
[ 0.00000000e+0
61% (674 of 1101
invalid speed key
[[ 9.99990627e-
[ -1.91390171e-0
[ -3.88367036e-0
[ 0.00000000e+0
61% (675 of 1101
invalid speed key
[[ 9.99995939e-
[ -1.84863710e-0
[ -2.85001753e-0
[ 0.00000000e+0
61% (676 of 1101
invalid speed key
[[ 9.99993929e-
[ -3.91729575e-0
[ -3.46240881e-0
[ 0.00000000e+0
61% (677 of 1101
WARNING: invalid
675 676 37 0.2737
[ 6.82793198e-0
[ 1.16221242e-0
```

```
[ 0.00000000e+0
invalid speed key
[[ 9.99998610e-
[ -2.80257908e-0
[ -1.64376677e-0
[ 0.00000000e+0
61% (678 of 1101
invalid speed key
[[ 9.99991707e-
[ -2.20996113e-0
[ -3.42089615e-0
[ 0.00000000e+0
61% (679 of 1101
invalid speed key
[[ 9.99993647e-
[ -1.14755362e-0
[ -3.37468951e-0
[ 0.00000000e+0
62% (684 of 1101
invalid speed key
[[ 9.99999901e-
[ 8.06838094e-0
[ 4.38158911e-0
[ 0.00000000e+0
62% (687 of 1101
invalid speed key
[[ 9.99998463e-
[ 6.49853517e-0
[ 1.62830858e-0
[ 0.00000000e+0
62% (689 of 1101
invalid speed key
[[ 0.99997984 -0
[ 0.00316599 0.
[-0.00550384 0.
[ 0. 0.
62% (692 of 1101
invalid speed key
[[ 9.99991017e-
[ -2.69936772e-0
[ -4.22996695e-0
[ 0.00000000e+0
62% (693 of 1101
invalid speed key
[[ 9.99982983e-
[ -3.26608677e-0
[ -4.83385769e-0
[ 0.00000000e+0
63% (702 of 1101
invalid speed key
```

```
[[ 0.99991463  0
[-0.0124622  0.
[-0.003927   -0.
[ 0.          0.
63% (704 of 1101
invalid speed key
[[ 0.99998727 -0
[ 0.00227987  0.
[-0.00450036 -0.
[ 0.          0.
64% (706 of 1101
invalid speed key
[[ 9.99981135e-
[ -2.44223138e-0
[ -6.13757975e-0
[ 0.00000000e+0
64% (708 of 1101
invalid speed key
[[ 9.99979953e-
[ 1.67800332e-0
[ -6.32971826e-0
[ 0.00000000e+0
64% (710 of 1101
invalid speed key
[[ 9.99978959e-
[ -5.63300357e-0
[ -6.46249816e-0
[ 0.00000000e+0
64% (713 of 1101
invalid speed key
[[ 9.99957046e-
[ -2.84673782e-0
[ -8.82057860e-0
[ 0.00000000e+0
64% (714 of 1101
invalid speed key
[[ 9.99984310e-
[ -1.94637037e-0
[ -5.25282768e-0
[ 0.00000000e+0
65% (716 of 1101
invalid speed key
[[ 9.99971267e-
[ -1.47228241e-0
[ -7.57915546e-0
[ 0.00000000e+0
65% (718 of 1101
invalid speed key
[[ 9.99974072e-
[ -8.31822436e-0
```

```
[ -7.15292871e-0
[ 0.00000000e+0
65% (720 of 1101
invalid speed key
[[ 9.99976939e-
[ 1.83861539e-0
[ -6.53766266e-0
[ 0.00000000e+0
65% (724 of 1101
invalid speed key
[[ 9.99909192e-
[ -7.51626259e-0
[ -1.11854261e-0
[ 0.00000000e+0
65% (726 of 1101
invalid speed key
[[ 9.99981319e-
[ 1.11861995e-0
[ -6.00914527e-0
[ 0.00000000e+0
66% (728 of 1101
invalid speed key
[[ 9.99992222e-
[ -1.08713423e-0
[ -3.79125651e-0
[ 0.00000000e+0
66% (730 of 1101
invalid speed key
[[ 9.99983423e-
[ 3.88198055e-0
[ -4.25255187e-0
[ 0.00000000e+0
66% (731 of 1101
invalid speed key
[[ 9.99989443e-
[ 2.25647927e-0
[ -4.00280229e-0
[ 0.00000000e+0
66% (733 of 1101
invalid speed key
[[ 9.99977469e-
[ 1.45216598e-0
[ -6.55389144e-0
[ 0.00000000e+0
66% (734 of 1101
invalid speed key
[[ 9.99978414e-
[ 1.40549553e-0
[ -6.41840132e-0
[ 0.00000000e+0
```

```
66% (735 of 1101
invalid speed key
[[ 0.99998575  0
[-0.00150683  0.
[-0.00512156 -0.
[ 0.          0.
66% (736 of 1101
invalid speed key
[[ 0.99997443  0
[-0.0039598   0.
[-0.00595483  0.
[ 0.          0.
67% (739 of 1101
invalid speed key
[[ 9.99932017e-
[-1.95060506e-0
[-1.14959006e-0
[ 0.00000000e+0
67% (743 of 1101
invalid speed key
[[ 0.99991435 -0
[ 0.00412512  0.
[-0.01242045  0.
[ 0.          0.
67% (744 of 1101
invalid speed key
[[ 9.99991135e-
[ 7.02041259e-0
[-4.15182974e-0
[ 0.00000000e+0
67% (747 of 1101
invalid speed key
[[ 9.99991006e-
[-4.12421068e-0
[-4.22115694e-0
[ 0.00000000e+0
68% (749 of 1101
invalid speed key
[[ 9.99843537e-
[-6.75366566e-0
[-1.76761123e-0
[ 0.00000000e+0
68% (750 of 1101
invalid speed key
[[ 9.99986957e-
[ 4.15692030e-0
[-5.09057751e-0
[ 0.00000000e+0
68% (752 of 1101
invalid speed key
```

```
[[ 9.99983518e-
[ -6.21500913e-0
[ -5.70770887e-0
[ 0.00000000e+0
68% (754 of 1101
invalid speed key
[[ 0.9999701 -0
[ 0.00249346 0.
[-0.00732 -0.
[ 0. 0.
68% (756 of 1101
invalid speed key
[[ 9.99962395e-
[ -4.16414097e-0
[ -7.60712395e-0
[ 0.00000000e+0
68% (757 of 1101
invalid speed key
[[ 0.99998314 -0
[ 0.00190192 0.
[-0.00548594 0.
[ 0. 0.
68% (759 of 1101
invalid speed key
[[ 9.99986591e-
[ 4.21386512e-0
[ -3.01032158e-0
[ 0.00000000e+0
69% (760 of 1101
invalid speed key
[[ 0.99999719 -0
[ 0.0013842 0.
[-0.0019223 0.
[ 0. 0.
69% (761 of 1101
invalid speed key
[[ 9.99998585e-
[ 3.80064456e-0
[ -1.68188665e-0
[ 0.00000000e+0
69% (762 of 1101
invalid speed key
[[ 9.9998330e-
[ 9.59462197e-0
[ -1.55573480e-0
[ 0.00000000e+0
69% (764 of 1101
invalid speed key
[[ 9.99991423e-
[ 2.69036759e-0
```



```
[ -3.14884968e-0
[ 0.00000000e+0
69% (765 of 1101
invalid speed key
[[ 9.99998788e-
[ 5.80457106e-0
[ -1.44500818e-0
[ 0.00000000e+0
69% (766 of 1101
invalid speed key
[[ 9.99997660e-
[ -3.43158668e-0
[ -2.13572924e-0
[ 0.00000000e+0
69% (768 of 1101
invalid speed key
[[ 9.99989977e-
[ 1.52918096e-0
[ -4.47720444e-0
[ 0.00000000e+0
69% (769 of 1101
invalid speed key
[[ 9.99999755e-
[ -4.76324534e-0
[ -5.13870614e-0
[ 0.00000000e+0
69% (770 of 1101
invalid speed key
[[ 0.99999229 -0
[ 0.00196379 0.
[-0.00340063 0.
[ 0. 0.
70% (771 of 1101
invalid speed key
[[ 9.99989559e-
[ 6.76027042e-0
[ -4.51949409e-0
[ 0.00000000e+0
70% (777 of 1101
invalid speed key
[[ 9.99604338e-
[ 9.47175260e-0
[ 2.81117463e-0
[ 0.00000000e+0
70% (778 of 1101
invalid speed key
[[ 9.99998697e-
[ 1.38858614e-0
[ 1.60832908e-0
[ 0.00000000e+0
```

```
70% (779 of 1101
invalid speed key
[[ 9.99999573e-
[ 4.66562666e-0
[ 7.97561966e-0
[ 0.00000000e+0
70% (781 of 1101
invalid speed key
[[ 9.99999775e-
[ -6.51531999e-0
[ 1.61140057e-0
[ 0.00000000e+0
71% (782 of 1101
invalid speed key
[[ 9.99998615e-
[ -1.66399367e-0
[ 4.22089723e-0
[ 0.00000000e+0
71% (783 of 1101
invalid speed key
[[ 9.99986501e-
[ -5.03865243e-0
[ -1.26865291e-0
[ 0.00000000e+0
71% (784 of 1101
invalid speed key
[[ 9.99996004e-
[ -5.74721874e-0
[ 2.76781347e-0
[ 0.00000000e+0
71% (785 of 1101
WARNING: invalid
783 784 127 -4.09
[ -2.79474255e-0
[ 1.13951184e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99998182e-
[ 1.81199981e-0
[ 5.94181538e-0
[ 0.00000000e+0
71% (787 of 1101
invalid speed key
[[ 9.99992882e-
[ -3.48981875e-0
[ -1.43452565e-0
[ 0.00000000e+0
71% (788 of 1101
invalid speed key
[[ 9.99989748e-
```

```
[ -1.72901771e-0
[ -4.18506017e-0
[ 0.00000000e+0
71% (789 of 1101
invalid speed key
[[ 9.99983636e-
[ -4.50602102e-0
[ -3.52456014e-0
[ 0.00000000e+0
71% (790 of 1101
invalid speed key
[[ 9.99977784e-
[ -1.91623638e-0
[ -6.38436778e-0
[ 0.00000000e+0
71% (791 of 1101
invalid speed key
[[ 9.99991791e-
[ 9.63043406e-0
[ -3.93568363e-0
[ 0.00000000e+0
72% (793 of 1101
invalid speed key
[[ 9.99952987e-
[ -2.06923813e-0
[ -9.47318029e-0
[ 0.00000000e+0
72% (794 of 1101
invalid speed key
[[ 9.99997630e-
[ -1.00193170e-0
[ -1.93265630e-0
[ 0.00000000e+0
72% (795 of 1101
invalid speed key
[[ 9.99997683e-
[ -1.16218760e-0
[ -1.81200415e-0
[ 0.00000000e+0
72% (796 of 1101
invalid speed key
[[ 9.99991729e-
[ -2.23348419e-0
[ -4.06093639e-0
[ 0.00000000e+0
72% (797 of 1101
invalid speed key
[[ 9.99981695e-
[ -2.96043633e-0
[ -6.04335743e-0
```

```
[ 0.00000000e+0
72% (799 of 1101
invalid speed key
[[ 0.99995498  0
[-0.00125458  0.
[-0.00940576  0.
[ 0.          0.
72% (800 of 1101
invalid speed key
[[ 0.99997467  0
[-0.00164947  0.
[-0.00692431  0.
[ 0.          0.
72% (801 of 1101
WARNING: invalid
799 800 150 0.149
[-0.00237105  0.
[-0.00237302  0.
[ 0.          0.
72% (802 of 1101
invalid speed key
[[ 0.99993189  0
[-0.0027142   0.
[-0.01135119  0.
[ 0.          0.
72% (803 of 1101
invalid speed key
[[ 0.99994714 -0
[ 0.00692638  0.
[-0.00759885  0.
[ 0.          0.
73% (804 of 1101
WARNING: invalid
802 803 125 0.429
[ 0.00315372  0.
[-0.00335771  0.
[ 0.          0.
73% (805 of 1101
invalid speed key
[[ 0.99988117 -0
[ 0.00961815  0.
[-0.01204704 -0.
[ 0.          0.
73% (807 of 1101
invalid speed key
[[ 0.9998481   0
[-0.00585652  0.
[-0.01641571 -0.
[ 0.          0.
73% (809 of 1101
```

```
invalid speed key
[[ 0.99986677  0
[-0.00146498  0.
[-0.01625715  0.
[ 0.          0.
73% (812 of 1101
invalid speed key
[[ 0.99983652  0
[-0.00158061  0.
[-0.01801201  0.
[ 0.          0.
73% (813 of 1101
WARNING: invalid
811 812 149 0.229
[ 6.78382047e-0
[ -3.73050724e-0
[ 0.00000000e+0
74% (816 of 1101
invalid speed key
[[ 0.99975109 -0
[ 0.01229564  0.
[-0.01861661  0.
[ 0.          0.
74% (817 of 1101
WARNING: invalid
815 816 147 0.100
[ 2.18666607e-0
[ -2.61104224e-0
[ 0.00000000e+0
74% (818 of 1101
invalid speed key
[[ 9.99949585e-
[ 2.90144810e-0
[ -9.61300746e-0
[ 0.00000000e+0
74% (819 of 1101
invalid speed key
[[ 9.99983366e-
[ 2.84948153e-0
[ -5.76779938e-0
[ 0.00000000e+0
74% (820 of 1101
invalid speed key
[[ 9.99985161e-
[ -9.17527055e-0
[ -5.36982472e-0
[ 0.00000000e+0
74% (821 of 1101
WARNING: invalid
819 820 194 0.030
```

```
[ -7.78232206e-0
[ -2.76676448e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99983388e-
[ 1.42918223e-0
[ -5.76228954e-0
[ 0.00000000e+0
74% (822 of 1101
invalid speed key
[[ 0.99996481 -0
[ 0.00208496 0.
[-0.0081256 0.
[ 0. 0.
74% (823 of 1101
invalid speed key
[[ 9.99993051e-
[ 8.12961441e-0
[ -3.63833806e-0
[ 0.00000000e+0
74% (824 of 1101
invalid speed key
[[ 9.99975155e-
[ -2.26581361e-0
[ -7.04540902e-0
[ 0.00000000e+0
74% (825 of 1101
WARNING: invalid
823 824 124 -4.54
[ -9.12779672e-0
[ -4.21305122e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99974661e-
[ -1.52584573e-0
[ -6.95335677e-0
[ 0.00000000e+0
75% (826 of 1101
invalid speed key
[[ 9.99937383e-
[ -6.82436339e-0
[ -8.86888803e-0
[ 0.00000000e+0
75% (827 of 1101
invalid speed key
[[ 9.99967439e-
[ 1.00853294e-0
[ -8.00647834e-0
[ 0.00000000e+0
75% (828 of 1101
```

```
invalid speed key
[[ 9.99997044e-
[ -1.84220879e-0
[ -1.58694672e-0
[ 0.00000000e+0
75% (830 of 1101
invalid speed key
[[ 9.99988086e-
[ 3.94228066e-0
[ -4.86543516e-0
[ 0.00000000e+0
75% (831 of 1101
invalid speed key
[[ 0.99996039 0
[-0.00101117 0.
[-0.0088432 0.
[ 0. 0.
75% (834 of 1101
invalid speed key
[[ 9.99951591e-
[ -2.93474679e-0
[ -9.39167478e-0
[ 0.00000000e+0
75% (835 of 1101
invalid speed key
[[ 0.99995234 0
[-0.00196178 0.
[-0.00956412 0.
[ 0. 0.
76% (840 of 1101
invalid speed key
[[ 9.99944596e-
[ 5.73194619e-0
[ -8.82894186e-0
[ 0.00000000e+0
76% (841 of 1101
WARNING: invalid
839 840 177 0.420
[ 2.30131118e-0
[ -5.20726165e-0
[ 0.00000000e+0
invalid speed key
[[ 9.99983855e-
[ 2.15981749e-0
[ -5.67825121e-0
[ 0.00000000e+0
76% (843 of 1101
invalid speed key
[[ 9.99969659e-
[ -4.36700540e-0
```

```
[ -7.77750900e-0
[ 0.00000000e+0
76% (844 of 1101
invalid speed key
[[ 9.99992614e-
[ -2.31220847e-0
[ -3.06997626e-0
[ 0.00000000e+0
76% (846 of 1101
invalid speed key
[[ 9.99896287e-
[ -5.53631628e-0
[ -1.32952690e-0
[ 0.00000000e+0
77% (849 of 1101
invalid speed key
[[ 9.99770910e-
[ -1.17413843e-0
[ -1.78960298e-0
[ 0.00000000e+0
77% (850 of 1101
invalid speed key
[[ 9.99984979e-
[ 4.62190353e-0
[ -2.94608694e-0
[ 0.00000000e+0
77% (851 of 1101
invalid speed key
[[ 0.99997195 -0
[ 0.002188 0.
[-0.0071633 -0.
[ 0. 0.
77% (853 of 1101
invalid speed key
[[ 9.99965404e-
[ 6.45670927e-0
[ -5.24425161e-0
[ 0.00000000e+0
77% (854 of 1101
invalid speed key
[[ 9.99954725e-
[ -3.52005291e-0
[ -8.84069801e-0
[ 0.00000000e+0
77% (855 of 1101
invalid speed key
[[ 0.99996658 -0
[ 0.00281291 0.
[-0.00767593 0.
[ 0. 0.
```



```
78% (859 of 1101
invalid speed key
[[ 9.99961153e-
[ 2.22297616e-0
[ -8.52939471e-0
[ 0.00000000e+0
78% (860 of 1101
invalid speed key
[[ 9.99978635e-
[ -5.57180246e-0
[ 3.41813478e-0
[ 0.00000000e+0
78% (861 of 1101
invalid speed key
[[ 0.99996573 0
[-0.00408557 0.
[-0.00719994 0.
[ 0. 0.
78% (862 of 1101
invalid speed key
[[ 0.99996737 0
[-0.00212334 0.
[-0.00779467 0.
[ 0. 0.
78% (864 of 1101
invalid speed key
[[ 0.99988549 0
[-0.01105039 0.
[-0.01033937 0.
[ 0. 0.
78% (866 of 1101
invalid speed key
[[ 0.99979618 0
[-0.01677784 0.
[-0.01122989 -0.
[ 0. 0.
78% (867 of 1101
invalid speed key
[[ 0.99993652 0
[-0.01022759 0.
[-0.0047284 -0.
[ 0. 0.
79% (870 of 1101
invalid speed key
[[ 9.99656412e-
[ -2.49118420e-0
[ -8.15214338e-0
[ 0.00000000e+0
79% (872 of 1101
invalid speed key
```

```
[[ 9.99917474e-
[ -9.89001579e-0
[ 8.19958168e-0
[ 0.00000000e+0
79% (876 of 1101
invalid speed key
[[ 9.99858051e-
[ -1.68379467e-0
[ 6.00687331e-0
[ 0.00000000e+0
79% (879 of 1101
invalid speed key
[[ 9.99258885e-
[ -4.13324545e-0
[ 3.84903877e-0
[ 0.00000000e+0
80% (881 of 1101
invalid speed key
[[ 9.99635879e-
[ -2.95289060e-0
[ 2.69818915e-0
[ 0.00000000e+0
80% (883 of 1101
invalid speed key
[[ 0.9993297  0
[-0.00540066  0.
[ 0.03620751  0.
[ 0.          0.
80% (884 of 1101
invalid speed key
[[ 0.99966172  0
[-0.0042002  0.
[ 0.02566733  0.
[ 0.          0.
80% (885 of 1101
invalid speed key
[[ 0.99961373  0
[-0.0045022  0.
[ 0.02742489  0.
[ 0.          0.
80% (889 of 1101
invalid speed key
[[ 9.95065141e-
[ -3.85596994e-0
[ 9.91488636e-0
[ 0.00000000e+0
80% (891 of 1101
invalid speed key
[[ 9.97611949e-
[ -7.24207359e-0
```

```
[ 6.86873517e-0
[ 0.00000000e+0
81% (896 of 1101
invalid speed key
[[ 9.85878728e-
[ 1.97252326e-0
[ 1.67449225e-0
[ 0.00000000e+0
81% (900 of 1101
invalid speed key
[[ 9.92774272e-
[ -1.62209208e-0
[ 1.18895445e-0
[ 0.00000000e+0
82% (907 of 1101
invalid speed key
[[ 9.79714639e-
[ -2.19234534e-0
[ 2.00385676e-0
[ 0.00000000e+0
82% (909 of 1101
invalid speed key
[[ 0.99695477 0
[-0.00469702 0.
[ 0.07784035 -0.
[ 0. 0.
82% (912 of 1101
invalid speed key
[[ 9.94576267e-
[ -1.12592997e-0
[ 1.04003752e-0
[ 0.00000000e+0
83% (920 of 1101
invalid speed key
[[ 9.71737485e-
[ -2.52837893e-0
[ 2.34706180e-0
[ 0.00000000e+0
83% (924 of 1101
invalid speed key
[[ 9.90642818e-
[ 5.55847778e-0
[ 1.36366826e-0
[ 0.00000000e+0
84% (930 of 1101
invalid speed key
[[ 0.98146558 -0
[ 0.01272197 0.
[ 0.19121574 -0.
[ 0. 0.
```

```
85% (941 of 1101
invalid speed key
[[ 9.94866209e-
[ 1.44812293e-0
[ 1.01188584e-0
[ 0.00000000e+0
86% (948 of 1101
invalid speed key
[[ 9.69657842e-
[ 2.01829120e-0
[ 2.44457757e-0
[ 0.00000000e+0
87% (968 of 1101
invalid speed key
[[ 0.99256382 0
[-0.00955789 0.
[ 0.1213495 0.
[ 0. 0.
88% (970 of 1101
invalid speed key
[[ 0.99832783 -0
[ 0.01550634 0.
[ 0.05568745 0.
[ 0. 0.
88% (972 of 1101
invalid speed key
[[ 9.98832561e-
[ -6.59056232e-0
[ 4.78547764e-0
[ 0.00000000e+0
88% (978 of 1101
invalid speed key
[[ 9.99095148e-
[ -4.83120340e-0
[ 4.25282362e-0
[ 0.00000000e+0
89% (980 of 1101
invalid speed key
[[ 0.9996774 -0
[ 0.00511873 0.
[ 0.02487753 0.
[ 0. 0.
89% (985 of 1101
invalid speed key
[[ 0.9998882 -0
[ 0.00136339 0.
[ 0.01489025 0.
[ 0. 0.
89% (986 of 1101
invalid speed key
```

```
[[ 9.99969563e-
[ 1.47905830e-0
[ 7.66058671e-0
[ 0.00000000e+0
89% (988 of 1101
invalid speed key
[[ 9.99894916e-
[ -4.48971905e-0
[ 1.37840129e-0
[ 0.00000000e+0
89% (989 of 1101
invalid speed key
[[ 9.99988178e-
[ -3.61699237e-0
[ 4.84912320e-0
[ 0.00000000e+0
89% (990 of 1101
invalid speed key
[[ 9.99990442e-
[ 2.75696239e-0
[ 4.36341233e-0
[ 0.00000000e+0
90% (991 of 1101
invalid speed key
[[ 9.99994426e-
[ -1.42527210e-0
[ 3.01939511e-0
[ 0.00000000e+0
90% (992 of 1101
invalid speed key
[[ 9.99998797e-
[ 4.11298560e-0
[ 1.49589274e-0
[ 0.00000000e+0
90% (993 of 1101
invalid speed key
[[ 9.99995990e-
[ 5.81563462e-0
[ 2.77165555e-0
[ 0.00000000e+0
90% (994 of 1101
invalid speed key
[[ 9.9998327e-
[ 9.79481208e-0
[ 1.54457887e-0
[ 0.00000000e+0
90% (995 of 1101
invalid speed key
[[ 9.99995034e-
[ 3.47559311e-0
```

```
[ 3.13214133e-0
[ 0.00000000e+0
90% (996 of 1101
invalid speed key
[[ 9.99999969e-
[ -1.00766277e-0
[ 2.25652338e-0
[ 0.00000000e+0
90% (997 of 1101
invalid speed key
[[ 9.99997647e-
[ -7.86693830e-0
[ 2.02174076e-0
[ 0.00000000e+0
90% (999 of 1101
invalid speed key
[[ 9.99993660e-
[ 3.55818434e-0
[ -1.35695110e-0
[ 0.00000000e+0
90% (1001 of 110
invalid speed key
[[ 9.99994970e-
[ 3.08804114e-0
[ 7.23417924e-0
[ 0.00000000e+0
91% (1004 of 110
invalid speed key
[[ 0.99999701 -0
[ 0.00140331 0.
[ 0.00200284 0.
[ 0. 0.
91% (1006 of 110
invalid speed key
[[ 9.99986610e-
[ 5.15677619e-0
[ -4.34064543e-0
[ 0.00000000e+0
91% (1009 of 110
invalid speed key
[[ 0.99995421 -0
[ 0.00181264 0.
[ 0.00939596 0.
[ 0. 0.
91% (1010 of 110
invalid speed key
[[ 0.99997035 -0
[ 0.00136694 0.
[ 0.00757869 0.
[ 0. 0.
```

```
91% (1012 of 110
invalid speed key
[[ 0.99983571 -0
[ 0.00116405 0.
[ 0.01808887 0.
[ 0.          0.
92% (1013 of 110
WARNING: invalid
1011 1012 104 0.4
[ 2.63329082e-0
[ 9.55656722e-0
[ 0.00000000e+0
92% (1014 of 110
invalid speed key
[[ 0.99918732 -0
[ 0.00341561 0.
[ 0.04016269 0.
[ 0.          0.
92% (1016 of 110
invalid speed key
[[ 9.99312079e-
[ 1.04173939e-0
[ 3.70713406e-0
[ 0.00000000e+0
92% (1018 of 110
invalid speed key
[[ 0.99897853 -0
[ 0.00362785 0.
[ 0.04504143 0.
[ 0.          0.
92% (1023 of 110
invalid speed key
[[ 0.99291655 -0
[ 0.00419624 0.
[ 0.11873971 -0.
[ 0.          0.
93% (1024 of 110
invalid speed key
[[ 9.98872363e-
[ -2.83360636e-0
[ 4.73917077e-0
[ 0.00000000e+0
93% (1025 of 110
invalid speed key
[[ 9.98542358e-
[ -1.03577583e-0
[ 5.39637591e-0
[ 0.00000000e+0
93% (1031 of 110
invalid speed key
```

```
[[ 9.76445158e-
[ 1.58576876e-0
[ 2.15182218e-0
[ 0.00000000e+0
94% (1043 of 110
invalid speed key
[[ 9.94079535e-
[ -8.86337117e-0
[ 1.08651246e-0
[ 0.00000000e+0
94% (1045 of 110
invalid speed key
[[ 0.99397808 0
[-0.0022294 0.
[ 0.10955643 -0.
[ 0. 0.
95% (1046 of 110
invalid speed key
[[ 0.99722089 0
[-0.0085376 0.
[ 0.07401083 -0.
[ 0. 0.
95% (1048 of 110
WARNING: invalid
1045 1046 38 1.92
[ -5.63401852e-0
[ 3.83722864e-0
[ 0.00000000e+0
95% (1050 of 110
WARNING: invalid
1048 1049 32 0.01
[ 0.00599383 0.
[ 0.03807699 -0.
[ 0. 0.
95% (1052 of 110
WARNING: invalid
1050 1051 25 0.50
[ -1.57150029e-0
[ 3.45837012e-0
[ 0.00000000e+0
95% (1054 of 110
invalid speed key
[[ 9.95932791e-
[ -3.63062718e-0
[ 9.00260778e-0
[ 0.00000000e+0
96% (1057 of 110
WARNING: invalid
1055 1056 16 -4.1
[-0.02324859 0.
```



```
[ 0.00880066 -0.
[ 0.          0.
96% (1058 of 110
WARNING: invalid
1056 1057 18 -0.6
[ -5.96731984e-0
[ 4.58190713e-0
[ 0.00000000e+0
96% (1064 of 110
WARNING: invalid
1062 1063 10 0.98
[ 0.01917573 0.
[ 0.02881551 0.
[ 0.          0.
96% (1065 of 110
WARNING: invalid
1063 1064 6 -1.83
[-0.00677177 0.
[ 0.02807835 -0.
[ 0.          0.
96% (1066 of 110
WARNING: invalid
1064 1065 13 -0.1
[ 0.00585918 0.
[ 0.02922909 0.
[ 0.          0.
96% (1067 of 110
WARNING: invalid
1065 1066 13 -0.5
[-0.00338437 0.
[ 0.03283898 -0.
[ 0.          0.
97% (1068 of 110
WARNING: invalid
1066 1067 9 -1.71
[ -2.69716124e-0
[ 3.42249182e-0
[ 0.00000000e+0
97% (1069 of 110
WARNING: invalid
1067 1068 4 -0.17
[ 0.006284    0.
[ 0.03147684 -0.
[ 0.          0.
97% (1070 of 110
WARNING: invalid
1068 1069 6 4.535
[ 4.47634560e-0
[ 3.06625127e-0
[ 0.00000000e+0
```

```
97% (1071 of 110
WARNING: invalid
1069 1070 1 4.535
[ 4.47634560e-0
[ 3.06625127e-0
[ 0.00000000e+0
97% (1072 of 110
WARNING: invalid
1070 1071 9 -0.22
[-0.00791384 0.
[ 0.03347328 -0.
[ 0. 0.
97% (1073 of 110
WARNING: invalid
1071 1072 2 -0.22
[-0.00791384 0.
[ 0.03347328 -0.
[ 0. 0.
97% (1074 of 110
WARNING: invalid
1072 1073 2 -0.22
[-0.00791384 0.
[ 0.03347328 -0.
[ 0. 0.
97% (1075 of 110
WARNING: invalid
1073 1074 9 -1.82
[ 1.41945809e-0
[ 3.00957733e-0
[ 0.00000000e+0
97% (1076 of 110
WARNING: invalid
1074 1075 13 -0.9
[ 1.01443248e-0
[ 3.01543516e-0
[ 0.00000000e+0
97% (1077 of 110
WARNING: invalid
1075 1076 10 -0.0
[-0.0034022 0.
[ 0.02656521 -0.
[ 0. 0.
97% (1078 of 110
WARNING: invalid
1076 1077 12 -2.2
[ 5.09109396e-0
[ 2.48823715e-0
[ 0.00000000e+0
98% (1079 of 110
WARNING: invalid
```

```
1077 1078 12 -16.
[ 1.19883941e-0
[ 2.45546705e-0
[ 0.00000000e+0
98% (1080 of 110
WARNING: invalid
1078 1079 16 -9.6
[ 1.32685021e-0
[ 2.77406354e-0
[ 0.00000000e+0
98% (1081 of 110
WARNING: invalid
1079 1080 13 -5.1
[ 7.92115717e-0
[ 4.54773809e-0
[ 0.00000000e+0
98% (1082 of 110
WARNING: invalid
1080 1081 13 -6.5
[ -3.71727529e-0
[ 1.57177630e-0
[ 0.00000000e+0
98% (1083 of 110
WARNING: invalid
1081 1082 10 9.06
[-0.027664 0.
[ 0.01243793 -0.
[ 0. 0.
98% (1084 of 110
WARNING: invalid
1082 1083 10 15.0
[ 0.0216891
[ 0.01707217
[ 0.
98% (1085 of 110
WARNING: invalid
1083 1084 10 3.65
[ 6.71518140e-0
[ 6.24614042e-0
[ 0.00000000e+0
98% (1086 of 110
WARNING: invalid
1084 1085 10 11.1
[ 1.25189674e-0
[ 3.71876247e-0
[ 0.00000000e+0
98% (1088 of 110
invalid speed key
[[ 9.99859374e-
[ -4.45337789e-0
```

```
[ 1.61678550e-0
[ 0.00000000e+0
99% (1090 of 110
WARNING: invalid
1088 1089 11 4.33
[ -4.96696243e-0
[ 1.13476664e-0
[ 0.00000000e+0
99% (1091 of 110
WARNING: invalid
1089 1090 9 -1.52
[ 2.08056013e-0
[ 1.93187600e-0
[ 0.00000000e+0
99% (1092 of 110
WARNING: invalid
1090 1091 17 -0.8
[ 0.00302541 0.
[ 0.00106771 0.
[ 0. 0.
invalid speed key
[[ 9.99999954e-
[ 1.88068110e-0
[ 2.36074648e-0
[ 0.00000000e+0
99% (1093 of 110
invalid speed key
[[ 9.99995837e-
[ 2.81777909e-0
[ 6.20795373e-0
[ 0.00000000e+0
99% (1094 of 110
invalid speed key
[[ 9.99997165e-
[ 1.81843484e-0
[ -1.53749931e-0
[ 0.00000000e+0
99% (1095 of 110
invalid speed key
[[ 9.99998793e-
[ -1.44336503e-0
[ -5.74644982e-0
[ 0.00000000e+0
99% (1096 of 110
invalid speed key
[[ 9.99993854e-
[ -3.31654408e-0
[ -1.13648237e-0
[ 0.00000000e+0
99% (1097 of 110
```

```
WARNING: invalid
1095 1096 24 0.40
[ 1.12577668e-0
[ -1.61178877e-0
[ 0.00000000e+0
99% (1099 of 110
invalid speed key
[[ 0.99994255 -0
[ 0.0079604 0.
[-0.00717862 0.
[ 0. 0.
100% (1101 of 110
WARNING: invalid
1099 1100 14 0.01
[ -4.73091501e-0
[ -2.38780562e-0
[ 0.00000000e+0
```







































































































## Run2

| Elapsed Time: 0:00:07 ETA: 0:27:15  
frame 0 frame 5 speed 4.2037394879514585

| Elapsed Time: 0:00:37 ETA: 0:25:33  
frame 28 frame 32 speed 3.0287158007618356

| Elapsed Time: 0:00:48 ETA: 0:38:14  
frame 31 frame 36 speed 19.89859569760632  
-0.01803438 -0.06712596 -9.58557615]  
0.99959522 0.02074687 -6.33959193]  
0.02200342 0.99752878 13.99379343]  
0. 0. 1. ]]

| Elapsed Time: 0:01:14 ETA: 0:50:35  
frame 35 frame 44 speed 7.0783403181142726  
01 3.07695061e-02 -1.54843079e-01 -2.00602756e+00]  
2 9.99524693e-01 6.64894155e-03 -1.63991526e+00]  
1 -1.90434699e-03 9.87916703e-01 -4.10564614e+00]  
0 0.00000000e+00 0.00000000e+00 1.00000000e+00]]  
|# Elapsed Time: 0:01:46 ETA: 1:16:57  
frame 43 frame 49 speed 1.909240910004077

|# Elapsed Time: 0:02:21 ETA: 2:01:14  
frame 48 frame 53 speed 0.26826916701790715  
01 8.50979771e-03 -2.45005066e-02 5.20839410e-01]  
3 9.99961179e-01 -2.07660950e-03 8.27276995e-01]  
2 2.28571430e-03 9.99697661e-01 -5.21041733e+00]  
0 0.00000000e+00 0.00000000e+00 1.00000000e+00]]  
|# Elapsed Time: 0:03:14 ETA: 1:59:14  
frame 52 frame 60 speed 5.260293051764874  
01 -7.99663149e-03 -1.73851671e-04 -2.52365346e+00]





















































076920607 0.00412710822595 [[ 9.99991435e-01 3.12094986e-04 4.12710823e-03

798580307 0.00370623669681 [[ 9.99990918e-01 2.10414968e-03 3.70623670e-03

976906949413 0.00323939110706 [[ 9.99988241e-01 -3.60899508e-03 3.23939111e-

854942855 0.00372956306362 [[ 9.99993005e-01 -2.83730649e-04 3.72956306e-03

998881706 0.00486940523169 [[ 9.99986451e-01 1.84040360e-03 4.86940523e-03

943384952 0.00480513148845 [[ 9.99987461e-01 1.41012375e-03 4.80513149e-03

175237359 0.00473131613271 [[ 9.99986857e-01 -1.97504578e-03 4.73131613e-03

285863457 0.00466985258883 [[ 9.99987307e-01 -1.89151136e-03 4.66985259e-03

016191307 0.00445904915771 [[ 9.99988208e-01 -1.92366140e-03 4.45904916e-03

883974517 0.00428170429039 [[ 9.99989969e-01 -1.31519772e-03 4.28170429e-03

640973896 0.00411635371203 [[ 9.99991375e-01 5.53428563e-04 4.11635371e-03

605665829 0.00387248280161 [[ 9.99992457e-01 2.99055046e-04 3.87248280e-03

153937441 0.00474316421405 [[ 9.99988749e-01 -6.76526764e-05 4.74316421e-03

866929642 0.00417431101352 [[ 9.99991226e-01 -3.51278482e-04 4.17431101e-03

241041319 0.00284743585666 [[ 9.99990145e-01 -3.40627415e-03 2.84743586e-03

63648521 0.00241474271969 [[ 9.99995689e-01 -1.67061885e-03 2.41474272e-03

70993356 0.00299217161833 [[ 9.99995486e-01 2.72401514e-04 2.99217162e-03



55119638 0.000540531053615 [[ 9.99958708e-01 -9.07138796e-03 5.40531054e-04

663993508 0.00046776164066 [[ 9.99999014e-01 -1.32402590e-03 4.67761641e-04

46280671 0.000459373053001 [[ 9.99999149e-01 -1.22129429e-03 4.59373053e-04

9998365 0.000505530410481 [[ 9.99989646e-01 -4.52241881e-03 5.05530410e-04

32176116 0.00193127304218 [[ 9.99997783e-01 -8.39173340e-04 1.93127304e-03

5775334192 0.00318536178818 [[ 9.99994783e-01 5.35959212e-04 3.18536179e-01

949253995 0.0025925784335 [[ 9.99996447e-01 6.20178254e-04 2.59257843e-03



5458838 0.00284490298942 [[ 9.99987725e-01 -4.05665506e-03 2.84490299e-03

891151841 0.00185875853652 [[ 9.99995617e-01 -2.30468107e-03 1.85875854e-03





279432787 0.00409896639135 [[ 9.99970476e-01 6.49966118e-03 4.09896639e-03

167501535 0.00269592198723 [[ 9.99987320e-01 -4.25342098e-03 2.69592199e-03









76743587 0.00135514533438 [[ 9.99995003e-01 2.85629300e-03 1.35514533e-03







14264808 0.00116312323321 [[ 9.99999092e-01 -6.81240497e-04 -1.16312323e-03















208633922 0.00113935706624 [[ 9.99999312e-01 2.80104584e-04 -1.13935707e-03







970616073 0.00373142848573 [[ 9.99992812e-01 -6.73296326e-04 3.73142849e-03

505792902 0.002609594094 [[ 9.99994200e-01 -2.18839410e-03 2.60959409e-03 .

1087665764 0.00276626922951 [[ 9.99995870e-01 7.79990767e-04 2.76626923e-03

88102725 0.00421458203161 [[ 9.99990708e-01 9.05685176e-04 4.21458203e-03

848629283 0.00520810470725 [[ 9.99983794e-01 -2.29940263e-03 5.20810471e-03

















50003202051 0.00955439471397 [[ 9.99950868e-01 -2.64116246e-03 -9.55439471e-01

138346871 0.0383645063902 [[ 9.99247630e-01 5.68675487e-03 -3.83645064e-02

4767353348 0.0345823559177 [[ 9.99400569e-01 1.60083142e-03 -3.45823559e-02

10027744766 0.0458242353484 [[ 9.98931932e-01 5.92753393e-03 -4.58242353e-03

477675342 0.0342226401102 [[ 9.99414119e-01 4.78198207e-04 -3.42226401e-02

52686977e-05 0.030664464211 [[ 9.99529694e-01 -2.84073287e-04 -3.06644642e-03

52686977e-05 0.030664464211 [[ 9.99529694e-01 -2.84073287e-04 -3.06644642e-01

070398635 0.0300973533277 [[ 9.99546012e-01 -1.38555207e-03 -3.00973533e-02

76800971461 0.0301542552022 [[ 9.99545249e-01 -1.26896180e-04 -3.01542552e-01

3915719334 0.0248823049875 [[ 9.99690385e-01 -7.68119397e-05 -2.48823050e-02

4773061113 0.024434481181 [[ 9.99626604e-01 -1.22314990e-02 -2.44344812e-02

2107555849 0.0277407490732 [[ 9.99614274e-01 -1.32447250e-03 -2.77407491e-02

7511669144 0.0454791351337 [[ 9.98965055e-01 -6.84021372e-04 -4.54791351e-02

7982468501 0.0157116201467 [[ 9.99869558e-01 3.74315414e-03 -1.57116201e-02

146346101 0.349508639403 [[ 3.98648576e-01 -8.47893286e-01 3.49508639e-01 .

653729554 0.00371692980744 [[ 9.99992302e-01 -1.25732755e-03 -3.71692981e-03



42947925 0.0113513646534 [[ 9.99923277e-01 4.95850467e-03 -1.13513647e-02

314645467 0.00192932757407 [[ 9.99995970e-01 -2.08292353e-03 -1.92932757e-03

5163298885 0.00161187361373 [[ 9.99998695e-01 -1.11356337e-04 1.61187361e-01

35246553083 0.00238644581686 [[ 9.99997037e-01 4.79903763e-04 2.38644582e-01





































































































```
speed < -2 or speed > 0
rotation > 0.1
#os.environ['STEREO_CONFIDENCE'] = '1.6'
#os.environ['SEQUENCE_CONFIDENCE'] = '1.6'
#os.environ['PATCH_SIZE'] = '17'
points_left < 10 or invalid_rotation or invalid_speed
```

```
0% (5 of 1101) | | Elapsed Time: 0:00:07 ETA: 0:26:0
invalid speed keyframe 1709 frame 1714 speed 4.2037394879514585
[[ 0.97477079 0.0036529 -0.22317834 1.76321253]
 [-0.00251859 0.99998243 0.00536694 -0.1015843 ]
 [ 0.22319402 -0.00466944 0.97476286 -0.01759371]
 [ 0.          0.          0.          1.          ]]
2% (32 of 1101) | | Elapsed Time: 0:00:38 ETA: 0:24:
invalid speed keyframe 1737 frame 1741 speed 3.0287158007618356
[[ 0.98742278 -0.03224705 -0.15477849 1.40606812]
 [ 0.03668748 0.99899063 0.025918 -2.71162053]
 [ 0.15378648 -0.03127045 0.98760917 -0.247766 ]
 [ 0.          0.          0.          1.          ]]
3% (36 of 1101) | | Elapsed Time: 0:00:50 ETA: 0:38:
invalid speed keyframe 1740 frame 1745 speed 19.89859569760632
[[ 0.99758151 -0.01803438 -0.06712596 -9.58557615]
 [ 0.01946682 0.99959522 0.02074687 -6.33959193]
 [ 0.06672463 -0.02200342 0.99752878 13.99379343]
 [ 0.          0.          0.          1.          ]]
3% (44 of 1101) | | Elapsed Time: 0:01:20 ETA: 0:57:
invalid speed keyframe 1744 frame 1753 speed 7.0783403181142726
[[ 9.87459801e-01 3.07695061e-02 -1.54843079e-01 -2.00602756e+00]
 [-3.01028341e-02 9.99524693e-01 6.64894155e-03 -1.63991526e+00]
 [ 1.54974066e-01 -1.90434699e-03 9.87916703e-01 -4.10564614e+00]
 [ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
4% (49 of 1101) |# | Elapsed Time: 0:01:54 ETA: 1:23:
invalid speed keyframe 1752 frame 1758 speed 1.909240910004077
[[ 0.99775973 0.01166936 -0.06587375 2.0516035 ]
 [-0.01093439 0.99987401 0.01150678 -0.38773127]
 [ 0.06599972 -0.01076071 0.99776162 -4.43326272]
 [ 0.          0.          0.          1.          ]]
4% (53 of 1101) |# | Elapsed Time: 0:02:35 ETA: 2:16:
invalid speed keyframe 1757 frame 1762 speed 0.26826916701790715
[[ 9.99663598e-01 8.50979771e-03 -2.45005066e-02 5.20839410e-01]
 [-8.56322602e-03 9.99961179e-01 -2.07660950e-03 8.27276995e-01]
 [ 2.44818840e-02 2.28571430e-03 9.99697661e-01 -5.21041733e+00]
 [ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
5% (60 of 1101) |# | Elapsed Time: 0:03:37 ETA: 2:18:
invalid speed keyframe 1761 frame 1769 speed 5.260293051764874
[[ 9.99968011e-01 -7.99663149e-03 -1.73851671e-04 -2.52365346e+00]
```



```

[ 7.99681069e-03  9.99967468e-01  1.05569423e-03 -1.16148115e+00]
[ 1.65404018e-04 -1.05705071e-03  9.99999428e-01 -5.10883159e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
5% (61 of 1101) |# | Elapsed Time: 0:03:59 ETA: 2:47:
invalid speed keyframe 1768 frame 1770 speed 0.14741811260516902
[[ 9.99989001e-01 -1.19412424e-03 -4.53567528e-03  8.34397146e-01]
[ 1.19996905e-03  9.99998453e-01  1.28612842e-03 -1.61354600e-01]
[ 4.53413246e-03 -1.29155694e-03  9.99988887e-01 -1.37012952e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
5% (64 of 1101) |# | Elapsed Time: 0:04:23 ETA: 2:21:
invalid speed keyframe 1769 frame 1773 speed 0.10180134557114906
[[ 9.99794397e-01 -2.28894938e-03  2.01475694e-02 -2.66004000e+00]
[ 2.15686308e-03  9.99976057e-01  6.57523292e-03 -1.30554145e+00]
[ -2.01621374e-02 -6.53042548e-03  9.99775396e-01 -3.97788708e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
6% (68 of 1101) |# | Elapsed Time: 0:04:51 ETA: 2:27:
invalid speed keyframe 1772 frame 1777 speed 0.7772591198174439
[[ 0.99983147  0.01783234  0.00436414  0.05971315]
[-0.01777641  0.9997634 -0.01253602  0.59976449]
[-0.00458665  0.01245633  0.9999119 -4.29277567]
[ 0. 0. 0. 1. ]]
7% (84 of 1101) |# | Elapsed Time: 0:06:36 ETA: 2:00:
invalid speed keyframe 1786 frame 1793 speed 6.791580445630466
[[ 9.99700995e-01 -2.13417862e-03 -2.43590952e-02  8.87849210e-01]
[ 1.75602020e-03  9.99877780e-01 -1.55351681e-02  8.11370722e-01]
[ 2.43892728e-02  1.54877479e-02  9.99582559e-01 -4.68219854e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
7% (88 of 1101) |# | Elapsed Time: 0:07:02 ETA: 1:29:
invalid speed keyframe 1792 frame 1797 speed 10.316892558941722
[[ 9.99644278e-01  1.98125613e-02 -1.78544017e-02  8.05040827e-01]
[ -1.97742388e-02  9.99801778e-01  2.32039924e-03 -1.52527112e-01]
[ 1.78968356e-02 -1.96651662e-03  9.99837905e-01  2.37068031e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
8% (92 of 1101) |# | Elapsed Time: 0:07:27 ETA: 1:35:
invalid speed keyframe 1796 frame 1801 speed 10.612806315045772
[[ 0.99976084  0.00799969 -0.02035349  0.38003634]
[-0.0079312  0.99996262  0.00344314  0.10410532]
[ 0.02038027 -0.00328089  0.99978692  2.63836642]
[ 0. 0. 0. 1. ]]
8% (95 of 1101) |# | Elapsed Time: 0:07:46 ETA: 1:33:
invalid speed keyframe 1800 frame 1804 speed 2.377623458951881
[[ 9.99564112e-01 -1.21518873e-02 -2.69057132e-02  1.50669669e+00]
[ 1.21651011e-02  9.99925949e-01  3.27479530e-04 -5.16460515e-01]
[ 2.68997413e-02 -6.54647508e-04  9.99637922e-01 -3.87322747e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
9% (103 of 1101) |## | Elapsed Time: 0:08:26 ETA: 1:14:
WARNING: invalid pose estimation
1810 1811 14 -2.22258625451 0.00409037247918 [[ 9.99990046e-01  1.78234539e-
[ -1.78694929e-03  9.99997774e-01 -1.12216730e-03  9.42772214e-02]
[ 4.08836328e-03  1.12946541e-03  9.99991005e-01 -2.22258625e+00]

```

```
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
9% (104 of 1101) |## | Elapsed Time: 0:08:32 ETA: 1:19:.
WARNING: invalid pose estimation
1811 1812 9 -1.36666578287 0.0354584327013 [[ 9.99370036e-01 -1.49369502e-0
[ 1.12502668e-03 9.99945131e-01 1.04148738e-02 -3.30765348e-01]
[ -3.54720438e-02 -1.03684211e-02 9.99316882e-01 -1.36666578e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
9% (107 of 1101) |## | Elapsed Time: 0:08:41 ETA: 1:10:.
invalid speed keyframe 1812 frame 1816 speed 5.441470461907687
[[ 0.99852031 0.0443036 -0.03153373 4.10021991]
[-0.04454669 0.99898244 -0.00704834 1.56423633]
[ 0.03118938 0.00844264 0.99947784 -1.94370658]
[ 0. 0. 0. 1. ]]
9% (108 of 1101) |## | Elapsed Time: 0:08:52 ETA: 1:24:.
invalid speed keyframe 1815 frame 1817 speed 2.7218554116800977
[[ 0.9999604 -0.00383798 -0.00802983 -0.03567073]
[ 0.0038278 0.99999185 -0.0012816 0.22164781]
[ 0.00803468 0.00125082 0.99996694 0.52802213]
[ 0. 0. 0. 1. ]]
10% (112 of 1101) |## | Elapsed Time: 0:09:34 ETA: 2:01:.
WARNING: invalid pose estimation
1819 1820 16 54.210141361 0.205305265629 [[ 3.70478982e-01 -9.05867028e-01
[ 9.28112468e-01 3.52280468e-01 -1.20439686e-01 1.29166394e+01]
[ 3.67773052e-02 2.35166749e-01 9.71258992e-01 5.42101414e+01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
10% (113 of 1101) |## | Elapsed Time: 0:09:44 ETA: 2:09:.
WARNING: invalid pose estimation
1820 1821 9 2.23591497292e-06 0.00270149021946 [[ 9.99996342e-01 -1.3416563
[ 1.37814403e-04 9.99999079e-01 1.35050986e-03 6.09225136e-06]
[ 2.70130654e-03 -1.35087722e-03 9.99995439e-01 2.23591497e-06]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
10% (117 of 1101) |## | Elapsed Time: 0:10:11 ETA: 2:27:.
invalid speed keyframe 1823 frame 1826 speed -4.004925654999178
[[ 9.99925623e-01 3.09303954e-03 -1.17974949e-02 1.20358410e-01]
[ -3.05373782e-03 9.99989733e-01 3.34792159e-03 2.39483847e-02]
[ 1.18077290e-02 -3.31164612e-03 9.99924802e-01 -6.95510789e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
10% (121 of 1101) |## | Elapsed Time: 0:10:28 ETA: 1:48:.
invalid speed keyframe 1825 frame 1830 speed 2.003889973942126
[[ 9.99736269e-01 -3.68372071e-03 -2.26676554e-02 3.83514293e-01]
[ 3.69815245e-03 9.99992985e-01 5.94779543e-04 3.42219061e-01]
[ 2.26653053e-02 -6.78451126e-04 9.99742879e-01 -7.90378810e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
11% (130 of 1101) |## | Elapsed Time: 0:11:19 ETA: 1:25:.
invalid speed keyframe 1835 frame 1839 speed -5.673312122102701
[[ 9.99830171e-01 -6.17246107e-03 -1.73645876e-02 7.11972437e-01]
[ 6.20205009e-03 9.99979405e-01 1.65064965e-03 1.08341779e+00]
[ 1.73540414e-02 -1.75806536e-03 9.99847862e-01 -1.13784428e+01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
12% (135 of 1101) |## | Elapsed Time: 0:12:00 ETA: 1:51:.
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invalid speed keyframe 1841 frame 1844 speed 2.762832800630941
[[ 0.99980814 -0.01867054 -0.00592454 -1.66427538]
[ 0.01862163 0.99979293 -0.00820569 0.90644635]
[ 0.00607652 0.00809379 0.99994878 -1.93893043]
[ 0. 0. 0. 1. ]]
12% (138 of 1101) |### | Elapsed Time: 0:12:15 ETA: 1:41:0
invalid speed keyframe 1843 frame 1847 speed 0.369222851108141
[[ 9.99853470e-01 -2.49168543e-04 -1.71165539e-02 1.34665288e-01]
[ 1.82048095e-04 9.99992289e-01 -3.92282245e-03 6.72064558e-01]
[ 1.71173993e-02 3.91913160e-03 9.99845806e-01 -6.78680742e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
12% (142 of 1101) |### | Elapsed Time: 0:12:32 ETA: 1:27:0
invalid speed keyframe 1846 frame 1851 speed -5.397074745361472
[[ 9.99192741e-01 1.89977000e-02 -3.53970740e-02 3.19560329e+00]
[ -1.93119497e-02 9.99776887e-01 -8.55716440e-03 1.68993767e+00]
[ 3.52266100e-02 9.23384307e-03 9.99336691e-01 -1.28823872e+01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
14% (156 of 1101) |### | Elapsed Time: 0:13:06 ETA: 0:31:0
invalid speed keyframe 1859 frame 1865 speed -4.09739575748995
[[ 9.99714963e-01 -2.89873544e-03 -2.36978713e-02 5.11870741e-01]
[ 2.90566561e-03 9.99995745e-01 2.58009889e-04 2.24828213e-01]
[ 2.36970226e-02 -3.26794436e-04 9.99719133e-01 -1.63655504e+01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
14% (158 of 1101) |### | Elapsed Time: 0:13:12 ETA: 0:29:0
invalid speed keyframe 1864 frame 1867 speed 0.059820824236893166
[[ 0.99960217 0.01004549 0.02635509 -3.30862767]
[-0.01037021 0.99987164 0.01221345 -0.96777815]
[-0.02622902 -0.0124819 0.99957803 -5.02004515]
[ 0. 0. 0. 1. ]]
15% (170 of 1101) |### | Elapsed Time: 0:13:46 ETA: 0:41:0
invalid speed keyframe 1874 frame 1879 speed 5.491292424441075
[[ 9.99947130e-01 9.87207821e-03 -2.87743179e-03 -2.71280151e+00]
[ -9.83961618e-03 9.99890141e-01 1.10854823e-02 -1.64637481e+00]
[ 2.98655243e-03 -1.10565834e-02 9.99934414e-01 -4.62506963e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
15% (173 of 1101) |### | Elapsed Time: 0:14:02 ETA: 0:59:0
invalid speed keyframe 1878 frame 1882 speed 4.575254687380311
[[ 0.99968324 -0.01309712 -0.02149156 -1.18459844]
[ 0.01289417 0.99987122 -0.00955475 0.40645161]
[ 0.02161394 0.00927461 0.99972337 -2.86217163]
[ 0. 0. 0. 1. ]]
15% (176 of 1101) |### | Elapsed Time: 0:14:18 ETA: 1:09:0
invalid speed keyframe 1881 frame 1885 speed 1.8214407290584367
[[ 9.99661828e-01 -2.56602797e-02 4.21667970e-03 -2.83556735e+00]
[ 2.56507949e-02 9.99668345e-01 2.28824126e-03 -4.07506158e-01]
[ -4.27399813e-03 -2.17930626e-03 9.99988492e-01 -5.93930031e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
16% (182 of 1101) |### | Elapsed Time: 0:14:53 ETA: 1:22:0
invalid speed keyframe 1888 frame 1891 speed 0.23923200576351533
[[ 9.99587616e-01 -2.62410948e-02 1.16620169e-02 -2.64401747e+00]
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[ 2.61973692e-02  9.99649235e-01  3.88650748e-03 -3.43511651e-01]
[ -1.17599125e-02 -3.57939059e-03  9.99924443e-01 -5.10540171e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
16% (184 of 1101) |###| Elapsed Time: 0:15:08 ETA: 1:24:.
invalid speed keyframe 1890 frame 1893 speed 1.3573632301766314
[[ 9.99802296e-01 -1.98515885e-02 -1.13279898e-03 -1.60597508e+00]
[ 1.98556284e-02  9.99796107e-01  3.67400975e-03 -1.19665123e-01]
[ 1.05963308e-03 -3.69577582e-03  9.99992609e-01 -3.89045725e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
16% (187 of 1101) |###| Elapsed Time: 0:15:37 ETA: 1:41:.
invalid speed keyframe 1894 frame 1896 speed 0.7978385920279671
[[ 0.99973204  0.01745317  0.01520642 -0.87967189]
[-0.01731488  0.99980795 -0.00917912  0.33437562]
[-0.0153637  0.00891337  0.99984224 -1.92528025]
[ 0. 0. 0. 1. ]]
17% (191 of 1101) |###| Elapsed Time: 0:16:10 ETA: 2:01:.
invalid speed keyframe 1898 frame 1900 speed 0.45449367930617024
[[ 0.99954597  0.02512131  0.01663655 -0.70319599]
[-0.02504167  0.99967401 -0.00497815  0.22387708]
[-0.01675619  0.00455928  0.99984921 -2.28529407]
[ 0. 0. 0. 1. ]]
19% (215 of 1101) |####| Elapsed Time: 0:18:08 ETA: 0:43:.
WARNING: invalid pose estimation
1922 1923 13 -0.101400701564 0.00461333719476 [[ 9.99984800e-01 -3.01953753e-02]
[ 3.02124503e-03  9.99995370e-01  3.63197280e-04 -1.08119725e-02]
[ 4.61221915e-03 -3.77129781e-04  9.99989293e-01 -1.01400702e-01]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
19% (217 of 1101) |####| Elapsed Time: 0:18:10 ETA: 0:29:.
WARNING: invalid pose estimation
1924 1925 22 -1.59813349852 0.0068153241498 [[ 0.999802 -0.01869499 -0.00681532]
[ 0.01877829  0.99974714  0.0123706 -0.12624907]
[ 0.00658233 -0.01249613  0.99990025 -1.5981335 ]
[ 0. 0. 0. 1. ]]
19% (220 of 1101) |####| Elapsed Time: 0:18:12 ETA: 0:17:.
invalid speed keyframe 1927 frame 1929 speed 0.15613312801696966
[[ 0.99995164 -0.00638846 -0.00747652  0.00344267]
[ 0.00624191  0.99979108 -0.01946349  0.01175073]
[ 0.0075993  0.01941588  0.99978261 -0.09749131]
[ 0. 0. 0. 1. ]]
20% (221 of 1101) |####| Elapsed Time: 0:18:14 ETA: 0:14:.
invalid speed keyframe 1928 frame 1930 speed 0.013316475829765279
[[ 0.99988961 -0.01137559 -0.00955859  0.03006517]
[ 0.01126157  0.99986578 -0.01189922 -0.08352842]
[ 0.00969267  0.01179026  0.99988351 -0.10834644]
[ 0. 0. 0. 1. ]]
20% (225 of 1101) |####| Elapsed Time: 0:18:17 ETA: 0:12:.
WARNING: invalid pose estimation
1932 1933 22 0.0406956290881 0.00352492923133 [[ 0.99998243  0.00476593 -0.00352492]
[-0.00474956  0.99997796  0.00463844  0.01816777]
[ 0.00354696 -0.00462161  0.99998303  0.04069563]]

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[ 0.          0.          0.          1.          ]]
20% (227 of 1101) |####          | Elapsed Time: 0:18:19 ETA:  0:13:
invalid speed keyframe 1934 frame 1937 speed 0.48032201925411083
[[ 0.99957604 -0.0218104  -0.01928865  0.22501927]
[ 0.02168073  0.99974109 -0.00690646 -0.01458762]
[ 0.01943429  0.00648534  0.9997901  0.34413119]
[ 0.          0.          0.          1.          ]]
20% (229 of 1101) |####          | Elapsed Time: 0:18:20 ETA:  0:11:
invalid speed keyframe 1936 frame 1938 speed 0.0060531865302776156
[[ 0.99995834  0.00150956 -0.00900239 -0.08894562]
[-0.00152346  0.99999766 -0.00153753 -0.00676171]
[ 0.00900005  0.00155118  0.9999583  -0.14708916]
[ 0.          0.          0.          1.          ]]
21% (233 of 1101) |####          | Elapsed Time: 0:18:22 ETA:  0:09:
WARNING: invalid pose estimation
1940 1941 33 0.0926999225262 0.000660358872117 [[ 9.99999561e-01  6.6403604:
[ -6.65183729e-04  9.99998266e-01 -1.73927677e-03 -1.01906521e-03]
[ 6.59202785e-04  1.73971527e-03  9.99998269e-01  9.26999225e-02]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
21% (235 of 1101) |####          | Elapsed Time: 0:18:22 ETA:  0:08:
invalid speed keyframe 1942 frame 1944 speed 1.648633888168391
[[ 0.99997192  0.00531808 -0.00528001 -1.28905577]
[-0.00533688  0.99997945 -0.00355275  0.28888932]
[ 0.005261  0.00358083  0.99997975  1.59575156]
[ 0.          0.          0.          1.          ]]
21% (239 of 1101) |####          | Elapsed Time: 0:18:25 ETA:  0:07:
WARNING: invalid pose estimation
1946 1947 20 -0.0437577081365 0.00300299728797 [[ 9.99995480e-01 -1.4641636:
[ 1.46172239e-04  9.99999986e-01 -8.15140267e-05 -1.11227387e-03]
[ 3.00300918e-03  8.10747034e-05  9.99995488e-01 -4.37577081e-02]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
22% (248 of 1101) |####          | Elapsed Time: 0:18:32 ETA:  0:10:
invalid speed keyframe 1955 frame 1957 speed 2.6052316084150915
[[ 9.99902020e-01 -1.39975259e-02  1.40726910e-04  1.87159252e-01]
[ 1.39961902e-02  9.99877312e-01  7.03326633e-03 -1.83554326e-02]
[ -2.39157972e-04 -7.03060757e-03  9.99975256e-01 -9.60759195e-02]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
22% (252 of 1101) |#####        | Elapsed Time: 0:18:34 ETA:  0:11:
invalid speed keyframe 1958 frame 1961 speed 1.7857917061806194
[[ 0.99999487  0.00176959  0.00266977 -0.48581264]
[-0.00177271  0.99999775  0.00116714 -0.08928002]
[-0.0026677  -0.00117186  0.99999576 -0.71635331]
[ 0.          0.          0.          1.          ]]
22% (253 of 1101) |#####        | Elapsed Time: 0:18:35 ETA:  0:12:
invalid speed keyframe 1960 frame 1962 speed 3.4123263451012313
[[ 0.99996272 -0.008247  0.00255822 -0.19911847]
[ 0.00824115  0.99996342  0.00228802 -0.01194345]
[-0.002577  -0.00226685  0.99999411  0.75823924]
[ 0.          0.          0.          1.          ]]
23% (254 of 1101) |#####        | Elapsed Time: 0:18:36 ETA:  0:13:
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invalid speed keyframe 1961 frame 1963 speed -12.995755939967848
[[ 9.99600545e-01 -2.77501439e-02 5.35540858e-03 -2.44122919e+00]
[ 2.77624732e-02 9.99612035e-01 -2.24174300e-03 -3.41896453e-01]
[ -5.29112218e-03 2.38952691e-03 9.99983147e-01 -1.44873468e+01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
23% (257 of 1101) |##### | Elapsed Time: 0:18:38 ETA: 0:11:
invalid speed keyframe 1964 frame 1967 speed -5.568284518560303
[[ 9.99990262e-01 3.15069686e-03 3.09016018e-03 3.74283173e-01]
[ -3.13897230e-03 9.99987885e-01 -3.79169862e-03 1.45821957e-01]
[ -3.10206924e-03 3.78196177e-03 9.99988037e-01 -8.61798197e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
23% (260 of 1101) |##### | Elapsed Time: 0:18:40 ETA: 0:09:
invalid speed keyframe 1966 frame 1969 speed -7.676656235530187
[[ 9.99998122e-01 -4.15433556e-05 1.93744047e-03 1.81226392e+00]
[ 4.73193657e-05 9.99995555e-01 -2.98130754e-03 2.33407676e-01]
[ -1.93730801e-03 2.98139362e-03 9.99993679e-01 -1.11832728e+01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
23% (263 of 1101) |##### | Elapsed Time: 0:18:41 ETA: 0:08:
invalid speed keyframe 1968 frame 1972 speed 5.398628558352034
[[ 0.99998571 0.00143636 -0.00514898 -0.10852745]
[ -0.00142421 0.99999619 0.00236396 -0.00322771]
[ 0.00515236 -0.00235659 0.99998395 -0.44077285]
[ 0. 0. 0. 1. ]]
23% (264 of 1101) |##### | Elapsed Time: 0:18:42 ETA: 0:08:
invalid speed keyframe 1971 frame 1973 speed 3.5311177535839624
[[ 9.99994011e-01 3.43174250e-03 -4.48398400e-04 1.47054524e-03]
[ -3.43295393e-03 9.99990382e-01 -2.72943615e-03 1.60646812e-03]
[ 4.39027365e-04 2.73095914e-03 9.99996175e-01 -7.50099614e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
24% (266 of 1101) |##### | Elapsed Time: 0:18:43 ETA: 0:08:
invalid speed keyframe 1972 frame 1975 speed 3.858171252131107
[[ 9.99983815e-01 6.03761646e-04 -5.65730157e-03 1.46689212e-01]
[ -6.18021089e-04 9.99996636e-01 -2.51912875e-03 3.56805933e-03]
[ 5.65576158e-03 2.52258431e-03 9.99980824e-01 -1.19891623e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
24% (267 of 1101) |##### | Elapsed Time: 0:18:44 ETA: 0:08:
invalid speed keyframe 1974 frame 1976 speed 1.6045767979363394
[[ 0.99999227 -0.00287154 0.00268524 -0.32695224]
[ 0.00287669 0.99999403 -0.00191519 -0.04757722]
[ -0.00267972 0.0019229 0.99999456 -0.67907279]
[ 0. 0. 0. 1. ]]
24% (268 of 1101) |##### | Elapsed Time: 0:18:45 ETA: 0:08:
invalid speed keyframe 1975 frame 1977 speed 0.8730189042417422
[[ 0.99997049 -0.00248166 -0.00727053 0.29832441]
[ 0.00246425 0.99999408 -0.00240352 -0.00691972]
[ 0.00727645 0.00238554 0.99997068 0.45838328]
[ 0. 0. 0. 1. ]]
24% (269 of 1101) |##### | Elapsed Time: 0:18:46 ETA: 0:09:
WARNING: invalid pose estimation
1976 1977 40 -4.30279945766 0.00409204563976 [[ 9.99990215e-01 -1.68070239e-
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[ 1.68944707e-03  9.99996295e-01 -2.13447629e-03  4.76397653e-02]
[ -4.08844306e-03  2.14136870e-03  9.99989350e-01 -4.30279946e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
invalid speed keyframe 1976 frame 1978 speed -7.176333653944676
[[ 9.99984115e-01 -1.43317787e-03  5.45123843e-03 -2.08724650e+00]
[ 1.43560113e-03  9.99998872e-01 -4.40646671e-04  7.87719548e-02]
[ -5.45060076e-03  4.48465475e-04  9.99985045e-01 -7.17633365e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
24% (270 of 1101) |##### | Elapsed Time: 0:18:48 ETA: 0:09:.
invalid speed keyframe 1977 frame 1979 speed -4.8383709580407155
[[ 9.99993903e-01 -6.13486047e-04  3.43771125e-03 -5.31486365e-01]
[ 6.08228449e-04  9.99998644e-01  1.53022599e-03  4.08575407e-01]
[ -3.43864537e-03 -1.52812575e-03  9.99992920e-01 -6.86607520e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
24% (273 of 1101) |##### | Elapsed Time: 0:18:49 ETA: 0:10:.
invalid speed keyframe 1978 frame 1982 speed 7.595813020277635
[[ 0.99993952 -0.00212538 -0.01079099 -0.03252885]
[ 0.00210703  0.99999632 -0.00171099  0.00447916]
[ 0.01079459  0.00168815  0.99994031 -1.17127913]
[ 0.          0.          0.          1.          ]]
24% (275 of 1101) |##### | Elapsed Time: 0:18:50 ETA: 0:09:.
invalid speed keyframe 1981 frame 1984 speed -5.44515577830921
[[ 9.99997131e-01 -1.77767120e-03  1.60565284e-03 -5.70281661e-01]
[ 1.77908947e-03  9.99998028e-01 -8.82298716e-04  2.18515273e-01]
[ -1.60408124e-03  8.85152785e-04  9.99998322e-01 -9.84004192e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
25% (277 of 1101) |##### | Elapsed Time: 0:18:52 ETA: 0:09:.
invalid speed keyframe 1983 frame 1986 speed -8.759180815376734
[[ 9.99971322e-01  2.83945742e-04  7.56802947e-03 -2.64326315e+00]
[ -2.88472288e-04  9.99999780e-01  5.97029321e-04 -4.97511878e-01]
[ -7.56785828e-03 -5.99195366e-04  9.99971184e-01 -1.13265265e+01]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
25% (280 of 1101) |##### | Elapsed Time: 0:18:53 ETA: 0:07:.
invalid speed keyframe 1985 frame 1989 speed -6.673176384748748
[[ 9.99992458e-01 -2.76510799e-03 -2.72744144e-03  8.21815860e-01]
[ 2.75768607e-03  9.99992495e-01 -2.72122010e-03  1.95067575e-01]
[ 2.73494544e-03  2.71367815e-03  9.99992578e-01 -1.05781403e+01]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
25% (281 of 1101) |##### | Elapsed Time: 0:18:54 ETA: 0:07:.
invalid speed keyframe 1988 frame 1990 speed -5.134761295746885
[[ 9.99980295e-01 -1.87656915e-03  5.99072252e-03 -2.70465685e+00]
[ 1.85984886e-03  9.99994363e-01  2.79538242e-03 -5.93845941e-01]
[ -5.99593448e-03 -2.78418549e-03  9.99978148e-01 -8.99848378e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
25% (282 of 1101) |##### | Elapsed Time: 0:18:56 ETA: 0:09:.
invalid speed keyframe 1989 frame 1991 speed -5.3060508245846565
[[ 9.99999586e-01  8.05850937e-04  4.22323315e-04 -1.16319704e-02]
[ -8.06052276e-04  9.99999561e-01  4.76787955e-04  2.55216755e-01]
[ -4.21938909e-04 -4.77128172e-04  9.9999797e-01 -7.17795256e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
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25% (284 of 1101) |#####| Elapsed Time: 0:18:57 ETA: 0:09:
invalid speed keyframe 1990 frame 1993 speed 2.5668758533729785
[[ 9.99968585e-01 -7.86518178e-03 9.84173850e-04 -2.88703975e-01]
[ 7.86510410e-03 9.99969066e-01 8.27749467e-05 -2.19876882e-02]
[ -9.84794446e-04 -7.50317165e-05 9.99999512e-01 -3.63778782e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
25% (285 of 1101) |#####| Elapsed Time: 0:18:58 ETA: 0:10:
invalid speed keyframe 1992 frame 1994 speed -9.59659322603934
[[ 9.99934582e-01 1.12036706e-03 1.13831833e-02 -4.14245466e+00]
[ -1.15178152e-03 9.99995546e-01 2.75354472e-03 -9.17246173e-01]
[ -1.13800476e-02 -2.76647553e-03 9.99931418e-01 -9.65853034e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
25% (286 of 1101) |#####| Elapsed Time: 0:18:59 ETA: 0:10:
invalid speed keyframe 1993 frame 1995 speed -4.627927430618945
[[ 9.99999473e-01 -9.03041667e-04 -4.88374762e-04 2.22312927e-01]
[ 9.02907053e-04 9.99999554e-01 -2.75788277e-04 1.02046952e-01]
[ 4.88623593e-04 2.75347175e-04 9.99999843e-01 -6.76963810e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
26% (287 of 1101) |#####| Elapsed Time: 0:19:01 ETA: 0:12:
invalid speed keyframe 1994 frame 1996 speed 3.0914540021253236
[[ 9.99999680e-01 7.88764604e-04 1.34084527e-04 2.12110977e-01]
[ -7.88605591e-04 9.99998991e-01 -1.18186264e-03 2.92607249e-02]
[ -1.35016603e-04 1.18175652e-03 9.99999293e-01 1.77730667e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
26% (289 of 1101) |#####| Elapsed Time: 0:19:02 ETA: 0:12:
invalid speed keyframe 1995 frame 1998 speed 3.625129867989476
[[ 9.99885465e-01 -4.61667650e-03 -1.44133167e-02 2.34881956e-01]
[ 4.61185705e-03 9.99989298e-01 -3.67595558e-04 -2.51360115e-02]
[ 1.44148595e-02 3.01081299e-04 9.99896055e-01 5.46296344e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
26% (290 of 1101) |#####| Elapsed Time: 0:19:04 ETA: 0:14:
invalid speed keyframe 1997 frame 1999 speed 0.2133583087600972
[[ 9.99988494e-01 2.37584460e-04 -4.79116159e-03 -6.72018386e-01]
[ -2.34559456e-04 9.99999773e-01 6.31923782e-04 -1.22625960e-01]
[ 4.79131064e-03 -6.30792699e-04 9.99988323e-01 -1.82316444e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
26% (292 of 1101) |#####| Elapsed Time: 0:19:05 ETA: 0:12:
invalid speed keyframe 1998 frame 2001 speed 3.276879216248494
[[ 0.99990673 0.00176602 -0.01354335 -0.08964981]
[ -0.00179697 0.9999958 -0.00227353 -0.02994941]
[ 0.01353928 0.00229765 0.9999057 -0.36033603]
[ 0. 0. 0. 1. ]]
26% (293 of 1101) |#####| Elapsed Time: 0:19:06 ETA: 0:12:
invalid speed keyframe 2000 frame 2002 speed 2.3134204843111976
[[ 9.99999009e-01 -1.10307651e-03 8.75130310e-04 5.03020451e-03]
[ 1.10451089e-03 9.99998045e-01 -1.64025857e-03 1.94313496e-02]
[ -8.73319268e-04 1.64122353e-03 9.99998272e-01 -4.09265472e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
26% (294 of 1101) |#####| Elapsed Time: 0:19:07 ETA: 0:14:
invalid speed keyframe 2001 frame 2003 speed -4.955457954568969
```



```

[[ 9.99999708e-01 -7.62263100e-04 4.55390963e-05 -1.89607222e-01]
[ 7.62271529e-04 9.99999692e-01 -1.85361673e-04 1.86722864e-01]
[ -4.53977879e-05 1.85396332e-04 9.9999982e-01 -6.44532748e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
26% (295 of 1101) |##### | Elapsed Time: 0:19:08 ETA: 0:13:..
WARNING: invalid pose estimation
2002 2003 43 1.11338386422 0.00110136950367 [[ 9.99999309e-01 4.10032897e-01]
[ -4.10314029e-04 9.99999883e-01 2.55042711e-04 -1.57559922e-02]
[ -1.10126480e-03 -2.55494442e-04 9.99999361e-01 1.11338386e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
invalid speed keyframe 2002 frame 2004 speed 1.1893879777870202
[[ 0.99998535 -0.00501335 0.00204072 -0.44332199]
[ 0.00501695 0.99998586 -0.00176356 0.07412799]
[-0.00203185 0.00177377 0.99999636 1.18938798]
[ 0. 0. 0. 1. ]]
26% (296 of 1101) |##### | Elapsed Time: 0:19:10 ETA: 0:14:..
invalid speed keyframe 2003 frame 2005 speed 1.0386428899550704
[[ 9.99999432e-01 1.42928240e-04 1.05573396e-03 4.45098374e-01]
[ -1.39779132e-04 9.99995543e-01 -2.98233336e-03 1.14475588e-01]
[ -1.05615552e-03 2.98218410e-03 9.99994996e-01 6.84746751e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
27% (298 of 1101) |##### | Elapsed Time: 0:19:11 ETA: 0:12:..
invalid speed keyframe 2004 frame 2007 speed 2.0796385376834063
[[ 9.99996640e-01 2.50210256e-03 6.77494297e-04 -1.94882599e-01]
[ -2.50151497e-03 9.99996496e-01 -8.66759178e-04 -1.78524764e-02]
[ -6.79660643e-04 8.65061504e-04 9.99999395e-01 2.12129584e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
27% (299 of 1101) |##### | Elapsed Time: 0:19:13 ETA: 0:13:..
invalid speed keyframe 2006 frame 2008 speed 1.5823072958163296
[[ 0.99990762 -0.0062197 -0.01208611 0.25514185]
[ 0.00630903 0.99995296 0.00736768 -0.02823481]
[ 0.01203972 -0.00744325 0.99989982 -0.55387638]
[ 0. 0. 0. 1. ]]
27% (300 of 1101) |##### | Elapsed Time: 0:19:14 ETA: 0:13:..
WARNING: invalid pose estimation
2007 2008 42 -4.52087146014 0.00118800471791 [[ 9.99998417e-01 1.32449469e-01]
[ -1.32137154e-03 9.99995679e-01 2.62584590e-03 1.23411035e-01]
[ 1.19147750e-03 -2.62427195e-03 9.99995847e-01 -4.52087146e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
27% (301 of 1101) |##### | Elapsed Time: 0:19:15 ETA: 0:13:..
WARNING: invalid pose estimation
2008 2009 33 0.317491144808 0.00594358337278 [[ 9.99980785e-01 1.76185878e-01]
[ -1.76782888e-03 9.99997938e-01 -9.99358462e-04 7.70199485e-02]
[ 5.94181039e-03 1.00984650e-03 9.99981837e-01 3.17491145e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
27% (303 of 1101) |##### | Elapsed Time: 0:19:17 ETA: 0:14:..
invalid speed keyframe 2010 frame 2012 speed 2.590135222635255
[[ 0.99989193 0.00362269 -0.01424804 0.31826463]
[-0.0036932 0.99998105 -0.0049254 0.09270914]
[ 0.01422993 0.00497749 0.99988636 0.47785759]

```

```
[ 0.          0.          0.          1.          ]]
27% (306 of 1101) |##### | Elapsed Time: 0:19:18 ETA: 0:12:0
invalid speed keyframe 2011 frame 2015 speed 3.6648100379867
[[ 0.99967026  0.01436726 -0.02128269 -0.19814314]
[-0.01456779  0.99985066 -0.00929733  0.08326089]
[ 0.02114593  0.0096043  0.99973027 -1.37542947]
[ 0.          0.          0.          1.          ]]
27% (308 of 1101) |##### | Elapsed Time: 0:19:20 ETA: 0:10:0
invalid speed keyframe 2014 frame 2017 speed 2.927767706956447
[[ 0.99999211  0.00355562  0.00177169 -0.01165084]
[-0.00355147  0.99999094 -0.00234473 -0.00286893]
[-0.00178001  0.00233842  0.99999568  0.05652307]
[ 0.          0.          0.          1.          ]]
28% (309 of 1101) |##### | Elapsed Time: 0:19:21 ETA: 0:11:0
invalid speed keyframe 2016 frame 2018 speed -4.624406897813502
[[ 9.99999339e-01  3.93332563e-04  1.08011491e-03 -4.37877690e-01]
[ -3.91484699e-04  9.99998460e-01 -1.71048214e-03  2.19927548e-01]
[ -1.08078604e-03  1.71005816e-03  9.99997954e-01 -6.12699763e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
28% (311 of 1101) |##### | Elapsed Time: 0:19:23 ETA: 0:10:0
invalid speed keyframe 2017 frame 2020 speed 5.41957884245488
[[ 0.99998929  0.00394116 -0.00242616  0.52260233]
[-0.00394759  0.99998869 -0.00265266  0.13843782]
[ 0.00241567  0.00266221  0.99999354  1.20038043]
[ 0.          0.          0.          1.          ]]
28% (312 of 1101) |##### | Elapsed Time: 0:19:24 ETA: 0:10:0
invalid speed keyframe 2019 frame 2021 speed -5.006248523270388
[[ 9.99998285e-01 -7.74872638e-04  1.68191969e-03 -4.15550342e-01]
[ 7.78275526e-04  9.99997650e-01 -2.02350618e-03  1.92588259e-02]
[ -1.68034778e-03  2.02481171e-03  9.99996538e-01 -7.44094144e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
28% (314 of 1101) |##### | Elapsed Time: 0:19:25 ETA: 0:09:0
invalid speed keyframe 2020 frame 2023 speed 1.7615336817078298
[[ 9.99991607e-01 -3.21226897e-03  2.54292920e-03 -3.28419432e-01]
[ 3.21424241e-03  9.99994536e-01 -7.72344833e-04 -5.50448094e-02]
[ -2.54043433e-03  7.80511942e-04  9.99996468e-01 -6.94264776e-01]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
28% (315 of 1101) |##### | Elapsed Time: 0:19:27 ETA: 0:11:0
invalid speed keyframe 2022 frame 2024 speed -12.382346568185765
[[ 9.99996566e-01  1.08818976e-03  2.38425363e-03 -1.43528852e+00]
[ -1.09242495e-03  9.99997827e-01  1.77573339e-03 -2.91513343e-01]
[ -2.38231611e-03 -1.77833191e-03  9.99995581e-01 -1.24165702e+01]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
28% (316 of 1101) |##### | Elapsed Time: 0:19:28 ETA: 0:13:0
invalid speed keyframe 2023 frame 2025 speed -5.1794815515281005
[[ 9.99994019e-01  2.60482718e-03  2.27535643e-03 -1.51309897e-01]
[ -2.60757243e-03  9.99995875e-01  1.20437987e-03  5.37062965e-02]
[ -2.27220985e-03 -1.21030583e-03  9.99996686e-01 -7.13181268e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
28% (318 of 1101) |##### | Elapsed Time: 0:19:30 ETA: 0:13:0
```

WARNING: invalid pose estimation

```
2024 2025 62 -5.00481455005 0.00328130397498 [[ 9.99993444e-01  1.53161541e-01
[ -1.53685666e-03  9.99997546e-01  1.59538352e-03 -3.07998007e-01]
[ -3.27885241e-03 -1.60041595e-03  9.99993344e-01 -5.00481455e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
```

invalid speed keyframe 2024 frame 2027 speed 0.29318848963556715

```
[[ 0.99998937  0.00185471  0.0042205 -0.00494743]
[-0.00184544  0.99999588 -0.00220002  0.01124193]
[-0.00422456  0.00219221  0.99998867 -0.06943703]
[ 0.          0.          0.          1.          ]]
```

28% (319 of 1101) |#####| Elapsed Time: 0:19:31 ETA: 0:13:00

invalid speed keyframe 2026 frame 2028 speed 1.9117885133155559

```
[[ 9.99993097e-01  2.27130449e-03  2.94055066e-03 -2.20811719e-01]
[-2.27114109e-03  9.99997419e-01 -5.89054407e-05 -2.67931681e-01]
[-2.94067687e-03  5.22266286e-05  9.99995675e-01 -7.48120946e-01]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
```

29% (320 of 1101) |#####| Elapsed Time: 0:19:33 ETA: 0:13:00

invalid speed keyframe 2027 frame 2029 speed 0.8063227585918742

```
[[ 9.99995872e-01 -1.45511272e-04  2.86958106e-03  2.90865983e-02]
[ 1.43606790e-04  9.9999769e-01  6.63874513e-04  9.05324444e-03]
[-2.86967700e-03 -6.63459682e-04  9.99995662e-01 -1.78727835e-01]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
```

29% (321 of 1101) |#####| Elapsed Time: 0:19:34 ETA: 0:15:00

invalid speed keyframe 2028 frame 2030 speed 0.007515312150550929

```
[[ 9.99995807e-01 -5.60808723e-04  2.84088012e-03  3.26326767e-02]
[ 5.58738992e-04  9.99999578e-01  7.29294145e-04  3.26095151e-04]
[-2.84128791e-03 -7.27703777e-04  9.99995699e-01 -1.72798710e-01]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
```

29% (322 of 1101) |#####| Elapsed Time: 0:19:36 ETA: 0:15:00

invalid speed keyframe 2029 frame 2031 speed 0.31744797957118226

```
[[ 9.99992835e-01 -2.81843680e-03  2.52705489e-03  9.73096577e-02]
[ 2.81933868e-03  9.99995963e-01 -3.53396930e-04  1.37409719e-02]
[-2.52604866e-03  3.60519022e-04  9.99996745e-01 -4.66446764e-01]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
```

29% (324 of 1101) |#####| Elapsed Time: 0:19:38 ETA: 0:16:00

invalid speed keyframe 2030 frame 2033 speed 2.7787811534853137

```
[[ 9.99981707e-01 -4.00079556e-03  4.53652206e-03 -4.12422783e-01]
[ 4.00135367e-03  9.99991988e-01 -1.13956928e-04 -1.03122418e-01]
[-4.53602979e-03  1.32107072e-04  9.99989703e-01 -9.72112375e-01]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
```

29% (325 of 1101) |#####| Elapsed Time: 0:19:39 ETA: 0:16:00

invalid speed keyframe 2032 frame 2034 speed 0.3786379466708564

```
[[ 9.99986723e-01 -4.97731177e-03  1.33428046e-03  7.03010396e-02]
[ 4.97753906e-03  9.99987598e-01 -1.67077059e-04 -1.54868249e-03]
[-1.33343232e-03  1.73716273e-04  9.99999096e-01 -1.14707274e-01]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
```

29% (326 of 1101) |#####| Elapsed Time: 0:19:41 ETA: 0:16:00

invalid speed keyframe 2033 frame 2035 speed 0.8803523939212725

```
[[ 9.99996033e-01 -2.60574759e-03  1.06965039e-03  5.51765625e-03]
[ 2.60397639e-03  9.99995242e-01  1.65392687e-03 -5.44660816e-04]
```

```

[ -1.07395501e-03 -1.65113496e-03 9.99998060e-01 -2.31495928e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
29% (327 of 1101) |##### | Elapsed Time: 0:19:42 ETA: 0:15:.
invalid speed keyframe 2034 frame 2036 speed 1.1816931143221954
[[ 9.99996231e-01 2.26903555e-03 1.54608409e-03 -4.66514050e-01]
[ -2.26999918e-03 9.99997230e-01 6.21805671e-04 -4.77448490e-02]
[ -1.54466891e-03 -6.25312937e-04 9.99998611e-01 -7.01227492e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
29% (328 of 1101) |##### | Elapsed Time: 0:19:44 ETA: 0:17:.
invalid speed keyframe 2035 frame 2037 speed 2.47788791440767
[[ 9.99999560e-01 8.34341428e-04 4.28047302e-04 9.73863806e-02]
[ -8.33514604e-04 9.99997794e-01 -1.92817445e-03 -1.11874362e-02]
[ -4.29655114e-04 1.92781681e-03 9.99998049e-01 1.86959191e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
29% (329 of 1101) |##### | Elapsed Time: 0:19:45 ETA: 0:17:.
invalid speed keyframe 2036 frame 2038 speed 0.1039336415467243
[[ 9.99999551e-01 -1.40018413e-04 9.37177732e-04 -2.64799900e-02]
[ 1.42307739e-04 9.99997005e-01 -2.44316621e-03 -1.78627845e-03]
[ -9.36832837e-04 2.44329848e-03 9.99996576e-01 -1.35670138e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
29% (330 of 1101) |##### | Elapsed Time: 0:19:47 ETA: 0:17:.
invalid speed keyframe 2037 frame 2039 speed 0.9280616488133028
[[ 9.99996640e-01 -2.59082026e-03 8.80478858e-05 -9.34197509e-02]
[ 2.59082891e-03 9.99996639e-01 -9.82307321e-05 -7.32995683e-03]
[ -8.77930917e-05 9.84585191e-05 9.99999991e-01 8.55574957e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
30% (332 of 1101) |##### | Elapsed Time: 0:19:48 ETA: 0:15:.
invalid speed keyframe 2038 frame 2041 speed 0.3032589805900501
[[ 9.99990881e-01 -4.15536175e-03 9.84861649e-04 1.59463154e-01]
[ 4.15173475e-03 9.99984696e-01 3.65661643e-03 1.82319223e-02]
[ -1.00004114e-03 -3.65249420e-03 9.99992830e-01 -2.06704815e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
30% (334 of 1101) |##### | Elapsed Time: 0:19:50 ETA: 0:15:.
WARNING: invalid pose estimation
2040 2041 50 0.0596012033807 0.000737806369289 [[ 9.99999178e-01 1.0485414.
[ -1.05033300e-03 9.99996491e-01 2.43203018e-03 -3.95849435e-02]
[ -7.35253696e-04 -2.43280312e-03 9.99996770e-01 5.96012034e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
30% (335 of 1101) |##### | Elapsed Time: 0:19:50 ETA: 0:13:.
invalid speed keyframe 2040 frame 2044 speed 1.3366678480935255
[[ 9.99993661e-01 -3.45300280e-03 8.68656613e-04 1.89687521e-01]
[ 3.45314018e-03 9.99994026e-01 -1.56702156e-04 4.58601695e-02]
[ -8.68110331e-04 1.59700756e-04 9.99999610e-01 -1.02474272e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
30% (336 of 1101) |##### | Elapsed Time: 0:19:52 ETA: 0:13:.
invalid speed keyframe 2043 frame 2045 speed 0.9840147537884193
[[ 0.99999618 0.00222839 0.00163323 -0.16846402]
[-0.00222622 0.99999664 -0.00132664 -0.0038332 ]
[-0.00163619 0.001323 0.99999779 -0.23749136]
[ 0. 0. 0. 1. ]]

```

```
30% (337 of 1101) |#####| Elapsed Time: 0:19:53 ETA: 0:13:
invalid speed keyframe 2044 frame 2046 speed 0.9428038707268254
[[ 9.99998484e-01 -1.46319683e-03 9.44057370e-04 1.34364956e-01]
[ 1.46344887e-03 9.99998894e-01 -2.66336709e-04 -2.87224365e-02]
[ -9.43666623e-04 2.67717885e-04 9.99999519e-01 4.06810925e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
30% (338 of 1101) |#####| Elapsed Time: 0:19:55 ETA: 0:13:
invalid speed keyframe 2045 frame 2047 speed 2.9233715188729157
[[ 9.99996057e-01 5.63793940e-05 2.80774119e-03 1.41174284e-01]
[ -5.94534608e-05 9.99999399e-01 1.09478261e-03 6.07021795e-02]
[ -2.80767778e-03 -1.09494523e-03 9.99995459e-01 -2.74148451e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
30% (339 of 1101) |#####| Elapsed Time: 0:19:56 ETA: 0:13:
invalid speed keyframe 2046 frame 2048 speed 1.6044316298989032
[[ 9.99999367e-01 -3.35075638e-04 1.07446276e-03 -8.91115179e-03]
[ 3.34993295e-04 9.99999941e-01 7.68158921e-05 8.99596409e-04]
[ -1.07448843e-03 -7.64559057e-05 9.99999420e-01 1.39469993e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
30% (340 of 1101) |#####| Elapsed Time: 0:19:58 ETA: 0:13:
invalid speed keyframe 2047 frame 2049 speed 0.42840587367608995
[[ 9.99969054e-01 7.31208020e-03 2.90235896e-03 -3.36699819e-01]
[ -7.31183125e-03 9.99973264e-01 -9.63781946e-05 -3.72931504e-02]
[ -2.90298609e-03 7.51536532e-05 9.99995784e-01 -2.99303160e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
30% (341 of 1101) |#####| Elapsed Time: 0:19:59 ETA: 0:14:
invalid speed keyframe 2048 frame 2050 speed 0.5385058105771121
[[ 0.99998756 -0.00441949 0.00231288 0.10883631]
[ 0.00442185 0.99998971 -0.00101631 0.00852099]
[ -0.00230837 0.00102653 0.99999681 0.39993478]
[ 0. 0. 0. 1. ]]
31% (342 of 1101) |#####| Elapsed Time: 0:20:01 ETA: 0:16:
invalid speed keyframe 2049 frame 2051 speed 0.5987105784047091
[[ 0.99999457 -0.00229637 0.00236351 0.10070489]
[ 0.00229877 0.99999685 -0.00101023 0.01183295]
[ -0.00236118 0.00101565 0.9999967 0.38684944]
[ 0. 0. 0. 1. ]]
31% (343 of 1101) |#####| Elapsed Time: 0:20:03 ETA: 0:16:
invalid speed keyframe 2050 frame 2052 speed 0.8509492696596007
[[ 9.99994591e-01 -2.22223692e-03 2.42482471e-03 6.48112201e-02]
[ 2.22067244e-03 9.99997325e-01 6.47692191e-04 5.86992294e-03]
[ -2.42625755e-03 -6.42303946e-04 9.99996850e-01 3.07022270e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
31% (345 of 1101) |#####| Elapsed Time: 0:20:05 ETA: 0:18:
invalid speed keyframe 2051 frame 2054 speed 0.7865325675380325
[[ 9.99988593e-01 -2.82031483e-03 3.85477459e-03 1.08919593e-01]
[ 2.82400029e-03 9.99995560e-01 -9.50968311e-04 2.15913115e-02]
[ -3.85207545e-03 9.61843348e-04 9.99992118e-01 -2.15844363e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
31% (346 of 1101) |#####| Elapsed Time: 0:20:06 ETA: 0:18:
invalid speed keyframe 2053 frame 2055 speed 0.15139991820985896
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[[ 9.99993964e-01 -9.61837788e-04 3.33881114e-03 3.80773301e-03]
[ 9.69130616e-04 9.99997147e-01 -2.18332880e-03 2.18087634e-03]
[ -3.33670160e-03 2.18655136e-03 9.99992043e-01 -4.44372938e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
31% (348 of 1101) |##### | Elapsed Time: 0:20:08 ETA: 0:17:
invalid speed keyframe 2054 frame 2057 speed 0.32865321982612555
[[ 9.99990946e-01 -7.22739540e-05 4.25475659e-03 2.10606934e-02]
[ 6.43624816e-05 9.99998269e-01 1.85954940e-03 6.52964309e-03]
[ -4.25488362e-03 -1.85925871e-03 9.99989220e-01 -8.81137003e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
31% (349 of 1101) |##### | Elapsed Time: 0:20:10 ETA: 0:17:
invalid speed keyframe 2056 frame 2058 speed 0.824778582146571
[[ 0.99998757 0.00293258 0.00403298 -0.06090297]
[-0.00293809 0.99999476 0.00136099 -0.01265205]
[-0.00402897 -0.00137282 0.99999094 0.3547367 ]
[ 0. 0. 0. 1. ]]
31% (350 of 1101) |##### | Elapsed Time: 0:20:12 ETA: 0:17:
WARNING: invalid pose estimation
2057 2058 64 0.154575670212 0.00206059619132 [[ 9.99994908e-01 2.43698735e-
[ -2.43675436e-03 9.99997024e-01 -1.15574369e-04 2.17086749e-02]
[ -2.06087171e-03 1.10552614e-04 9.99997870e-01 1.54575670e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
invalid speed keyframe 2057 frame 2059 speed 0.5825189172856712
[[ 0.99999066 0.00253446 0.00350162 0.05678389]
[-0.00253025 0.99999607 -0.00120414 -0.00112803]
[-0.00350466 0.00119527 0.99999314 0.58251892]
[ 0. 0. 0. 1. ]]
31% (351 of 1101) |##### | Elapsed Time: 0:20:14 ETA: 0:17:
WARNING: invalid pose estimation
2058 2059 79 0.763551588269 0.00368908889668 [[ 0.99998988 0.00257424 0.003
[-0.00256939 0.99999583 -0.00131715 -0.02179753]
[-0.00369246 0.00130766 0.99999233 0.76355159]
[ 0. 0. 0. 1. ]]
invalid speed keyframe 2058 frame 2060 speed 0.8269053431901113
[[ 0.99998739 0.00314712 0.00391308 -0.13342784]
[-0.00314042 0.99999359 -0.00171776 -0.02547928]
[-0.00391846 0.00170545 0.99999087 0.82690534]
[ 0. 0. 0. 1. ]]
31% (352 of 1101) |##### | Elapsed Time: 0:20:15 ETA: 0:17:
invalid speed keyframe 2059 frame 2061 speed 1.2045097225068857
[[ 0.9999737 -0.00490326 0.00534418 0.1435586 ]
[ 0.00491644 0.9999849 -0.00245587 -0.00459685]
[-0.00533206 0.00248208 0.9999827 0.38877167]
[ 0. 0. 0. 1. ]]
32% (353 of 1101) |##### | Elapsed Time: 0:20:17 ETA: 0:18:
invalid speed keyframe 2060 frame 2062 speed 0.9885601519215683
[[ 9.99998628e-01 -1.19823355e-03 1.14410772e-03 3.59371801e-01]
[ 1.19888186e-03 9.99999121e-01 -5.66132874e-04 -6.16045220e-02]
[ -1.14342836e-03 5.67503747e-04 9.99999185e-01 -4.63298750e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
```

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32% (356 of 1101) |#####| Elapsed Time: 0:20:19 ETA: 0:16:
invalid speed keyframe 2061 frame 2065 speed 1.5397958726152763
[[ 0.99997451 0.00543374 0.00463103 -0.20436952]
[-0.00544408 0.99998271 0.0022239 -0.03862365]
[-0.00461887 -0.00224906 0.9999868 -0.33479991]
[ 0. 0. 0. 1. ]]
32% (358 of 1101) |#####| Elapsed Time: 0:20:21 ETA: 0:16:
WARNING: invalid pose estimation
2064 2065 51 0.989127450141 0.00251645189798 [[ 0.99999465 0.00209093 0.002
[-0.00209491 0.99999656 0.00157778 -0.02580511]
[-0.00251314 -0.00158304 0.99999559 0.98912745]
[ 0. 0. 0. 1. ]]
32% (360 of 1101) |#####| Elapsed Time: 0:20:22 ETA: 0:12:
invalid speed keyframe 2064 frame 2069 speed 0.7567101063785941
[[ 9.99999494e-01 -8.67705299e-04 5.08167612e-04 1.76295592e-03]
[ 8.67420986e-04 9.99999467e-01 5.59438753e-04 5.84517612e-03]
[-5.08652769e-04 -5.58997675e-04 9.99999714e-01 -6.85156938e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
32% (362 of 1101) |#####| Elapsed Time: 0:20:24 ETA: 0:10:
WARNING: invalid pose estimation
2068 2069 73 0.116173766613 0.000818224780175 [[ 9.99999398e-01 -7.30877013e
[ 7.30768719e-04 9.99999724e-01 1.32643047e-04 9.05665083e-03]
[-8.18321500e-04 -1.32045034e-04 9.99999656e-01 1.16173767e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
invalid speed keyframe 2068 frame 2071 speed 1.055830757588686
[[ 9.99997079e-01 -1.71382117e-03 1.70405790e-03 -4.72486819e-02]
[ 1.71268022e-03 9.99998308e-01 6.70778116e-04 4.00451010e-03]
[-1.70520461e-03 -6.67857650e-04 9.99998323e-01 9.80137184e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
32% (363 of 1101) |#####| Elapsed Time: 0:20:25 ETA: 0:09:
invalid speed keyframe 2070 frame 2072 speed -4.5206894007202925
[[ 9.99998202e-01 1.75520538e-03 7.17128924e-04 -3.40443505e-01]
[-1.75558529e-03 9.99998319e-01 5.29489046e-04 7.16498349e-02]
[-7.16198356e-04 -5.30747075e-04 9.99999603e-01 -5.54935277e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
33% (365 of 1101) |#####| Elapsed Time: 0:20:27 ETA: 0:09:
WARNING: invalid pose estimation
2071 2072 76 0.44139460523 0.000948109895666 [[ 9.99999299e-01 -7.09654948e
[ 7.09930061e-04 9.99999706e-01 -2.89864292e-04 2.10443624e-02]
[-9.47903913e-04 2.90537181e-04 9.99999509e-01 4.41394605e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
invalid speed keyframe 2071 frame 2074 speed 0.324611943794808
[[ 9.99995041e-01 3.14879501e-03 5.92090789e-05 -6.09987759e-02]
[-3.14867309e-03 9.99993127e-01 -1.95747374e-03 7.35309327e-03]
[-6.53723555e-05 1.95727760e-03 9.99998082e-01 -9.67842730e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
33% (366 of 1101) |#####| Elapsed Time: 0:20:29 ETA: 0:11:
invalid speed keyframe 2073 frame 2075 speed 0.7290018697224645
[[ 9.99999127e-01 -1.99587217e-04 1.30625605e-03 1.84933828e-01]
[ 2.00997855e-04 9.99999397e-01 -1.07986681e-03 -2.44531002e-02]
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[ -1.30603974e-03  1.08012842e-03  9.99998564e-01  2.33264591e-01]
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
33% (367 of 1101) |#####| Elapsed Time: 0:20:31 ETA:  0:12:
invalid speed keyframe 2074 frame 2076 speed 0.40195200883155735
[[  9.99999400e-01  5.98568738e-04  9.17515051e-04 -3.41551381e-01]
[ -5.98864148e-04  9.99999769e-01  3.21726952e-04  7.59958187e-03]
[ -9.17322263e-04 -3.22276226e-04  9.99999527e-01 -5.26314174e-01]
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
33% (368 of 1101) |#####| Elapsed Time: 0:20:34 ETA:  0:15:
invalid speed keyframe 2075 frame 2077 speed 0.09136691152851328
[[ 0.99999315  0.0023303  0.00287598 -0.35018992]
[-0.00233839  0.99999331  0.00281107 -0.07533481]
[-0.00286941 -0.00281778  0.99999191 -0.56065979]
[ 0.          0.          0.          1.          ]]
33% (370 of 1101) |#####| Elapsed Time: 0:20:36 ETA:  0:17:
invalid speed keyframe 2076 frame 2079 speed 0.5740293091608034
[[ 0.99998801  0.00454417  0.00182641 -0.08181814]
[-0.00454721  0.99998828  0.00165932 -0.00901347]
[-0.00181885 -0.00166761  0.99999696  0.00397177]
[ 0.          0.          0.          1.          ]]
33% (371 of 1101) |#####| Elapsed Time: 0:20:39 ETA:  0:18:
WARNING: invalid pose estimation
2078 2079 63 0.221933828475 0.00123337371693 [[ 9.99999095e-01 -5.37383402e-
[ 5.37356053e-04  9.99999855e-01  2.25051045e-05  5.08708235e-02]
[ -1.23338563e-03 -2.18423233e-05  9.9999239e-01  2.21933828e-01]
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
33% (372 of 1101) |#####| Elapsed Time: 0:20:39 ETA:  0:18:
invalid speed keyframe 2078 frame 2081 speed 0.798903497715576
[[ 9.99988931e-01  2.80950598e-03  3.77422825e-03 -1.20986998e-01]
[ -2.80869765e-03  9.99996032e-01 -2.19452149e-04 -1.59546409e-02]
[ -3.77482983e-03  2.08849054e-04  9.99992853e-01  9.82574835e-03]
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
33% (373 of 1101) |#####| Elapsed Time: 0:20:41 ETA:  0:19:
invalid speed keyframe 2080 frame 2082 speed 0.29622230880212924
[[ 9.99992446e-01 -6.70751045e-04  3.82856387e-03 -4.26285672e-02]
[ 6.68724577e-04  9.99999636e-01  5.30558096e-04 -7.49194671e-04]
[ -3.82891835e-03 -5.27993834e-04  9.99992530e-01 -6.01752344e-02]
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
33% (374 of 1101) |#####| Elapsed Time: 0:20:43 ETA:  0:19:
invalid speed keyframe 2081 frame 2083 speed 0.6246354126128414
[[ 9.99987083e-01 -3.05005934e-03  4.06589850e-03  1.62482160e-01]
[ 3.04741615e-03  9.99995141e-01  6.56123056e-04 -7.26983672e-03]
[ -4.06787996e-03 -6.43724096e-04  9.99991519e-01  2.43294587e-01]
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
34% (376 of 1101) |#####| Elapsed Time: 0:20:45 ETA:  0:19:
WARNING: invalid pose estimation
2082 2083 79 0.00570257191251 0.00312366532075 [[ 9.99994866e-01 -7.1507963
[ 7.12393208e-04  9.99999376e-01  8.61051014e-04  2.73186802e-04]
[ -3.12427909e-03 -8.58821315e-04  9.99994751e-01  5.70257191e-03]
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]

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34% (379 of 1101) |#####| Elapsed Time: 0:20:45 ETA: 0:11:0
invalid speed keyframe 2082 frame 2088 speed 0.256242479169442
[[ 9.99964597e-01 -1.04794401e-03 8.34907621e-03 -5.44030737e-02]
[ 1.06725620e-03 9.99996765e-01 -2.30897328e-03 -3.11757841e-04]
[ -8.34662952e-03 2.31780214e-03 9.99962480e-01 -1.00642100e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
34% (380 of 1101) |#####| Elapsed Time: 0:20:47 ETA: 0:13:0
invalid speed keyframe 2087 frame 2089 speed 0.0017070671532795553
[[ 9.99988720e-01 8.29756393e-04 4.67665570e-03 -9.68283188e-03]
[ -8.34011595e-04 9.99999240e-01 9.08004700e-04 -3.18592448e-04]
[ -4.67589872e-03 -9.11894843e-04 9.99988652e-01 -5.16909705e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
34% (383 of 1101) |#####| Elapsed Time: 0:20:49 ETA: 0:09:0
invalid speed keyframe 2088 frame 2092 speed 0.023070388490454452
[[ 0.99997796 0.00115829 0.00653713 0.00541575]
[-0.00117599 0.99999565 0.00270403 0.00196159]
[-0.00653397 -0.00271166 0.99997498 -0.04789203]
[ 0. 0. 0. 1. ]]
34% (385 of 1101) |#####| Elapsed Time: 0:20:51 ETA: 0:07:0
invalid speed keyframe 2091 frame 2094 speed 0.08745109809008421
[[ 0.99997731 0.00101887 0.00665936 -0.01269785]
[-0.00103339 0.99999709 0.00217833 0.00200039]
[-0.00665712 -0.00218516 0.99997545 -0.08896101]
[ 0. 0. 0. 1. ]]
35% (386 of 1101) |#####| Elapsed Time: 0:20:53 ETA: 0:09:0
invalid speed keyframe 2093 frame 2095 speed 0.24028337187247004
[[ 9.99983281e-01 -3.05308477e-03 4.91080483e-03 8.31824494e-02]
[ 3.05483583e-03 9.99995273e-01 -3.49111811e-04 3.96835581e-04]
[ -4.90971575e-03 3.64107677e-04 9.99987881e-01 3.76093006e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
35% (388 of 1101) |#####| Elapsed Time: 0:20:55 ETA: 0:11:0
WARNING: invalid pose estimation
2094 2095 80 0.102128189518 0.00223217834381 [[ 9.99995816e-01 -1.83992391e-02]
[ 1.84133589e-03 9.99998106e-01 -6.30665601e-04 1.41582792e-02]
[ -2.23101374e-03 6.34773152e-04 9.99997310e-01 1.02128190e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
invalid speed keyframe 2094 frame 2097 speed 0.062098413245876664
[[ 9.99984529e-01 -3.92978617e-03 3.93685024e-03 3.65049815e-02]
[ 3.92912913e-03 9.99992266e-01 1.74616269e-04 4.29472232e-05]
[ -3.93750599e-03 -1.59145175e-04 9.99992235e-01 -4.52338194e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
35% (390 of 1101) |#####| Elapsed Time: 0:20:57 ETA: 0:11:0
invalid speed keyframe 2096 frame 2099 speed 0.4204854423675859
[[ 0.99998036 0.00186595 0.00598372 -0.00482709]
[-0.00188186 0.99999471 0.00265472 0.0042584 ]
[-0.00597874 -0.00266593 0.99997857 -0.08417818]
[ 0. 0. 0. 1. ]]
35% (391 of 1101) |#####| Elapsed Time: 0:20:58 ETA: 0:11:0
WARNING: invalid pose estimation
2098 2099 74 0.172074560165 0.00461026981471 [[ 0.99998822 0.00151884 0.004
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[-0.00152595  0.99999765  0.0015375  0.0069429 ]
[-0.00460792 -0.00154452  0.99998819  0.17207456]
[ 0.          0.          0.          1.          ]]
invalid speed keyframe 2098 frame 2100 speed 0.3488004477902725
[[ 9.99990047e-01 -1.44332012e-03  4.22170062e-03  1.65771597e-01]
 [ 1.43960146e-03  9.99998573e-01  8.83751430e-04 -1.23780493e-02]
 [-4.22297013e-03 -8.77665068e-04  9.99990698e-01  3.48800448e-01]
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
35% (393 of 1101) |#####| Elapsed Time: 0:21:00 ETA: 0:12:..
WARNING: invalid pose estimation
2099 2100 86 0.0113473969775 0.00360753901339 [[ 9.99992970e-01  1.02213939e-01]
 [-1.02518578e-03  9.99999119e-01  8.42703131e-04  8.84596154e-04]
 [-3.60667448e-03 -8.46395605e-04  9.99993138e-01  1.13473970e-02]
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
35% (394 of 1101) |#####| Elapsed Time: 0:21:00 ETA: 0:10:..
invalid speed keyframe 2099 frame 2103 speed 2.1326344057152635
[[ 9.99969085e-01  1.10004734e-03  7.78578546e-03 -1.01367073e-01]
 [-1.10444338e-03  9.99999233e-01  5.60346677e-04 -1.58884775e-03]
 [-7.78516308e-03 -5.68928314e-04  9.99969533e-01  1.42874656e-01]
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
35% (395 of 1101) |#####| Elapsed Time: 0:21:02 ETA: 0:12:..
WARNING: invalid pose estimation
2102 2103 87 0.0111612317445 0.000770949303329 [[ 9.99996142e-01 -2.6686429e-01]
 [ 2.66784275e-03  9.99995903e-01  1.03716445e-03 -8.32140465e-04]
 [-7.73713967e-04 -1.03510368e-03  9.99999165e-01  1.11612317e-02]
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
invalid speed keyframe 2102 frame 2104 speed 0.7210832733545206
[[ 0.99999749 -0.00157511  0.00159528 -0.05184734]
 [ 0.00157047  0.99999454  0.00290876 -0.01596735]
 [-0.00159985 -0.00290625  0.9999945  0.72108327]
 [ 0.          0.          0.          1.          ]]
36% (397 of 1101) |#####| Elapsed Time: 0:21:04 ETA: 0:10:..
invalid speed keyframe 2103 frame 2106 speed 0.8615094692795934
[[ 9.99990496e-01  2.05001611e-03  3.84764337e-03 -8.17652652e-02]
 [-2.04847480e-03  9.99997820e-01 -4.04483832e-04 -1.44913903e-02]
 [-3.84846418e-03  3.96598188e-04  9.99992516e-01  9.29131267e-02]
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
36% (398 of 1101) |#####| Elapsed Time: 0:21:05 ETA: 0:11:..
invalid speed keyframe 2105 frame 2107 speed 0.2179115426506309
[[ 9.99974074e-01  5.99761800e-03  3.98495841e-03  1.14333562e-01]
 [-5.99120279e-03  9.99980741e-01 -1.61984956e-03 -2.64362788e-04]
 [-3.99459690e-03  1.59593287e-03  9.99990748e-01  1.36679021e-01]
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
36% (399 of 1101) |#####| Elapsed Time: 0:21:07 ETA: 0:11:..
invalid speed keyframe 2106 frame 2108 speed 0.34469314484842783
[[ 9.99981766e-01  2.42532805e-03  5.53035362e-03  3.03855798e-02]
 [-2.42722421e-03  9.99996998e-01  3.36178242e-04 -2.14661536e-03]
 [-5.52952167e-03 -3.49595521e-04  9.99984651e-01  2.84573314e-02]
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
36% (400 of 1101) |#####| Elapsed Time: 0:21:09 ETA: 0:13:..
```

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invalid speed keyframe 2107 frame 2109 speed 0.2636962055580149
[[ 9.99971782e-01 -4.31870834e-03 6.14689476e-03 2.09387684e-01]
[ 4.31272923e-03 9.99990214e-01 9.85627180e-04 -4.31029414e-03]
[ -6.15109124e-03 -9.59089474e-04 9.99980622e-01 2.42952245e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
36% (401 of 1101) |#####| Elapsed Time: 0:21:11 ETA: 0:14:0
invalid speed keyframe 2108 frame 2110 speed 0.291670451009294
[[ 9.99995514e-01 9.27971727e-04 2.84787738e-03 8.72650630e-02]
[ -9.40353889e-04 9.99990098e-01 4.34960155e-03 2.19752310e-03]
[ -2.84381287e-03 -4.35226005e-03 9.99986485e-01 4.15988805e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
36% (402 of 1101) |#####| Elapsed Time: 0:21:12 ETA: 0:14:0
invalid speed keyframe 2109 frame 2111 speed 0.5197205307882116
[[ 9.99982553e-01 4.61808321e-04 5.88900013e-03 1.72883166e-01]
[ -4.78759791e-04 9.99995746e-01 2.87741239e-03 -2.24603070e-03]
[ -5.88764626e-03 -2.88018160e-03 9.99978520e-01 1.84335279e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
36% (403 of 1101) |#####| Elapsed Time: 0:21:14 ETA: 0:16:0
invalid speed keyframe 2110 frame 2112 speed 0.5817499422613432
[[ 9.99986655e-01 6.83328226e-04 5.12088609e-03 4.23643003e-02]
[ -6.84368846e-04 9.99999746e-01 2.01461455e-04 -1.11656026e-02]
[ -5.12074712e-03 -2.04963341e-04 9.99986868e-01 5.48728405e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
36% (405 of 1101) |#####| Elapsed Time: 0:21:16 ETA: 0:16:0
invalid speed keyframe 2111 frame 2114 speed 0.44883205700727113
[[ 9.99961470e-01 1.28514991e-03 8.68370153e-03 -9.00510555e-02]
[ -1.28656477e-03 9.99999160e-01 1.57348911e-04 -3.55968466e-02]
[ -8.68349202e-03 -1.68514993e-04 9.99962284e-01 -1.58439405e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
36% (406 of 1101) |#####| Elapsed Time: 0:21:18 ETA: 0:16:0
invalid speed keyframe 2113 frame 2115 speed 0.22751903758375835
[[ 9.99976528e-01 -2.87672848e-03 6.21831565e-03 -2.30746629e-01]
[ 2.87399372e-03 9.99995769e-01 4.48683216e-04 -5.67848871e-02]
[ -6.21958008e-03 -4.30801284e-04 9.99980565e-01 -2.55239220e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
36% (407 of 1101) |#####| Elapsed Time: 0:21:20 ETA: 0:18:0
invalid speed keyframe 2114 frame 2116 speed 0.997733801166371
[[ 9.99970518e-01 -4.53349327e-03 6.19761200e-03 1.27609550e-01]
[ 4.53462593e-03 9.99989704e-01 -1.68717606e-04 8.88277020e-03]
[ -6.19678331e-03 1.96816484e-04 9.99980780e-01 4.25280276e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
37% (408 of 1101) |#####| Elapsed Time: 0:21:21 ETA: 0:18:0
invalid speed keyframe 2115 frame 2117 speed 0.7170855433755224
[[ 0.99998446 0.001226 0.00543796 -0.14574855]
[ -0.00123363 0.99999826 0.00140014 -0.01430535]
[ -0.00543623 -0.00140683 0.99998423 0.17029242]
[ 0. 0. 0. 1. ]]
37% (409 of 1101) |#####| Elapsed Time: 0:21:23 ETA: 0:18:0
invalid speed keyframe 2116 frame 2118 speed 0.1291589950111821
[[ 0.99997783 -0.00172309 0.00643217 0.17093606]
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[ 0.00171646  0.99999799  0.00103566  0.00979013]
[-0.00643394 -0.0010246   0.99997878 -0.32888284]
[ 0.          0.          0.          1.          ]]
37% (410 of 1101) |#####| Elapsed Time: 0:21:24 ETA:  0:17:
invalid speed keyframe 2117 frame 2119 speed 0.7059419323491194
[[ 9.99981443e-01 -5.51221487e-03  2.59416617e-03  1.76859348e-01]
[ 5.51019222e-03  9.99984510e-01  7.86194496e-04  6.48664988e-03]
[ -2.59845966e-03 -7.71885552e-04  9.99996326e-01  4.28031114e-01]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
37% (411 of 1101) |#####| Elapsed Time: 0:21:26 ETA:  0:17:
invalid speed keyframe 2118 frame 2120 speed 1.1995201825591897
[[ 9.99991062e-01 -1.37370153e-03  3.99849901e-03  1.35446692e-01]
[ 1.37655347e-03  9.99998800e-01 -7.10589005e-04  6.23231310e-03]
[ -3.99751807e-03  7.16086801e-04  9.99991754e-01  3.52487917e-01]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
37% (412 of 1101) |#####| Elapsed Time: 0:21:27 ETA:  0:17:
invalid speed keyframe 2119 frame 2121 speed 0.7629082899805536
[[ 0.99999013 -0.00298863  0.00328903  0.06076463]
[ 0.00299607  0.99999296 -0.0022606  -0.00142038]
[-0.00328225  0.00227043  0.99999204  0.54843607]
[ 0.          0.          0.          1.          ]]
37% (413 of 1101) |#####| Elapsed Time: 0:21:29 ETA:  0:16:
invalid speed keyframe 2120 frame 2122 speed 0.6424813459708475
[[ 0.99998017 -0.00461277  0.0042864  0.195377  ]
[ 0.00462246  0.99998678 -0.00225186  0.01788949]
[-0.00427596  0.00227163  0.99998828  0.23305163]
[ 0.          0.          0.          1.          ]]
37% (414 of 1101) |#####| Elapsed Time: 0:21:30 ETA:  0:16:
invalid speed keyframe 2121 frame 2123 speed -4.273318885678368
[[ 9.99988339e-01 -4.81424444e-03  3.79386664e-04  8.12405740e-05]
[ 4.81431734e-03  9.99988393e-01 -1.91475205e-04  1.21677159e-01]
[ -3.78460452e-04  1.93299461e-04  9.99999910e-01 -5.41980758e+00]
[ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
37% (415 of 1101) |#####| Elapsed Time: 0:21:32 ETA:  0:17:
invalid speed keyframe 2122 frame 2124 speed 0.27644427682542905
[[ 0.99999551 -0.00278974  0.00109697 -0.04659995]
[ 0.00278766  0.99999432  0.00189222 -0.00397726]
[-0.00110224 -0.00188916  0.99999761 -0.05806016]
[ 0.          0.          0.          1.          ]]
37% (416 of 1101) |#####| Elapsed Time: 0:21:33 ETA:  0:17:
invalid speed keyframe 2123 frame 2125 speed 0.33468817520340577
[[ 0.99999058 -0.00411858  0.0013692  0.24205027]
[ 0.00411685  0.99999072  0.00126608 -0.00787178]
[-0.0013744  -0.00126044  0.99999826  0.31278306]
[ 0.          0.          0.          1.          ]]
37% (417 of 1101) |#####| Elapsed Time: 0:21:35 ETA:  0:17:
WARNING: invalid pose estimation
2124 2125 105 0.349811659655 0.000989885497607 [[ 9.99998637e-01 -1.3212002
[ 1.32051595e-03  9.99998889e-01  6.91603733e-04  1.73272554e-03]
[ -9.90798145e-04 -6.90295631e-04  9.99999271e-01  3.49811660e-01]

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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
invalid speed keyframe 2124 frame 2126 speed 0.21677308741564713
[[ 9.99995980e-01 -2.74531661e-03 7.08996599e-04 1.81457530e-01]
[ 2.74547402e-03 9.99996207e-01 -2.21136137e-04 -1.85255836e-03]
[ -7.08386821e-04 2.23081780e-04 9.9999724e-01 2.16773087e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
37% (418 of 1101) |#####| Elapsed Time: 0:21:36 ETA: 0:17:0
invalid speed keyframe 2125 frame 2127 speed 0.7827606527106634
[[ 9.99991179e-01 4.19835296e-03 1.23246568e-04 3.37216695e-01]
[ -4.19837065e-03 9.99991176e-01 1.43583652e-04 2.67629069e-02]
[ -1.22642665e-04 -1.44099820e-04 9.99999982e-01 3.84775779e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
38% (419 of 1101) |#####| Elapsed Time: 0:21:37 ETA: 0:16:0
invalid speed keyframe 2126 frame 2128 speed 0.17129501589865515
[[ 9.99995326e-01 9.18876670e-04 2.91610945e-03 1.45378554e-01]
[ -9.16286994e-04 9.99999185e-01 -8.89270432e-04 3.38044024e-03]
[ -2.91692420e-03 8.86594283e-04 9.99995353e-01 4.23581728e-02]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
38% (421 of 1101) |#####| Elapsed Time: 0:21:39 ETA: 0:15:0
WARNING: invalid pose estimation
2127 2128 80 0.758711639391 0.000547746314501 [[ 9.99999235e-01 1.10894767e-01]
[ -1.10858468e-03 9.99999166e-01 -6.62560857e-04 -4.14343841e-02]
[ -5.48480603e-04 6.61953127e-04 9.99999630e-01 7.58711639e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
invalid speed keyframe 2127 frame 2130 speed 0.6673321000610887
[[ 9.99998549e-01 -5.72555994e-04 1.60458856e-03 -2.94375861e-03]
[ 5.74506922e-04 9.99999096e-01 -1.21564578e-03 -4.40057379e-03]
[ -1.60389108e-03 1.21656586e-03 9.99997974e-01 5.98685636e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
38% (423 of 1101) |#####| Elapsed Time: 0:21:41 ETA: 0:13:0
WARNING: invalid pose estimation
2129 2130 77 0.622903033283 0.000908923066466 [[ 9.99999066e-01 -1.02066362e-01]
[ 1.02097550e-03 9.99999420e-01 -3.42740111e-04 -1.15646907e-02]
[ -9.08572717e-04 3.43667779e-04 9.99999528e-01 6.22903033e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
invalid speed keyframe 2129 frame 2132 speed 0.1978991832263292
[[ 0.99999499 0.00113386 0.002957 -0.17529414]
[-0.00114619 0.99999065 0.0041707 -0.01594408]
[-0.00295225 -0.00417406 0.99998693 0.19574607]
[ 0. 0. 0. 1. ]]
38% (425 of 1101) |#####| Elapsed Time: 0:21:42 ETA: 0:12:0
WARNING: invalid pose estimation
2131 2132 80 0.456564228373 0.00286492125439 [[ 0.99999505 0.00130325 0.00286492]
[-0.00131343 0.99999282 0.00355456 0.03769686]
[-0.00286027 -0.00355831 0.99998958 0.45656423]
[ 0. 0. 0. 1. ]]
invalid speed keyframe 2131 frame 2134 speed 2.4807146548435295
[[ 9.99985679e-01 -1.88724374e-04 5.34843530e-03 -2.54234489e-02]
[ 1.71892465e-04 9.99995032e-01 3.14735665e-03 2.95102645e-02]
[ -5.34900272e-03 -3.14639222e-03 9.99980744e-01 4.97911575e-01]
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[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
38% (426 of 1101) |#####| Elapsed Time: 0:21:44 ETA: 0:12:
invalid speed keyframe 2133 frame 2135 speed -7.630329136875315
[[ 9.99986742e-01 -4.88333207e-04 5.12619285e-03 -2.58159483e+00]
[ 4.89352765e-04 9.99999861e-01 -1.97639495e-04 -6.86905545e-01]
[ -5.12609562e-03 2.00145391e-04 9.99986841e-01 -7.87918913e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
38% (427 of 1101) |#####| Elapsed Time: 0:21:46 ETA: 0:12:
WARNING: invalid pose estimation
2134 2135 99 0.747075449072 0.00313708969041 [[ 9.99994961e-01 -4.86111838e-
[ 4.88372706e-04 9.99999622e-01 -7.19963759e-04 2.36630988e-02]
[ -3.13673852e-03 7.21492200e-04 9.99994820e-01 7.47075449e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
invalid speed keyframe 2134 frame 2136 speed -7.249568012497839
[[ 9.99971260e-01 2.92939921e-04 7.57582835e-03 -2.99863900e+00]
[ -2.91953302e-04 9.99999949e-01 -1.31338102e-04 -5.32730522e-01]
[ -7.57586644e-03 1.29122539e-04 9.99971294e-01 -7.24956801e+00]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
38% (428 of 1101) |#####| Elapsed Time: 0:21:47 ETA: 0:12:
invalid speed keyframe 2135 frame 2137 speed 3.541191991187417
[[ 9.99981657e-01 9.41995468e-04 5.98313158e-03 1.08684521e-02]
[ -9.32127215e-04 9.99998201e-01 -1.65192024e-03 5.96701143e-02]
[ -5.98467692e-03 1.64631290e-03 9.99980736e-01 1.16542286e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
38% (429 of 1101) |#####| Elapsed Time: 0:21:49 ETA: 0:12:
WARNING: invalid pose estimation
2136 2137 98 0.970200551793 0.00411834165833 [[ 0.99998937 0.002074 0.004
[-0.00206951 0.99999726 -0.00109456 0.06525723]
[-0.0041206 0.00108602 0.99999092 0.97020055]
[ 0. 0. 0. 1. ]]
invalid speed keyframe 2136 frame 2138 speed 0.589648639324217
[[ 9.99952004e-01 2.48542729e-04 9.79428415e-03 -6.37697333e-02]
[ -2.29057922e-04 9.99997993e-01 -1.99047756e-03 3.06766630e-02]
[ -9.79475921e-03 1.98813857e-03 9.99950054e-01 5.89648639e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
39% (430 of 1101) |#####| Elapsed Time: 0:21:50 ETA: 0:12:
WARNING: invalid pose estimation
2137 2138 136 0.640831812169 0.00445443254312 [[ 9.99989228e-01 1.30467472e-
[ -1.30335155e-03 9.99999106e-01 -2.99936326e-04 1.10002668e-02]
[ -4.45481988e-03 2.94127404e-04 9.99990034e-01 6.40831812e-01]
[ 0.00000000e+00 0.00000000e+00 0.00000000e+00 1.00000000e+00]]
39% (431 of 1101) |#####| Elapsed Time: 0:21:51 ETA: 0:12:
invalid speed keyframe 2137 frame 2140 speed 0.11863845364594885
[[ 0.99994843 0.00135719 0.01006474 0.03662539]
[-0.001347 0.99999857 -0.00101946 -0.04402495]
[-0.01006611 0.00100585 0.99994883 0.00640382]
[ 0. 0. 0. 1. ]]
39% (432 of 1101) |#####| Elapsed Time: 0:21:52 ETA: 0:12:
invalid speed keyframe 2139 frame 2141 speed 0.9945648435862118
[[ 9.99983647e-01 1.23543437e-04 5.71752317e-03 -3.51180927e-03]

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[ -1.20665508e-04  9.99999866e-01 -5.03694492e-04  1.57598648e-03]
[ -5.71758463e-03  5.02996348e-04  9.99983528e-01  5.98594230e-01]
[  0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
39% (433 of 1101) |#####| Elapsed Time: 0:21:54 ETA:  0:14:.
invalid speed keyframe 2140 frame 2142 speed 1.6186522317926795
[[ 0.99993009 -0.00169935  0.01170162  0.17889419]
 [ 0.00172195  0.99999667 -0.00192135 -0.01791674]
 [-0.01169832  0.00194136  0.99992969  0.13856461]
 [ 0.          0.          0.          1.          ]]
39% (435 of 1101) |#####| Elapsed Time: 0:21:56 ETA:  0:14:.
invalid speed keyframe 2141 frame 2144 speed 0.5422526384638571
[[ 9.99961817e-01 -9.16132857e-04  8.69053926e-03  9.92121621e-02]
 [ 9.37721046e-04  9.99996484e-01 -2.48035299e-03 -1.31207643e-02]
 [-8.68823638e-03  2.48840759e-03  9.99959160e-01 -3.06308408e-01]
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
39% (436 of 1101) |#####| Elapsed Time: 0:21:57 ETA:  0:14:.
invalid speed keyframe 2143 frame 2145 speed 0.5579950629375031
[[ 0.99994006 -0.00526412  0.00960018  0.01796376]
 [ 0.00527834  0.99998501 -0.00145708 -0.0086671 ]
 [-0.00959237  0.00150766  0.99995286  0.08125719]
 [ 0.          0.          0.          1.          ]]
39% (437 of 1101) |#####| Elapsed Time: 0:21:59 ETA:  0:14:.
invalid speed keyframe 2144 frame 2146 speed 0.21591676076134053
[[ 9.99992164e-01 -2.03885868e-03  3.39328357e-03  3.27279331e-01]
 [ 2.03565747e-03  9.99997480e-01  9.46582302e-04 -6.10129203e-02]
 [-3.39520497e-03 -9.39667322e-04  9.99993795e-01 -3.52058323e-01]
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
39% (438 of 1101) |#####| Elapsed Time: 0:22:01 ETA:  0:15:.
invalid speed keyframe 2145 frame 2147 speed 0.9671681064285348
[[ 9.99977671e-01 -1.06993531e-03  6.59637077e-03  2.68259335e-01]
 [ 1.06887435e-03  9.99999415e-01  1.64364022e-04 -4.22318679e-02]
 [-6.59654277e-03 -1.57309660e-04  9.99978230e-01  2.05670979e-01]
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
39% (439 of 1101) |#####| Elapsed Time: 0:22:02 ETA:  0:15:.
WARNING: invalid pose estimation
2146 2147 109 0.214260913792 0.00414144957756 [[ 9.99991402e-01  2.11241427e-02]
 [-2.12389134e-04  9.99999939e-01  2.76688867e-04 -3.78488053e-03]
 [-4.14139088e-03 -2.77566087e-04  9.99991386e-01  2.14260914e-01]
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
invalid speed keyframe 2146 frame 2148 speed 0.0017900210186339732
[[ 9.99959524e-01  6.26612560e-04  8.97536671e-03 -7.00629984e-02]
 [-6.20719529e-04  9.99999590e-01 -6.59348898e-04 -4.58944846e-03]
 [-8.97577619e-03  6.53751025e-04  9.99959503e-01  1.79002102e-03]
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
39% (440 of 1101) |#####| Elapsed Time: 0:22:04 ETA:  0:15:.
WARNING: invalid pose estimation
2147 2148 103 0.0900014188752 0.00442160561652 [[ 9.99988989e-01  1.5718186e-02]
 [-1.57086666e-03  9.99998742e-01 -2.18772268e-04 -3.31157246e-02]
 [-4.42194393e-03  2.11824107e-04  9.99990201e-01  9.00014189e-02]
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
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invalid speed keyframe 2147 frame 2149 speed 0.38647302777234604
[[ 9.99990941e-01  1.71543725e-04  4.25315767e-03  1.00316908e-01]
 [-1.69721734e-04  9.99999894e-01 -4.28742707e-04 -3.02429353e-02]
 [-4.25323076e-03  4.28016969e-04  9.99990863e-01  3.86473028e-01]
 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
40% (441 of 1101) |#####| Elapsed Time: 0:22:06 ETA: 0:16:
invalid speed keyframe 2148 frame 2150 speed 2.178627696577854
[[ 9.99996038e-01 -1.35836467e-03  2.46564785e-03  5.03584566e-03]
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 [ 0.00000000e+00  0.00000000e+00  0.00000000e+00  1.00000000e+00]]
40% (442 of 1101) |#####| Elapsed Time: 0:22:08 ETA: 0:17:
```

-2.14565324e-01]



















































































































































































































-03 -4.09037248e-03 -4.93880453e-02]

3 3.54584327e-02 -9.47926228e-01]

4e-04 -2.70149022e-03 -1.19594381e-05]





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6e-03    4.42160562e-03    -6.67237799e-02]

