Recognizing Part Attributes with Insufficient Data
Supplementary Materials

1. Experimental Attributes

In Figure 5, we mentioned that we performed experiments on 204 attributes. The 1-204 attributes are: 1 curved (up or down), 2 bill_dagger, 3 bill_hooked, 4 bill_needle, 5 bill_hooked_seabird, 6 bill_spatulate, 7 bill_all-purpose, 8 bill_cone, 9 bill_specialized, 10 wing_blue, 11 wing_brown, 12 wing_iridescent, 13 wing_purple, 14 wing_rufous, 15 wing_grey, 16 wing_yellow, 17 wing_olive, 18 wing_green, 19 wing_pink, 20 wing_orange, 21 wing_black, 22 wing_white, 23 wing_red, 24 wing_buff, 25 upperparts_blue, 26 upperparts_brown, 27 upperparts_iridescent, 28 upperparts_purple, 29 upperparts_rufous, 30 upperparts_grey, 31 upperparts_yellow, 32 upperparts_olive, 33 upperparts_green, 34 upperparts_pink, 35 upperparts_orange, 36 upperparts_black, 37 upperparts_white, 38 upperparts_red, 39 upperparts_buff, 40 underparts_blue, 41 underparts_brown, 42 underparts_iridescent, 43 underparts_purple, 44 underparts_rufous, 45 underparts_grey, 46 underparts_yellow, 47 underparts_olive, 48 underparts_green, 49 underparts_pink, 50 underparts_orange, 51 underparts_black, 52 underparts_white, 53 underparts_red, 54 underparts_buff, 55 breast_solid, 56 breast_spotted, 57 breast_striped, 58 breast_multi-colored, 59 head_spotted, 60 head_malar, 61 head_crested, 62 head_masked, 63 head_unique_pattern, 64 head_eyebrow, 65 head_eyering, 66 head_plain, 67 head_eyeline, 68 head_capped, 69 breast_blue, 70 breast_green, 71 breast_brown, 72 breast_iridescent, 73 breast_purple, 74 breast_rufous, 75 breast_grey, 76 breast_yellow, 77 breast_olive, 78 breast_green, 79 breast_pink, 80 breast_orange, 81 breast_black, 82 breast_white, 83 breast_red, 84 breast_buff, 85 breast_brown, 86 breast_grey, 87 breast_iridescent, 88 breast_orange, 89 breast_purple, 90 throat_olive, 91 throat_grey, 92 throat_yellow, 93 throat_iridescent, 94 throat_pink, 95 throat_orange, 96 throat_black, 97 throat_white, 98 throat_red, 99 throat_buff, 100 eye_blue, 101 eye_brown, 102 eye_purple, 103 eye_rufous, 104 eye_grey, 105 eye_yellow, 106 eye_olive, 107 eye_green, 108 eye_pink, 109 eye_orange, 110 eye_black, 111 eye_white, 112 eye_red, 113 eye_buff, 114 bill_length::about_the_same_as_head, 115 bill_length::longer_than_head, 116 bill_length::shorter_than_head, 117 forehead_color::blue, 118 forehead_color::brown, 119 forehead_color::iridescent, 120 forehead_purple, 121 forehead_rufous, 122 forehead_grey, 123 forehead_yellow, 124 forehead_olive, 125 forehead_green, 126 forehead_pink, 127 forehead_orange, 128 forehead_black, 129 forehead_white, 130 forehead_red, 131 forehead_buff, 132 belly_blue, 133 belly_brown, 134 belly_iridescent, 135 belly_purple, 136 belly_rufous, 137 belly_grey, 138 belly_yellow, 139 belly_olive, 140 belly_green, 141 belly_pink, 142 belly_orange, 143 belly_black, 144 belly_white, 145 belly_red, 146 belly_buff, 147 wing_rounded-wings, 148 wing_pointed-wings, 149 wing_broad-wings, 150 wing_tapered-wings, 151 wing_shape::long-wings, 152 belly_solid, 153 belly_spotted, 154 belly_striped, 155 belly_multi-colored, 156 leg_blue, 157 leg_brown, 158 leg_iridescent, 159 leg_purple, 160 leg_rufous, 161 leg_grey, 162 leg_yellow, 163 leg_olive, 164 leg_green, 165 leg_pink, 166 leg_orange, 167 leg_black, 168 leg_white, 169 leg_red, 170 leg_buff, 171 bill_blue, 172 bill_brown, 173 bill_iridescent, 174 bill_purple, 175 bill_rufous, 176 bill_grey, 177 bill_yellow, 178 bill_olive, 179 bill_green, 180 bill_pink, 181 bill_orange, 182 bill_black, 183 bill_white, 184 bill_red, 185 bill_buff, 186 crown_blue, 187 crown_brown, 188 crown_iridescent, 189 crown_purple, 190 crown_rufous, 191 crown_grey, 192 crown_yellow, 193 crown_olive, 194 crown_green, 195 crown_pink, 196 crown_orange, 197 crown_black, 198 crown_white, 199 crown_red, 200 crown_buff, 201 wing_solid, 202 wing_spotted, 203 wing_striped, 204 wing_multi-colored.

2. Exemplar images

Following are some exemplar images of our human dataset and CUB bird dataset. The heat map placed on the right of each image visualizes the localization information predicted in the CSN inference process. The heat map is $A'_i$ in line 299 and Figure 3.
Figure 1. Exemplar images of our human dataset.
Figure 2. Exemplar images of our human dataset.
Figure 3. Exemplar images of the CUB bird dataset.
Figure 4. Exemplar images of the CUB bird dataset.