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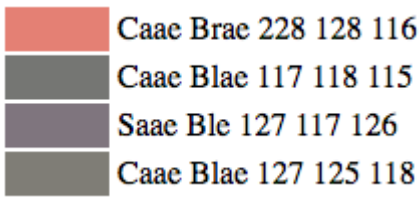
New paint colors invented by neural network

So if you've ever picked out paint, you know that every infinitesimally different shade of blue, beige, and gray has its own descriptive, attractive name. Tuscan sunrise, blushing pear, Tradewind, etc… There are in fact people who invent these names for a living. But given that the human eye can see millions of distinct colors, sooner or later we're going to run out of good names. Can AI help?

For this experiment, I gave the neural network a list of about 7,700 Sherwin-Williams paint colors along with their RGB values. (RGB = red, green, and blue color values) Could the neural network learn to invent new paint colors and give them attractive names?

One way I have of checking on the neural network's progress during training is to ask it to produce some output using the lowest-creativity setting. Then the neural network plays it safe, and we can get an idea of what it has learned for sure.

By the first checkpoint, the neural network has learned to produce valid RGB values - these are colors, all right, and you could technically paint your walls with them. It's a little farther behind the curve on the names, although it does seem to be attempting a combination of the colors brown, blue, and gray.



By the second checkpoint, the neural network can properly spell green and gray. It doesn't seem to actually know what color they are, however.


Soreer Gray 121 121 110
Sane Green 121 125 190
Reree Gray 213 220 122
Canter Green 140 120 120
Rererte Green 223 116 120
Conk Green 185 212 221
Sole Gray 181 112 121

Let's check in with what the more-creative setting is producing.


Wltlttf Bzt 25 64 0
Bylfgoam Glosd 229 233 112
Gorlpateehecd 63 62 90
Woleebaph Ronder Wily 195 199 199
Iroeee CerMowt 222 128 187
Dondarf 145 151 226

…oh, okay.

Later in the training process, the neural network is about as well-trained as it's going to be (perhaps with different parameters, it could have done a bit better - a lot of neural network training involves choosing the right training parameters). By this point, it's able to figure out some of the basic colors, like white, red, and grey:


Sticks Red 171 37 34
Coral Gray 129 102 100
Rover White 222 222 213
Corcaunitiol Orange 239 212 202
Ghasty Pink 231 137 165
Power Gray 151 124 112
Navel Tan 199 173 140
Bock Coe White 221 215 236
Horble Gray 178 181 196
Homestar Brown 133 104 85
Snader Brown 144 106 74
Golder Craam 237 217 177
Hurky White 232 223 215
Burf Pink 223 173 179
Rose Hork 230 215 198

Although not reliably.


Black Hand 211 226 214
Gray Pubic 6 193 214
Ferry Purple 116 70 60
Ice Gray 184 174 17
Gray Pock 130 96 62
Barial Blue 167 168 169
Stoomy Brown 124 130 72

In fact, looking at the neural network's output as a whole, it is evident that:

1. The neural network really likes brown, beige, and grey.
2. The neural network has really really bad ideas for paint names.


Clardic Fug 112 113 84
Snowbonk 201 199 165
Catbabel 97 93 68
Bunflow 190 174 155
Ronching Blue 121 114 125
Bank Butt 221 196 199
Caring Tan 171 166 170
Stargoon 233 191 141
Sink 176 138 110
Stummy Beige 216 200 185
Dorkwood 61 63 66
Flower 178 184 196
Sand Dan 201 172 143
Grade Bat 48 94 83
Light Of Blast 175 150 147
Grass Bat 176 99 108
Sindis Poop 204 205 194
Dope 219 209 179
Testing 156 101 106
Stoner Blue 152 165 159
Burble Simp 226 181 132
Stanky Bean 197 162 171
Turdly 190 164 116

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Where science meets art and literature. More than occasional silliness.

Currently located on the traditional territory of the Northern Arapahoe people.

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Research Scientist: industry R&D in optics, biophotonics, & beamsteering. Plays with neural networks. Avid reader, writer, and player of Irish flute. she/her.

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