Automatic Image Curation

Can a computer model predict the usefulness of a review image?

Preparing the data

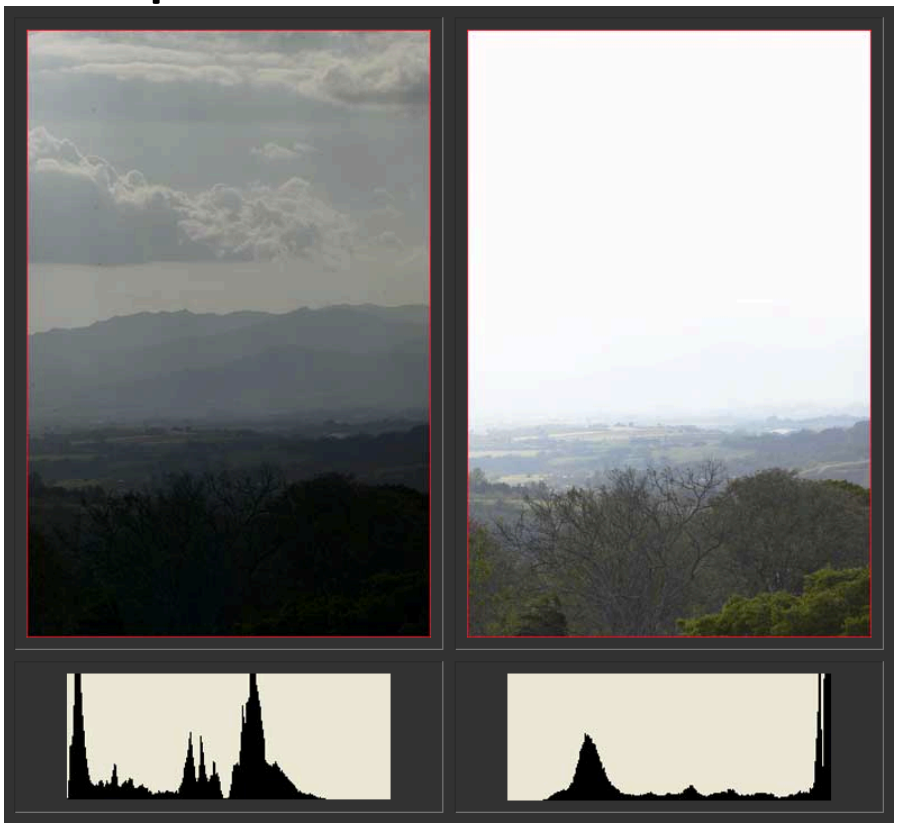
- Filter reviews with images and user feedback
- Fetch all the images!

We need to digest the images

- Pixel RGB values are a lot of numbers that do not tell us much
- We need a few numbers that tell us a lot

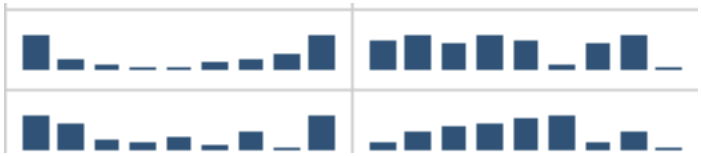
What photographers do

- They look at the histogram
- It tells if an image is overexposed or underexposed
- And how contrasty it is



Going a little bit further

- We can do multilevel analysis
- If we downscale the image and get the new histogram, we get information about microcontrast: the histogram goes flatter.
- That is what makes an image “pop”



An Artificial Neural Network

- They are good to do regression on multidimensional data
- They can discover hidden relations between inputs and outputs

Our data set and network topology

- Input:
  - Histogram quantized for 8 levels of gray
  - For 4 different resolution images
- Output:
  - The number of positive feedback the review had
- Topology
  - Backpropagation 1 hidden layer with 128 nodes, full connectivity

The results

- The ANN is very good at predicting…

Wait for it…

NOTHING

- But it is very good giving us a value around the median feedback for almost all the reviews
- That kept the error low

Some more insights

- By manually inspecting the images I found
  - Useful reviews often have poor images
  - The most beautiful images were for cameras
- I blame my University teachers for giving me unrealistic expectations on AI