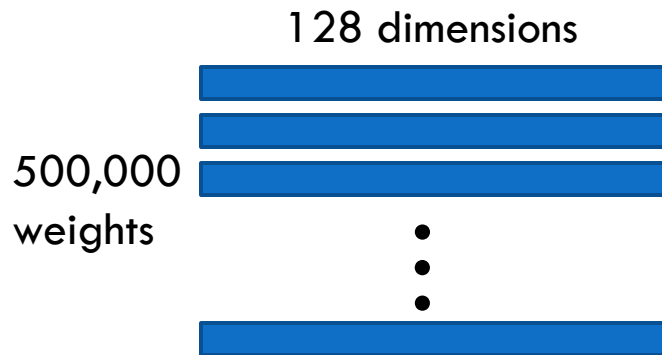


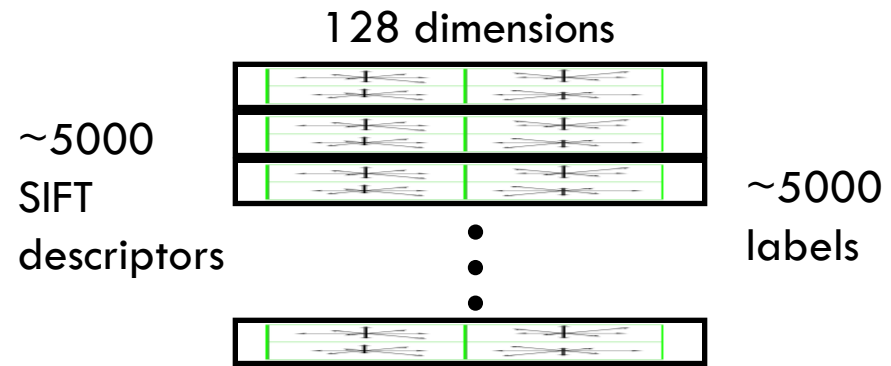
Visual Bits – 7/2

Joel Jurik

Finding the other columns of visual bits



1. Randomly generate matrix of weights



2. Get both positive and negative SIFT descriptors (also create label vector, 1 being positive, -1 being negative)

Finding the other columns of visual bits

5. Update the distribution according to:

$$D_{t+1}(i) = \frac{D_t(i) e^{-\alpha_t y_i h_t(x_i)}}{Z_t}$$

where: $\alpha_t = \frac{1}{2} \ln \frac{1 - \epsilon_t}{\epsilon_t}$

ϵ_t is the error rate

Z_t is a normalization factor

6. Find new matrix of random weights and repeat the process for ~200 rounds

This is basically saying that if we incorrectly classified one of the descriptors, then we add some value to the corresponding element in the distribution in order to make it more important for future rounds

Progress

- Studied boosting in general
- Implemented AdaBoost

Plan

- Talk to Dr. Sukthankar today
- Implement other classes and finish the training part of the visual bits system
- Start on the testing part of visual bits system