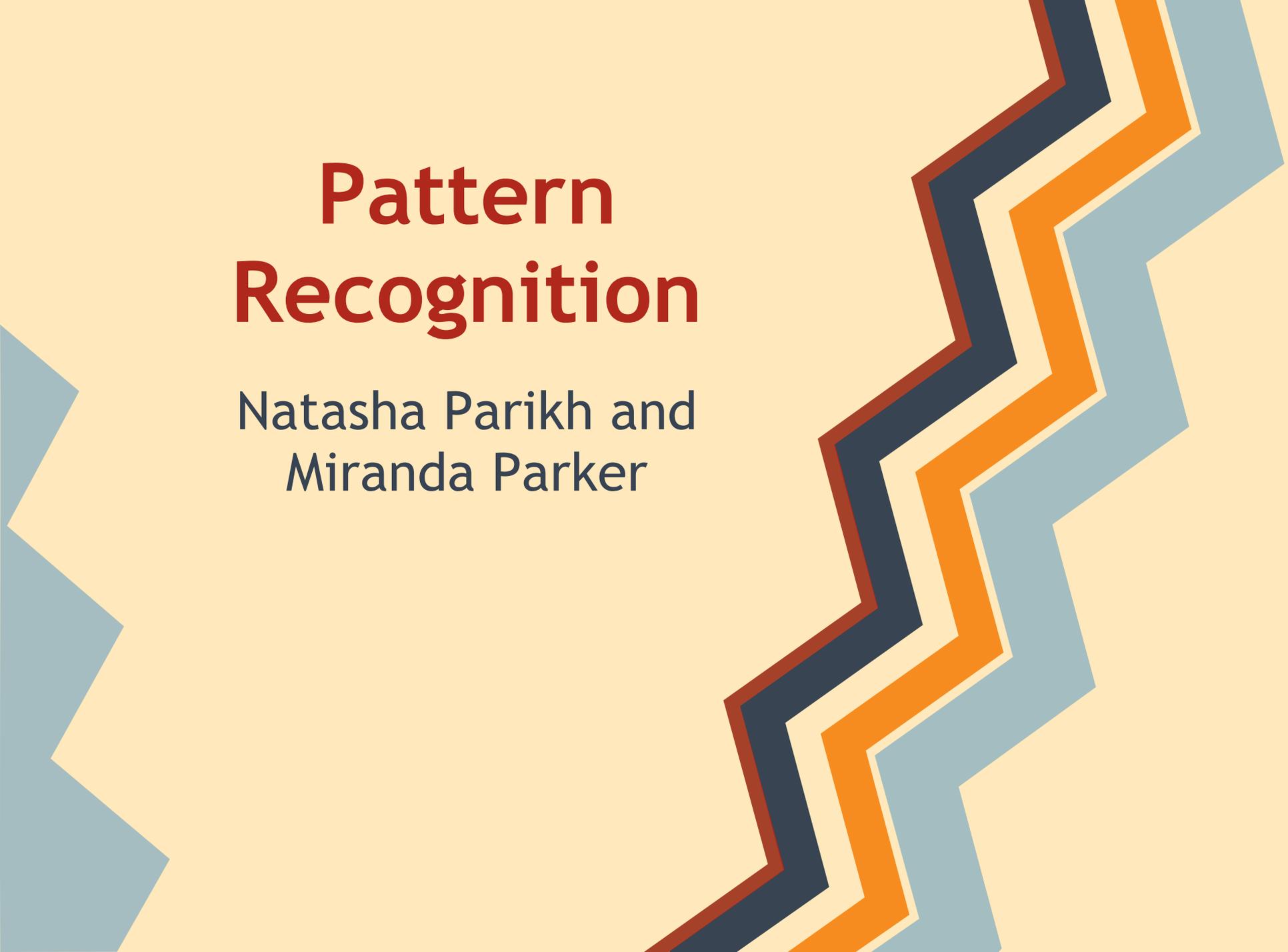


# Pattern Recognition

Natasha Parikh and  
Miranda Parker



# Reminder of Project

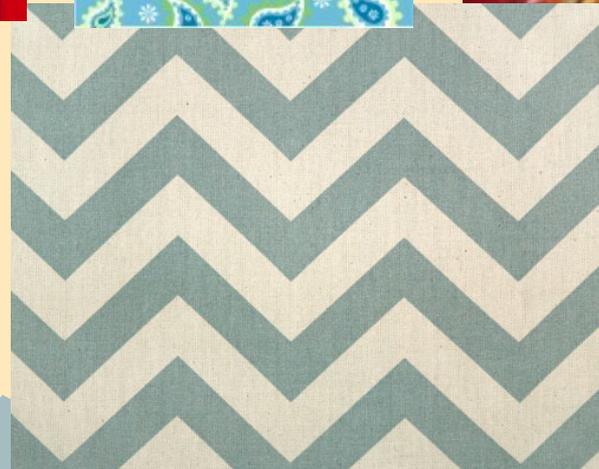
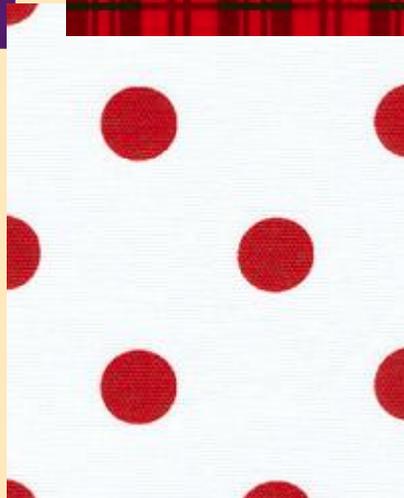
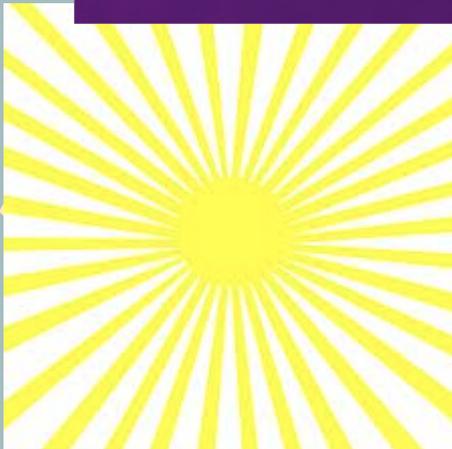


Left off with:  
Deep belief networks  
Color recognition



# Update

- Pattern recognition!



# Plan

1. Image Preprocessing
  - a. Restricted Boltzmann Machine
2. Deep Boltzmann Machine

# Plan

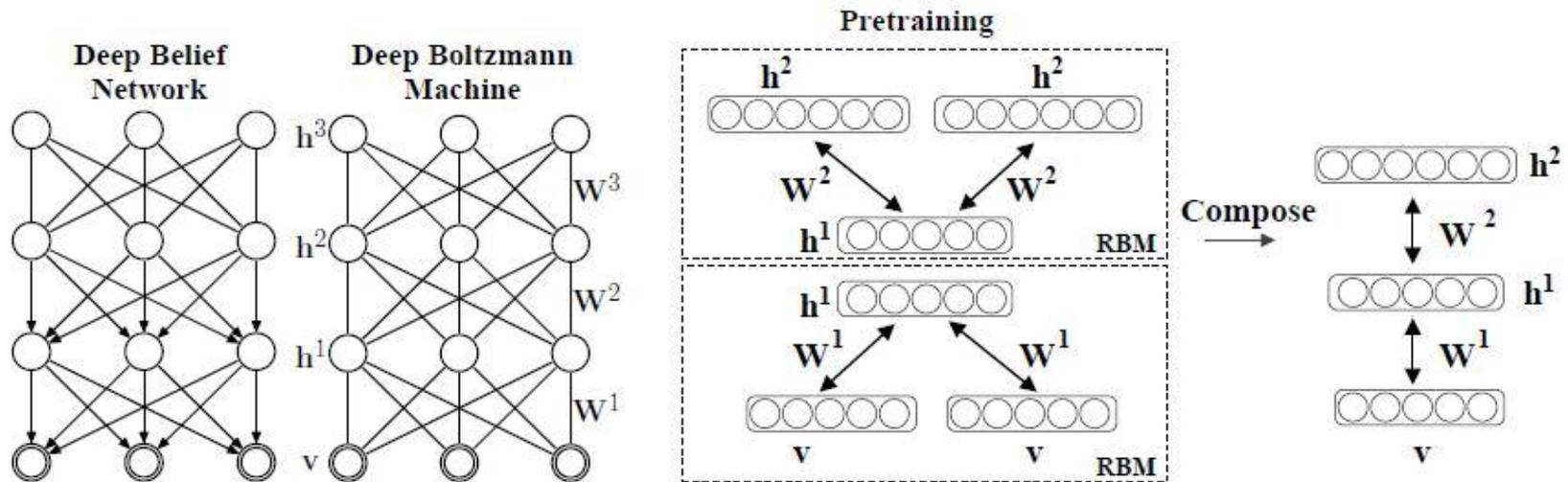


Figure 2: Left: A three-layer Deep Belief Network and a three-layer Deep Boltzmann Machine. Right: Pretraining consists of learning a stack of modified RBM's, that are then composed to create a deep Boltzmann machine.

# Potential Obstacles

- Some patterns don't have a defining characteristic, per se (i.e. batik)
- Some have overlap (i.e. stripes and tie dye pleats)
- Speed
- How much data we need

# References

Good paper: <http://www.cs.utoronto.ca/~rsalakhu/papers/dbm.pdf>

Good code:

[http://deeplearning.net/software\\_links/](http://deeplearning.net/software_links/)