

# Clothing Image Retrieval for Smarter Shopping

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## Motivation

The goal of this project is to use image processing to aid in shopping. Our application allows the user to submit a photo of an article of clothing that they are interested in, and that will then return a list of similar items. This helps the user explore their options and decide exactly what they want. In addition, the techniques used in our application can further be expanded to other kinds of image retrieval.

## Search Method

Classify database images and main image into categories such as:

- Women's tops
- Women's shoes
- Men's polo shirts

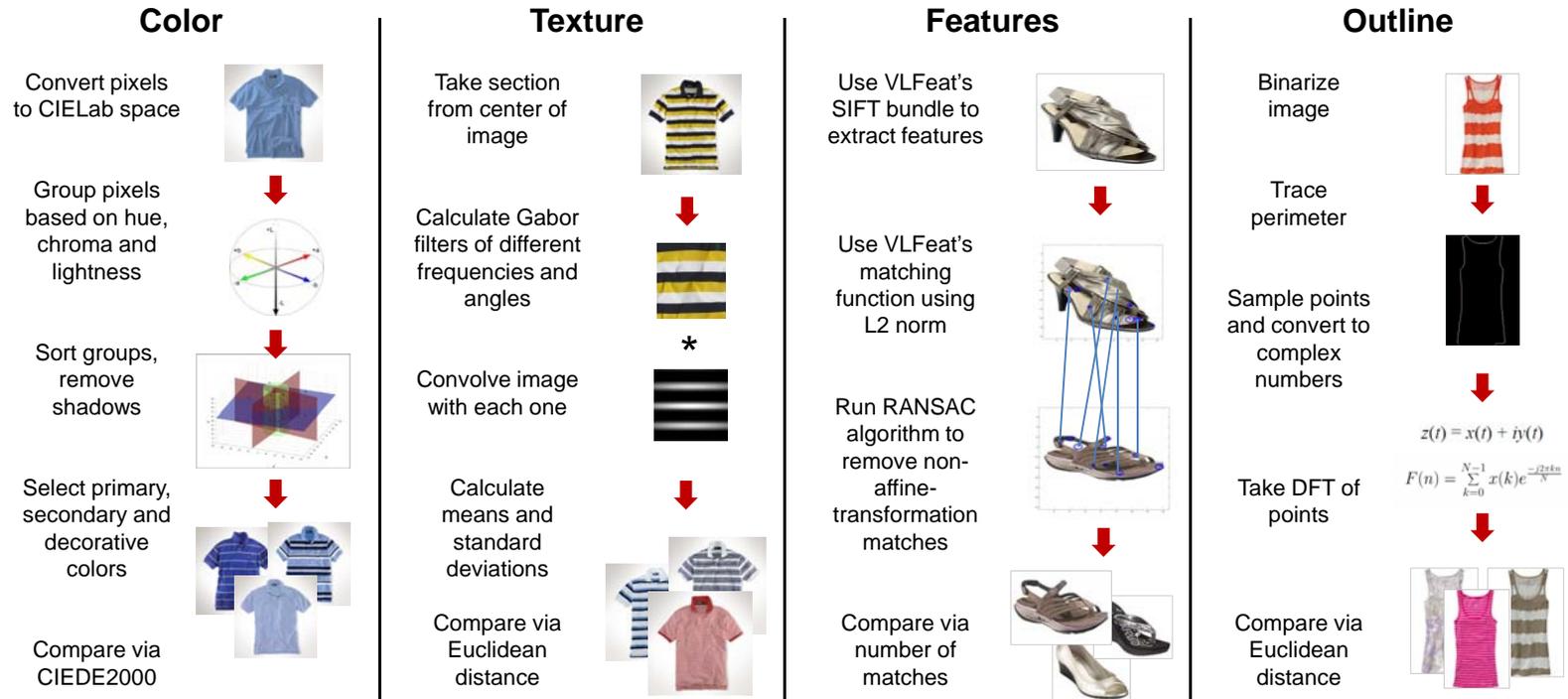
Calculate descriptors for each image (pre-process databases for efficiency)

Descriptors based on the attributes:

- Color
- Texture
- Features
- Outline

Calculate similarity scores for each attribute. Weigh similarity scores, where weights are based on category

Sum scores and output top matches



## Experimental Results & Conclusions

Weights for women's tops:

Color: 1.7  
Texture: 1  
Features: 1  
Outline: 1



As these results show, our application does indeed return similar articles of clothing. With more tuning of each function and their scoring methods, we believe even more improvements can be made. Another next step would be to make our application more robust, instead of assuming very standardized images.