

Modern

Image-based furniture recommendation

What is Modern?

- Get living room furniture recommendations from an image of choice
- Effortlessly look for similar products out of hundreds of other furnitures
- Simply upload a photo and choose a category to be recommended





Methodology

Image Library

- 11 living room categories
- ~4000 RGB Images
- ~300 Images per category



Methodology

Image Library

Image Classification

- CNN to classify different category of furnitures
- Transfer Learning with VGG16
- Accuracy of 87%



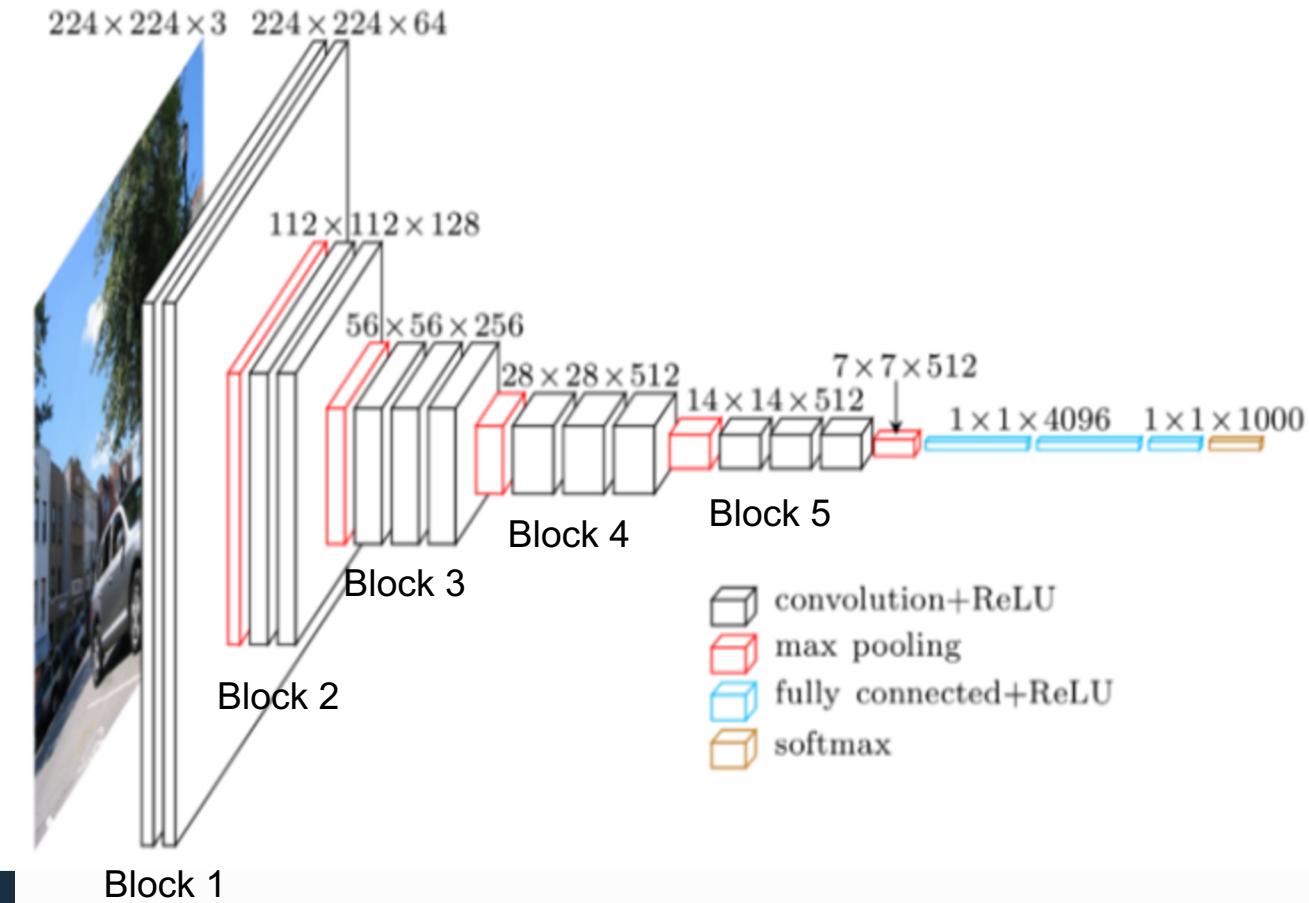
Methodology

Image Library

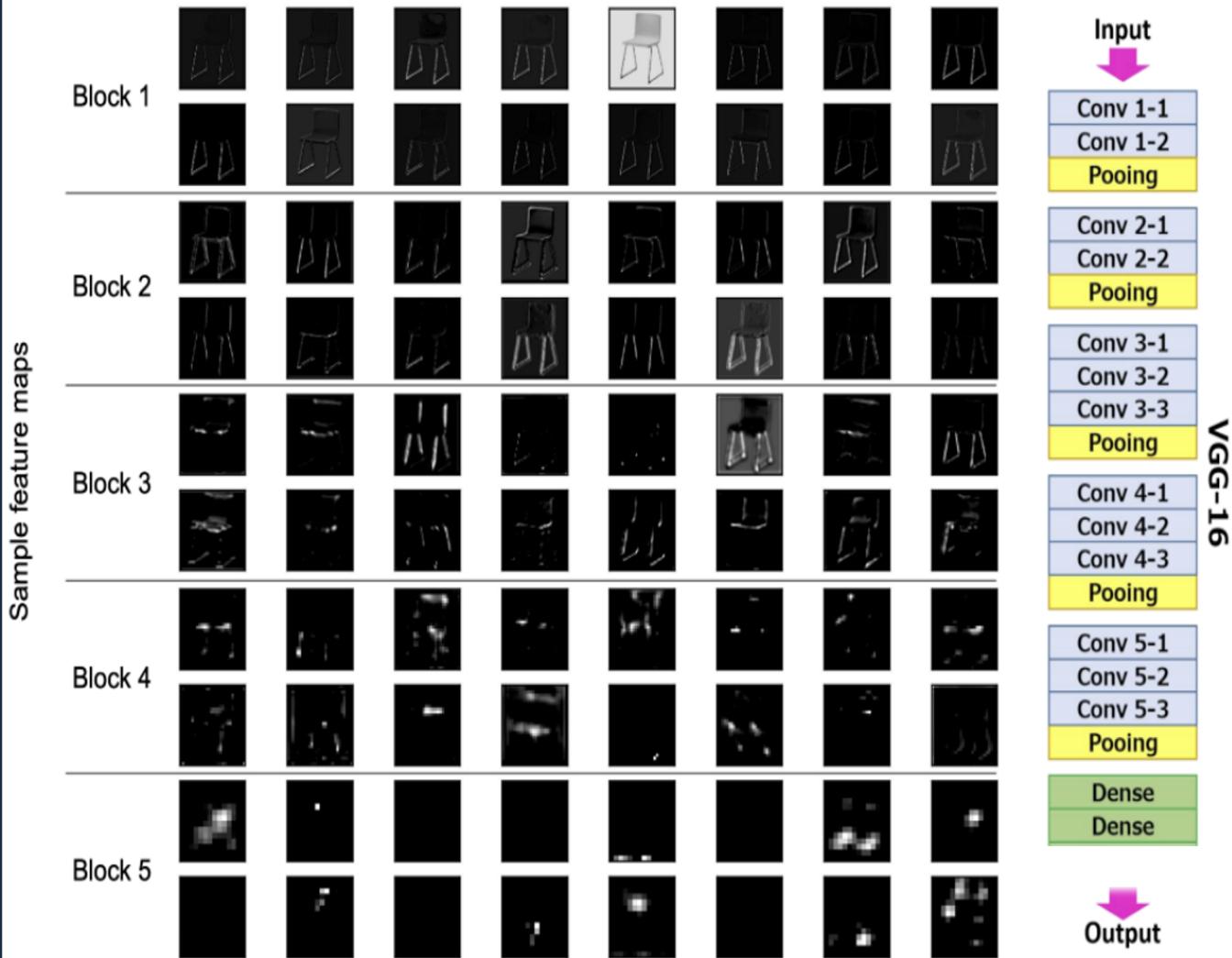
Image Classification

Feature Maps

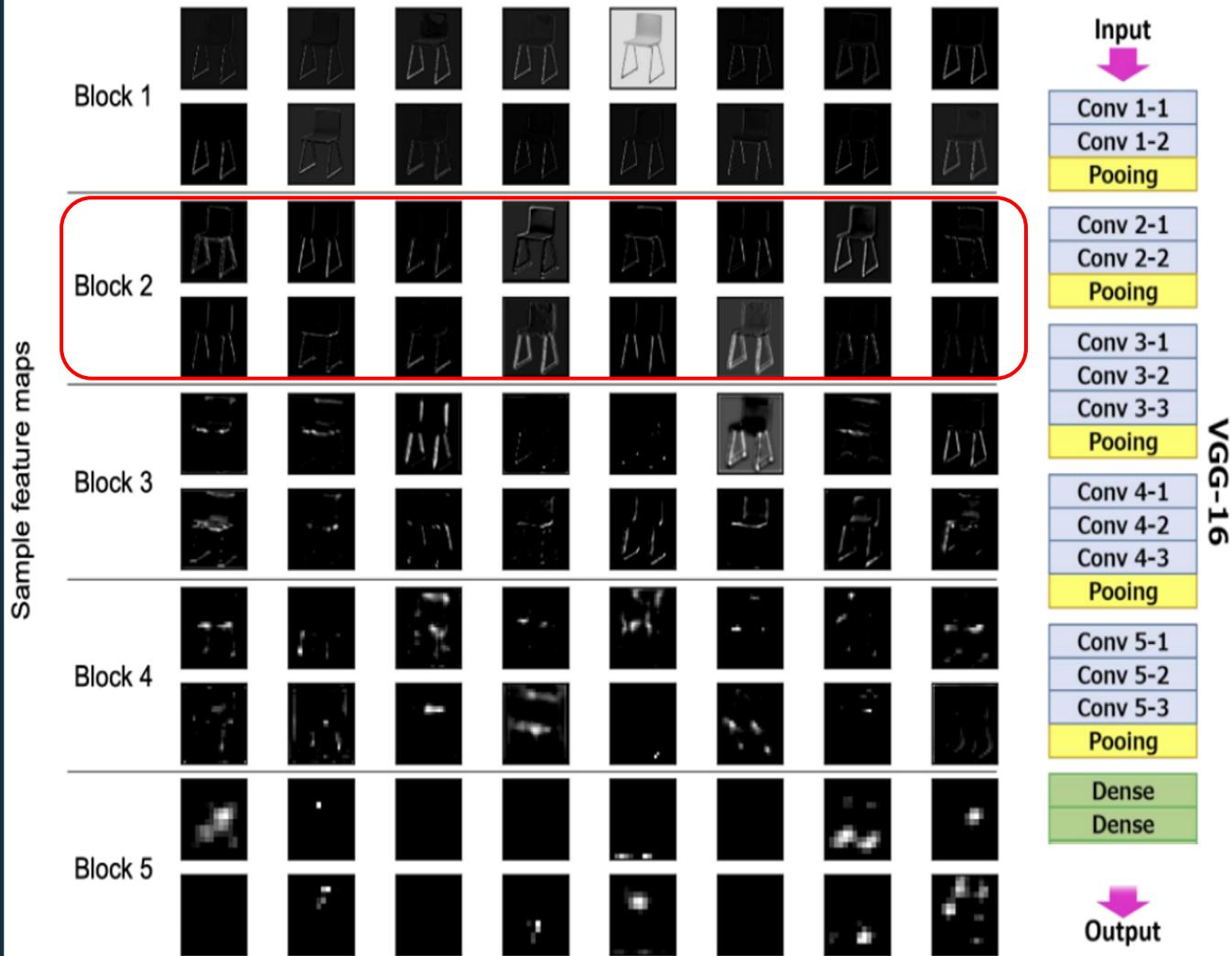
VGG16 Architecture



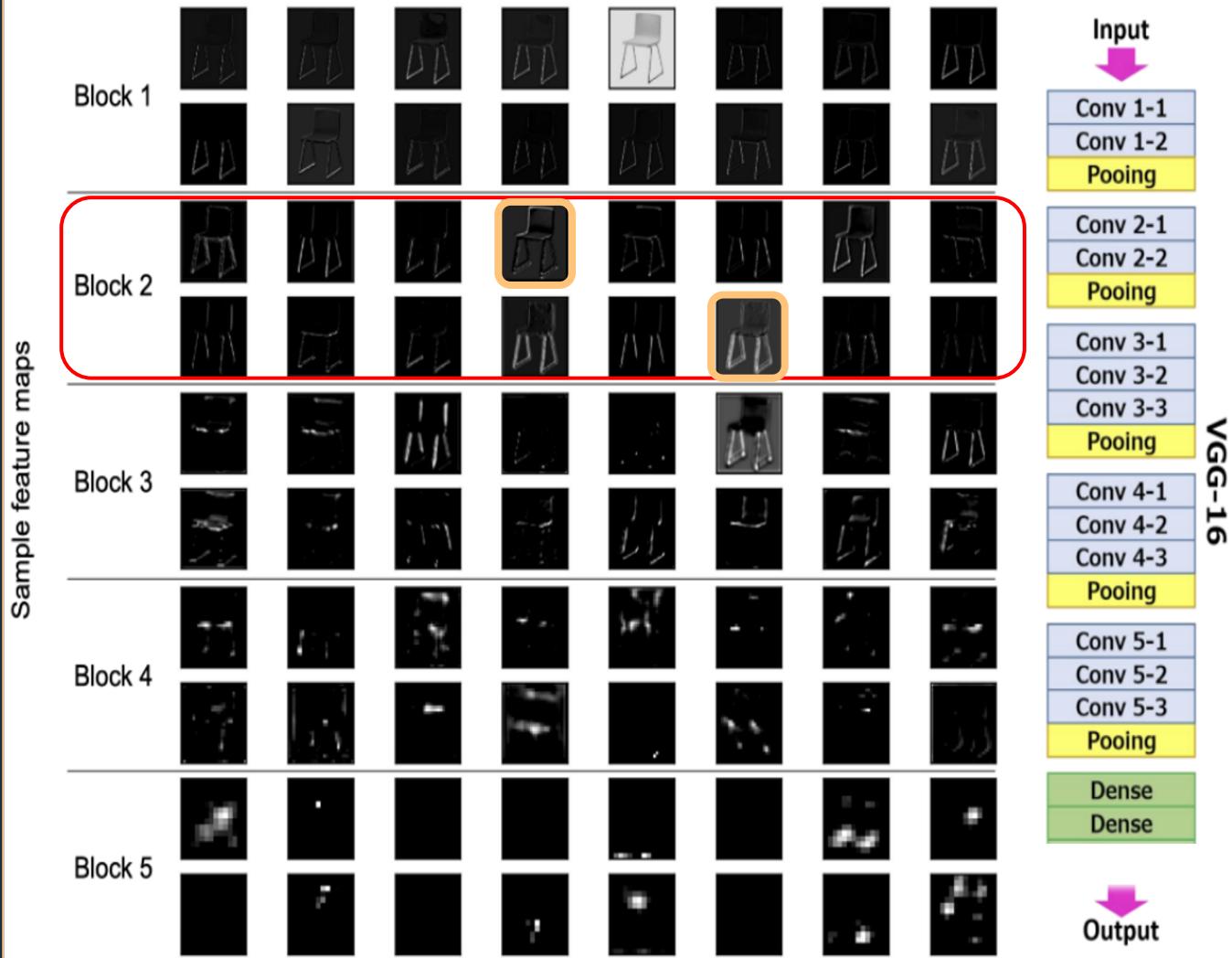
Feature Maps



Feature Maps

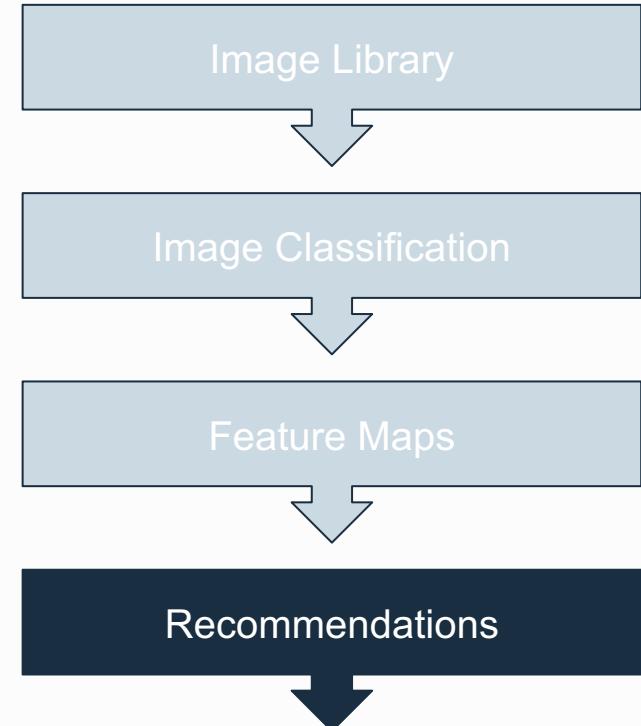


Feature Maps



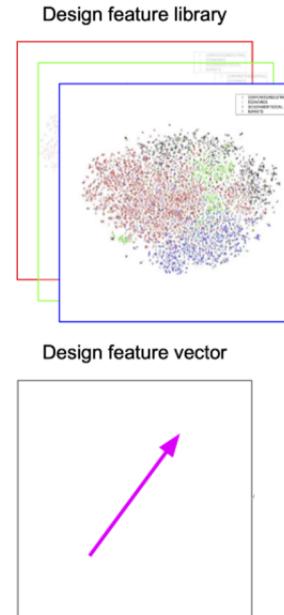


Methodology



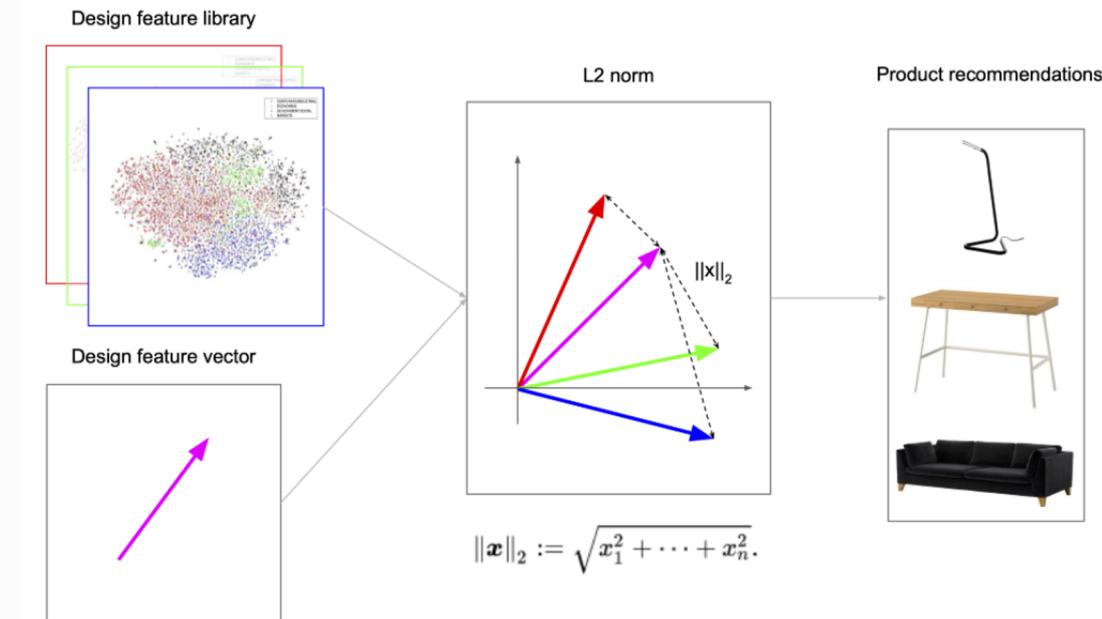
Recommendations

- Gram matrices
 - Correlations between feature maps to highlight the most salient features that best represent the furniture
 - Design feature library



Recommendations

- Gram matrices
 - Correlations between feature maps to highlight the most salient features that best represent the furniture
 - Maybe change it to latent features
 - Design feature library
- L2 norm that determines closest match



App Demo

Pick type of furniture you want to be recommended

Choose furniture type:

chairs

Enter preferred number of recommendations

5

Please upload an image file

Drag and drop file here
Limit 200MB per file • JPG, PNG

Browse files

Furniture Collection Recommender

This is an image-based product collection recommender that pairs user-inputted product with other visually compatible product collection. Use the slider to see which furnitures you would like to see recommendations for

Please upload an image file

Made with [Streamlit](#)

Thank you!

