

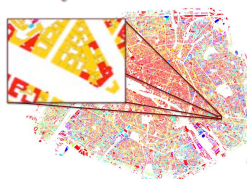
Linking Past to Present: Discovering Style in Two Centuries of Architecture

Stefan Lee¹, Nicolas Maisonneuve², David Crandall¹, Alexei A. Efros³, and Josef Sivic²
 Indiana University¹ INRIA Willow² UC Berkeley³

Building a Temporal Style Dataset

120,000 Parisian Buildings

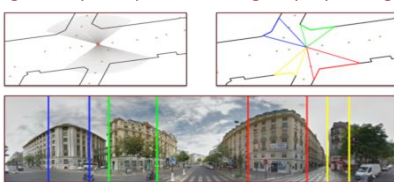
- Fine-grained 2D building geometry provided by a cadastral map
- Labeled with construction period (10 periods from -1800 to 2000+)



145,000 Street View Images

- Precise location and heading
- 360° panorama images

Facades are detected by projecting 2D building geometry onto panorama images by ray casting



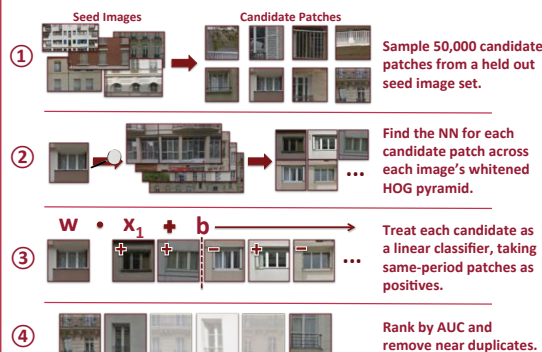
70,000 Building Facade Crops

- Labeled with construction period
- Rectified so that building faces are nearly planar

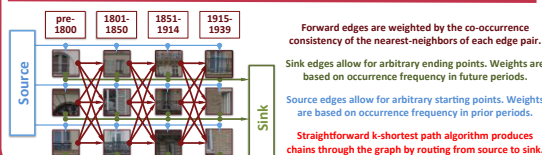


Mining Time-Discriminative Patches

To identify time-discriminative elements, we take an exemplar classifier approach to quantify purity of candidate patches against hard negatives.



Linking elements together through time

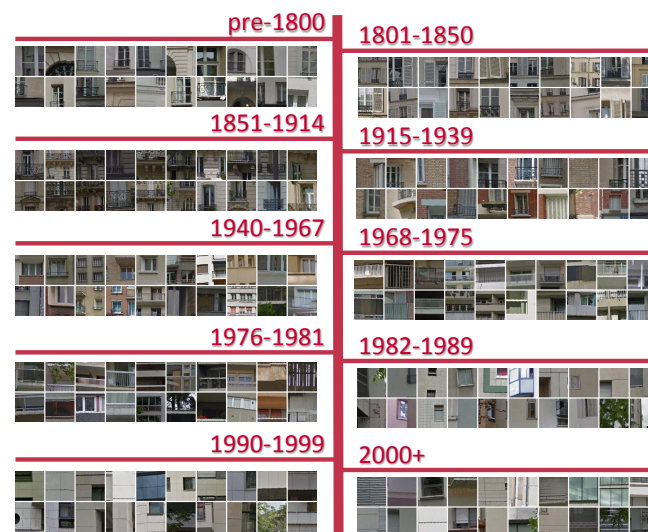


For project page and full browsable results, visit: vision.soic.indiana.edu



Visualizing 200 Years of Parisian Architecture

Most discriminative patches per period ranked left-to-right, top-to-bottom:



Automatically-generated element chains

