High-level attributes of images: How memorable is an image?
Phillip Isola, Jianxiong Xiao, Devi Parikh, Antonio Torralba, Aude Oliva

Motivations

How to measure memorability?
What content makes an image memorable?
Understanding memorability

Database
Prediction algorithms
Applications

Memory Game

500 participants on Amazon's Mechanical Turk.
Memorability: probability of correctly selecting a repeat after a single view of an image in a long stream.

Average
Memorable
Forgettable

Understanding memorability

What content makes an image memorable?

Objects selected according to object score (predicted per image).

Objects ranked according to object score (predicted per image).

Images ranked according to scene score (predicted per scene).

Scene ranked according to scene score (predicted per scene).

Wide range of memorabilities and high inter-subject consistency.

Predicting image memorability

Prediction algorithm: SVM Regression with non-linear kernels.

Unanimity, indoor;

Peaceful, face_visible;

Scene annotations (

Object annotations (SIFT, HOG, SSIM); scene detection).

Attribute annotations (object appear; emotion; layout; etc.).

Predicted memorable

Predicted average

Predicted forgettable

Average percentage

Image rank N, according to memorability.

Applications and future directions

Retrieve better images from search
Design mnemonic aids
Diagnose memory problems
Summarize photo album or video
Make an image more memorable
Understand human memory