

Three Manually Labeled Color Constancy Datasets

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A total of 1,913 images are included in the 3 data sets. We manually labeled each of these images with its 3D stages and its indoor/outdoor classification. The database of labels is made available on-line at ‘www.cs.sfu.ca/~colour/data/’. Following Nedovic et al. [35], the 15 typical 3D stages *sky+bkg+grd*, *bkg+grd*, *sky+grd*, *grd*, *nodepth*, *grd+Tbkg(LR)*, *grd+Tbkg(RL)*, *Tbkg(LR)*, *Tbkg(RL)*, *tbl+Prs+bkg*, *ltd+wall(LR)*, *ltd+wall(RL)*, *corner*, *corridor*, and *prs+bkg* are used. There are separate files in both Matlab (.mat) and plain text (.txt) formats containing the file name from the original data set, a 0/1 flag indicating indoor/outdoor, and a numerical stage value.

The image labeling provided here has been used in a paper entitled, “Evaluating Combinational Illumination-Estimation Methods on Real-World Images,” by Bing Li, Weihua Xiong, Weiming Hu, Brian Funt. This paper is still under review (as of May 2012) and is not yet publically available. If you use the label sets we provide here, please contact one of the authors for information on how to cite the database. E-mail addresses are: bli@nlpr.ia.ac.cn, wallace.xiong@gmail.com, and funt@sfu.ca

Three Image Datasets used

1. The Gehler-Shi Image Set

The first real-world image set considered is the one provided by Gehler et al. [7,8] and subsequently reprocessed by Shi et al. [9,10]. It contains 568 images taken using Canon 5D and Canon 1D digital single-lens reflex cameras and includes both indoor and outdoor images. All images were saved in Canon RAW format. The Gehler dataset includes tiff images produced automatically from the RAW images; however, as a result they contain clipped pixels, are non-linear (i.e., have gamma or tone curve correction applied), and include the effect of the camera's white balancing. To avoid these problems, Shi et al. [9,10] reprocessed the raw data and created almost-raw 12-bit Portable Network Graphics (PNG) format images. This results in 2041×1359 (Canon 1D) or 2193×1460 (Canon 5D) linear images (gamma=1) in camera RGB space.

2. The SFU 11,000 Image Set

The SFU 11,000 set created by Ciurea et al. [11] consists of more than 11,000 images extracted from digital video sequences. Since these images are from video, nearby images tend to be correlated. To avoid the bias that correlated images might introduce, Bianco et al. [1] extracted a representative subset of 1,135 images that is much less correlated.

3. The Barcelona Image Set

The Barcelona Image set [4, 12,13] is provided by the Computer Vision Center (CVC) of the University Autònoma de Barcelona. The images in this set were all taken outdoors and include

scenes of urban areas, forests, the seaside, et cetera.

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