Signal Processing

Multimodal Quality model: New Methods and Applications

Submission Instructions

www.journals.elsevier.com (http://www.journals.elsevier.com/signal-processing/call-for-papers/special-issue-on-multimodal-quality-model-new-methods-and-ap/)

Manuscript Due

Sept. 7, 2014 (closed)

Description

Multimodal quality models aim at evaluating the quality of multiple media contents (e.g., image, audio, and video), either objectively or subjectively. They are useful tools in various applications such as graphical design, recommendation systems, and etc. Building a successful quality model depends on a wide range of domain knowledge, like signal processing, semantic modeling, and human perception. Extensive research efforts have been dedicated to design computational quality models. While effective methods to manipulate this task are still at their infancy. In detail, some key technical challenges are: 1) the deemphasized role of semantic content that are many times more important than low-level visual features in media quality prediction; 2) the necessity to incorporate human perception of multimedia contents for quality assessment; 3) the difficulty to optimally fuse low-level and high-level visual features into a quality model; and 4) the lack of publicly available data sets to fairly evaluate the performance of a specific quality model. This special issue targets the recent technical progresses on computational models for multimodal quality prediction, such as photo/video aesthetic quality ranking and retargeting. We prefer submissions on discovering new types of visual cues in computational quality models. We also expect papers that introduce applications based on multimodal quality models, such as image deblurring and video recommendation. The primary objective of this special issue fosters focused attention on the latest research progress in this interesting area. The special issue seeks for original contribution of work which addresses the challenges from the computational models for visual/audio quality prediction.

Topics of interest include:

- New computational models for audio/image/video quality evaluation;
- Applying quality models to different image/video processing tasks, including cropping, retargeting, summarization, and deblurring;
- Novel multimodal feature extraction and fusion for quality modeling;
- Discovering biologically-inspired cues for multimodal quality models;
- Weakly supervised learning algorithms for multimedia quality prediction;
- Visual aesthetics prediction for 2D/3D stereo applications;
- Learning visual semantics for intelligent traffic system;
- Visual aesthetic quality model for photo/video management systems;
- Human interactive learning for multimedia quality prediction;
- Computational quality models for large-scale multimedia retrieval;
- Quality assessment methodologies in signal processing systems;
- Datasets, benchmarks and validation of multimedia quality of experience.

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