Record Nr. UNINA9910299830203321 Autore Tan Ee-Leng **Titolo** Perceptual Image Coding with Discrete Cosine Transform / / by Ee-Leng Tan, Woon-Seng Gan Singapore:,: Springer Singapore:,: Imprint: Springer,, 2015 Pubbl/distr/stampa **ISBN** 981-287-543-3 Edizione [1st ed. 2015.] 1 online resource (74 p.) Descrizione fisica SpringerBriefs in Signal Processing, , 2196-4076 Collana Disciplina 004.0151 006.37 006.6 620 621.382 Soggetti Signal processing Image processing Speech processing systems Optical data processing Computer science—Mathematics Signal, Image and Speech Processing Image Processing and Computer Vision Discrete Mathematics in Computer Science Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di contenuto Introduction -- Computational Models for Just-Noticeable-Differences -- Perceptual Image Coding with Discrete Cosine Transform --Validation of Computational Model for JND -- Concluding Remarks. Sommario/riassunto This book first introduces classic as well as recent computational models for just-noticeable-difference (JND) applications. Since the discrete cosine transform (DCT) is applied in many image and video

standards (JPEG, MPEG-1/2/4, H.261/3), the book also includes a comprehensive survey of computational models for JND that are based on DCT. The visual factors used in these computational models are reviewed in detail. Further, an extensive comparative analysis of these

models using quantitative and qualitative performance criteria is

presented, which compares the noise shaping performance of these models with subjective evaluation and the accuracy between the estimated JND thresholds and subjective evaluation. There are many surveys available on computational models for JND; however, these surveys seldom compare the performance of computational models that are based on DCT. The authors' survey of the computational models and their in-depth review of the visual factors used in them will help readers understand perceptual image coding based on DCT. The book also provides a comparative analysis of several perceptual image coders that are based on DCT, which are compatible with the highly popular and widely adopted JPEG standard.