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Learning image interest and saliency from pairwise image comparisons

Tuesday, 5 December 2017 14:20 (20 minutes)

Video cameras are increasingly deployed in exploration, monitoring and surveillance applications. These cameras produce vast amounts of information, which needs to be condensed into manageable quantities for both storage and human-operator evaluation. While data compression can address the former, this does not aid operators, who are often faced with the daunting task of analysing lengthy video sequences. As a result, a system that automatically flags interesting images or information and presents this to an operator in a concise manner is highly desirable.

This talk will show how the 'interest' value of an image can be inferred by means of a Bayesian ranking framework operating on pairwise image comparisons obtained from users. These interest values can then be used to automatically flag images likely to be of use to a human operator. Algorithm modifications showing how these interest posteriors can be improved by applying Gaussian process smoothing to convolutional neural network feature representations (general datasets) will be discussed and storyboarding applications introduced. The talk will also show how image saliency maps highlighting content of interest to a user can be produced as a byproduct of the interest inference process.

HPC content

Not provided

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