Learning-based classification of informative laryngoscopic frames

Sara Moccia, Gabriele O. Vanone, Elena De Momi, Andrea Laborai, Luca Guastini, Giorgio Peretti, Leonardo S. Mattos

PII: S0169-2607(17)31213-0
DOI: 10.1016/j.cmpb.2018.01.030
Reference: COMM 4617

To appear in: *Computer Methods and Programs in Biomedicine*

Received date: 27 September 2017
Revised date: 18 December 2017
Accepted date: 29 January 2018

Please cite this article as: Sara Moccia, Gabriele O. Vanone, Elena De Momi, Andrea Laborai, Luca Guastini, Giorgio Peretti, Leonardo S. Mattos, Learning-based classification of informative laryngoscopic frames, *Computer Methods and Programs in Biomedicine* (2018), doi: 10.1016/j.cmpb.2018.01.030

Highlights

- A new learning-based method for informative frame selection applied to Narrow-band imaging laryngoscopy is presented
- Intensity-, keypoints- and image spatial content-based features are used to classify frames with support vector machines
- A comprehensive quantitative evaluation is performed
- The method outperforms the state of the art in terms of classification performance and computational cost, with statistical evidence
- The labeled dataset used in the research is released along with this paper