Corrigendum

Corrigendum to "Real-time line detection through an improved hough transform voting scheme" [Pattern Recognition 41 (1) 299–314]

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Errata

In Algorithm 3 (line 5), \( g_{\text{min}} \) should be initialized with the largest possible value (\( g_{\text{min}} \leftarrow \infty \)), in order to be correctly updated in line 11. Acknowledgments: The authors would like to thank Siyu Guo for catching this typo.

Clarification

A vertical line in the original image would cause a division by zero operation that is not dealt within Algorithm 2, line 20 (\( \frac{\partial \theta}{\partial m'} = \frac{x_u}{\sqrt{1 - x^2}} \)). In such a case, however, the \( \frac{\partial \theta}{\partial m'} \) is zero, and \( \sigma_\theta \) and \( \sigma_\rho \) (Eq. (13)) are also equal to zero. Thus, in practice, division by zero never actually happens.

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Reference implementation

The reference implementation of the kernel-based Hough transform is publicly available (source code and executable). One can download it from the SourceForge.net page of the project (https://sourceforge.net/projects/khtsandbox). It includes:

- the C++ reference implementation of the proposed Hough transform;
- a sample application using the reference implementation; and
- a MATLAB wrapper function to the reference implementation.