

Response to Reviewer 4 Comments

Point 1: Page 2 line 58 – the MSLD acronym should be explained

Response 1: Corrected. “Wang et al. [12] proposed a robust descriptor called mean-standard deviation line descriptor(MSLD) for line matching based on the mean and standard deviation of intensity gradients from neighborhood appearance.”
(Line 58)

Point 2: Page 2 line 92 – the LIOP acronym should be explained

Response 2: Corrected. “Inspired by the local intensity order pattern [30], we divide the support region into several irregular sub-regions based on intensity order to improve the distinctiveness of the descriptor.”
(Line 163-164)

Point 3: Page 5 line 167 – “To start with, some basic symbol definition is introduced. Let $P=\{p_1, p_2, \dots, p_n\}$ be the n pixels”. I propose replace with “...be the set of n pixels”.

Response 3: Corrected. “Let $P=\{p_1, p_2, \dots, p_n\}$ be the set of n pixels in a support region, and their intensity is denoted by...”
(Line 166-167)

Point 4: What is the impact of research findings on theory and practice in considered field?

Response 4: The main contributions of the proposed method are as follows: 1) uniformly-spaced sampling is introduced at multiple concentric ring shaped structure to improve the discriminability; 2) the dimension of the local feature descriptor is also reduced by extracting sample points at regular intervals; 3) the approximate scale between the image pairs is estimated to handle scale change problems; 4) outliers are removed by computing fundamental matrix estimated by the intersections of line segments from candidate matching pairs.
(Line 490-503)

Point 5: What are disadvantages of proposed approach?

Response 5: The running time of the proposed approach is relatively high. The processing time of our method is depend on the number of the extracted line segments, the dimension of the local feature descriptor and the area of the line support region.
(Line 482-488, 504)

Point 6: The future works should be indicated.

Response 6: The future work is indicated in the “Conclusion” section. “The running time of the proposed method is relatively high. The future work will focus on improving the processing efficiency while maintaining the robustness and the discriminative ability.”
(Line 504-506)

Thank you for the constructive feedbacks and suggestions!