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Fan

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(54) **LINE AND CURVE DETECTION USING LOCAL INFORMATION**

(75) Inventor: **Zhigang Fan**, Webster, NY (US)

(73) Assignee: **Xerox Corporation**, Stamford, CT (US)

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Related U.S. Application Data

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(51) **Int. Cl.**⁷ **G06K 9/46**

(52) **U.S. Cl.** **382/201; 382/291**

(58) **Field of Search** 382/202, 201, 382/203, 217, 218, 281, 199, 135, 137, 286, 291; 358/488

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Primary Examiner—Von J. Couso

(74) *Attorney, Agent, or Firm*—Aditya Krishnan; Mark Z. Dudley

(57) **ABSTRACT**

An image detection method is disclosed wherein local edge information within an image is utilized for accurately detecting lines and curves of the images. The method can more accurately determine the location and orientation of a pattern and thus provides more reliable image match for pattern detection. A detector is trained off-line with example images resulting in a stored template generated by recording a test pattern similar to a pattern to be tested; anchor lines are identified within said template. Long lines are detected in subsequent test patterns using the disclosed method. The template is rotated and shifted before matching it to the test pattern so that anchor lines align with long lines detected within the test pattern. The template and test pattern are then compared to determine whether there is a match. The system comprises a microprocessor is programmed to facilitate the training of a detector off-line with example images which are scanned into said system wherein a template is generated by recording an image pattern of said example images similar to a test pattern to be detected. The microprocessor identifies anchor lines within the template. It detects the long lines using the disclosed line detection method; rotates and shifts the template before matching it to the test pattern so that anchor lines align with lines which are detected within said test pattern; and compares the template to the test pattern to determine whether said anchor lines exist within said test pattern.

7 Claims, 3 Drawing Sheets

