

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
5 July 2001 (05.07.2001)

PCT

(10) International Publication Number
WO 01/48681 A2

(51) International Patent Classification⁷: **G06K 9/00**

(21) International Application Number: PCT/SG00/00199

(22) International Filing Date:
22 December 2000 (22.12.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/171,582 23 December 1999 (23.12.1999) US

(71) Applicant: NATIONAL UNIVERSITY OF SINGAPORE [SG/SG]; 10 Kent Ridge Crescent, Singapore 119260 (SG).

Yew; Apartment #1110, 1035 Aster Avenue, Sunnyvale, CA 94086 (US). SHEN, Lixin; Blk 31, Dover Road #03-111, Singapore 130031 (SG). LEE, Seng, Luan; 58 Upper Thomson Road, Singapore 576230 (SG).

(74) Agent: SACHITHANANTHAN, Suresan; c/o Tan Rajah & Cheah, 9 Battery Road, #15-00, Straits Trading Building, Singapore 049910 (SG).

(81) Designated States (*national*): AU, CA, CN, JP, SG.

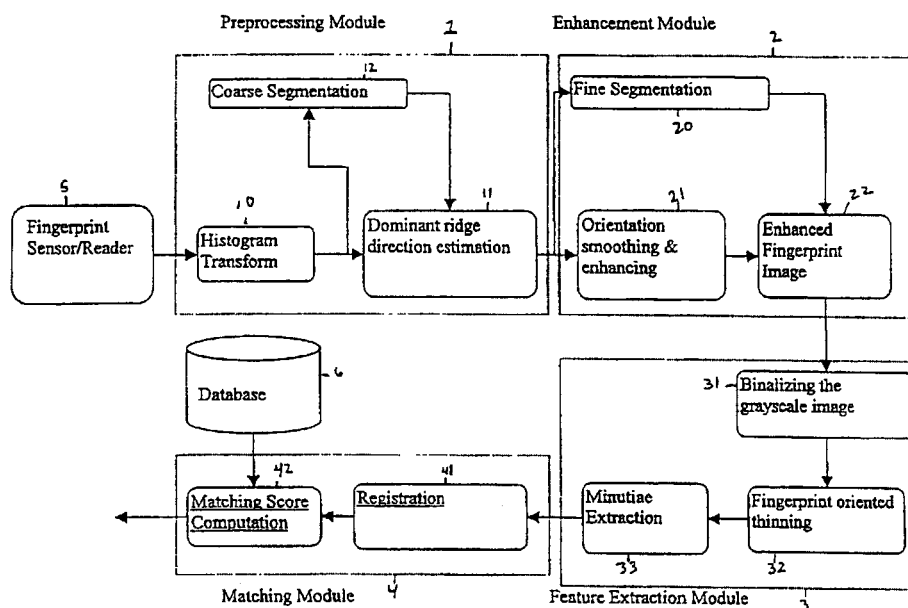
(84) Designated States (*regional*): European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR).

Published:
— Without international search report and to be republished upon receipt of that report.

(72) Inventors: XIA, Tao; Blk 1C, Gillman Heights #18-19, Singapore 102001 (SG). LIU, Bao; Blk 894B Woodlands Drive 50, #11-39, Singapore 731894 (SG). THAM, Jo,

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: WAVELET-ENHANCED AUTOMATED FINGERPRINT IDENTIFICATION SYSTEM



(57) Abstract: A method and system for performing automated biological identification. The system including a preprocessing module with a histogram transform for locally and globally enhancing biological data such as fingerprints. An enhancement module with a fast smoothing and enhancement function. A feature extraction module with a fingerprint oriented thinning function. A matching module with a resolution-enhanced Hough transform function for fingerprint registration and matching score function.