

## References:

- [1]. S. Prabhakar, S. Pankanti, and K. Jain, "Biometric recognition: Security & privacy concerns", IEEE Security & Privacy Magazine, Vol. 1, pp. 33-42, March-April 2003.
- [2]. J. Soldeck, V. Shmerko, P. Philips, G. Kukharev, W. Rogers and S. Yanushkevich, "Image Analysis and Pattern Recognition in Biometric Technologies", in proc. of Int. Conference on the Biometrics, USA, 1997, pp. 270-286.
- [3]. R. Plamondon and N. Srihari, "On-line and Off-line Handwritten Recognition: A Comprehensive Survey.", IEEE Trans. on Pattern Analysis and Machine Intelligence, Vol. 22, No. 1, pp. 63-84, January 2000.
- [4]. A. Zimmer, L. Ling, "A Hybrid On/Off Line Handwritten Signature Verification System", in proc. of the Seventh International Conference on Document Analysis and Recognition (ICDAR 2003), Scotland, UK, 2003.
- [5]. R. Sabourin, G. Genest, and J. Preteux, "Off-Line Signature Verification by Local Granulometric Size Distributions", IEEE Trans. on Pattern Analysis and Machine Intelligence, Vol. 19, No. 9, September 1997.
- [6]. R. Justino, F. Bortolozzi, and R. Sabourin, "Off-line Signature Verification using HMM for Random, Simple and Skilled Forgeries", in proc. of IEEE Proceedings of the Sixth International Conference on Document Analysis and Recognition (ICDAR 2001), WA, USA, September 2001.
- [7]. B. Fang, C.H. Leungb, Y.Y. Tang, K.W. Tse, P.C.K. Kwok and Y.K. Wong, "Off-line signature verification by the tracking of feature and stroke positions" Pattern Recognition, Vol 36, pp.91-101, 2003.

- [8]. L. Lee, T. Berger, and E. Aviczer, "Reliable On-line Human Signature verification systems", IEEE Trans. on Pattern Analysis and Machine Intelligence, Vol. 18, No. 6, June 1996.
- [9]. J. Yi, C. Lee, and J. Kim, "Online Signature Verification using Temporal Shift Estimated by the Phase of Gabor Filter", IEEE Trans. on Signal Processing, Vol. 53, No. 2, February 2005.
- [10]. V. Nalwa, J. Holmdel, "Automatic on-line signature verification", in Proc. of the IEEE, 1997.
- [11]. A. Chalechale and A. Mertins, "Line segment distribution of sketches for Persian signature recognition", in proc. of Conference on Convergent Technologies for Asia-Pacific Region(TENCON), Bangalore, Vol. 1, Oct. 2003, pp. 11 – 15.
- [12]. A. Chalechale, G. Naghdy, P. Pramaratne, "Arabic/Persian cursive signature recognition and verification using line segment distribution", in proc. of IEEE International Conference on Information and Communication Technologies: From Theory to Applications, Vol. 19, April 2004, pp. 475-476.
- [13]. Y. Qi and R. Hunt, "Signature verification using global and grid features", Pattern Recognition, Vol. 27, Iss. 12, pp. 1621-1629, December 1994.
- [14]. B. Fang, H. Leung, Y. Tang, W. Tse, K. Kwok, and K. Wong, "Off-line signature verification by the tracking of feature and stroke positions", Pattern Recognition, Vol. 36, Iss. 1, pp. 91-101, January 2003.
- [15]. L. Wan, Z. Lin, and R. Zhao, "Off-line signature verification incorporating the prior model", in proc. of International Conference on Machine Learning and Cybernetics, Vol. 3, November 2003, pp. 1602 – 1606.
- [16]. H. Baltzakis and N. Papamarkos, "A new signature verification technique based on a two stage neural network classifier", Engineering applications of Artificial Intelligence, Vol. 14, Iss. 1, pp.95-103, February 2001.

- [17]. P. Drouhard, R. Sabourin, and M. Godbout, "A neural network approach to off-line signature verification using directional PDF", *Pattern Recognition*, Vol. 29, Iss. 3, pp. 415-424, March 1996.
- [18]. K. Huang and H. Yan, "Off-line signature verification based on geometric feature extraction and neural network classification", *Pattern Recognition*, Vol. 30, Iss.1, pp. 9-17, January 1997.
- [19]. L. Yang, K. Widjaja, and R. Prasad, "Application of hidden Markov models for signature verification", *Pattern Recognition*, Vol. 28, Iss. 2, pp. 161-170, February 1995.
- [20]. R. Justino, F. Bortolozzi, and Robert Sabourin, "A Comparison of SVM and HMM classifiers in the off-line signature verification", *Pattern Recognition Letters*, Article in Press.
- [21]. R. Justino, F. Bortolozzi, R. Sabourin, "Off-line signature verification using HMM for random, simple and skilled forgeries", in *proc of Sixth International Conference on Document Analysis and Recognition*, WA, USA, September 2001, pp.1031 – 1034.
- [22]. X. Xiao and G. Leedham, "Signature verification using a modified Bayesian network", *Pattern Recognition*, Vol. 35, Iss. 5, pp. 983-995, May 2002.
- [23]. T. Kaewkongka, K. Chamnongthai, and B. Thipakorn, "Off-line signature recognition using parameterized Hough transform", in *proc. of IEEE Fifth International Symposium on Signal Processing and Its Applications*, Vol. 1, August 1999, pp.451 – 454.
- [24]. K. Huang and H. Yan, "Off-line signature verification using structural feature correspondence", *Pattern Recognition*, Vol. 35, Iss. 11, pp. 2467-2477, November 2002.

- [25]. A. Ismail and S. Gad, "Off-line arabic signature recognition and verification", *Pattern Recognition*, Vol. 33, Iss. 10, pp.1727-1740, October 2000.
- [26]. A. Pérez-Hernández, A. Sánchez, and F. Vélez , "Simplified Stroke-based Approach for Off-line Signature Recognition", University of Rey Juan Carlos, Spain.
- [27]. E. Munich and P. Perona, "Visual signature verification using affine arc-length", in *Proc. of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition*, Fort Collins, Colorado, June 1999.
- [28]. G.W. Awcock, R. Thomas, "Applied Image Processing", McGraw-Hill Inc, United States, 1996.
- [29]. R.C. Gonzalez, R.E. Woods, "Digital Image Processing", Pearson Education (Singapore) Pte. Ltd, Delhi, 2003, ch6.
- [30]. R.C. Gonzalez, R.E. Woods, S.L Eddins, "Digital Image Processing Using MatLab", Pearson Education (Singapore) Pte. Ltd, Delhi, 2004, ch6.
- [31]. N. Otsu, "A Threshold Selection Method from Gray-Level Histograms", *IEEE Trans. on Systems, Man, and Cybernetics*, vol. 9, no. 1, pp. 62-66, 1979.
- [32]. A. Torres-Mendez, C. Ruiz-Suarez, E. Sucar, and G. Gomez, "Translation, Rotation, and Scale-Invariant Object Recognition", *IEEE Trans. on Man and Cybernetics; part C Applications and Rewiews*, Vol 30, February 2000.
- [33]. L. Lam, S. Lee, and Y. Suen, "Thinning Methodologies-A comprehensive Survey", *IEEE Trans. on Pattern Analysis and Machine Intelligence*, Vol. 14, No. 9, pp. 869-885, September 1992.
- [34]. R. Parker, "Simple Distances between Handwritten Signatures", in *proc. of 15th International Conference on Vision Interface*, Canada, May 2002 , pp. 218-223.

- [35]. E. Ramesh, M. Narasimha, and Murty, "Off-Line signature verification using genetically optimized weighted features", *Pattern recognition*, Vol. 32, Iss. 2, pp. 217-233, February 1999.
- [36]. D.E. Golberg, "Genetic Algorithms in search optimization & Machine Learning", Pearson Education (Singapore) Pte. Ltd, India, 2003, ch. 1, ch. 3-8.
- [37]. M. Mitchell, "An Introduction to Genetic Algorithms", Prentice Hall India. October 2002, Ch 1.
- [38]. I. Mazumder, and M. Rudnick, "Genetic Algorithms for VLSI Design, Layout & Test Automation", Pearson Education (Singapore) Pte. Ltd, India, 2003, ch1.
- [39]. S. Rajasekaran and A. Vijayalakshmi Pai, "Neural Networks, Fuzzy Logic, and Genetic Algorithms", Prentice-Hall, New Delhi, 2003.
- [40]. Y. Eberhart and R. Yaobin, "Implementation of evolutionary fuzzy systems", *IEEE Trans. on Fuzzy Systems*, Vol. 7, Iss. 2, pp.109 - 119, April 1999.
- [41]. A. Czarn, C. MacNish, K. Vijayan, B. Turlach, and R. Gupta, "Statistical Exploratory Analysis of Genetic Algorithms", *IEEE Trans. on evolutionary computation*, Vol. 8, No. 4, pp. 405-421, August 2004.
- [42]. J. Yen and R. Langari, "Fuzzy Logic Intelligence, Control and Information", Pearson Education (Singapore) Pte. Ltd, India, 2005.
- [43]. H. Tsoukalas and E. Uhric, "Fuzzy and Neural approaches in engineering", John Wiley & Sons, Inc, New York, 1997.
- [44]. C. Wang, T. Hong, S. Tseng, "Integrating fuzzy knowledge by genetic algorithms", *IEEE Trans. on Evolutionary Computation*, Vol. 2, Iss. 4, pp.138 - 149, November 1998.
- [45]. L.A. Zadeh, "Fuzzy sets. Information and control, pp 338-353, 1965.

- [46]. L. Udawatta, K. Watanabe, K. Kiguchi and K. Izumi, "Solution to global stability of fuzzy regulators via evolutionary computation", Applied Soft Computing, Vol. 4, Iss.1, pp.25-34, February 2004.
- [47]. K. Han and K. Sethi, "Handwritten signature retrieval and identification", Pattern Recognition Letters, Vol. 17, Iss. 1, pp. 83-90, January 1996.
- [48]. M. Hanmandlu, H. Mohd, Yusof and K. Madasu, "Off-line signature verification and forgery detection using fuzzy Modeling Pattern Recognition", Vol. 38, Iss. 3, pp. 341-356, March 2005
- [49]. Y Lu, L Tan, W Huang, L Fan, "An approach to word image matching based on weighted Hausdorff Distance", in proc. of Sixth International Conference on Document Analysis and Recognition, 2001.