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## **Abstract**

Fingerprints are the biometric features most used for detection. Dormant prints are routinely recovered commencing crime scenes and are comparing with existing databases of notorious fingerprints for identifying criminals. A lot of matching algorithms with different uniqueness have been introduced in recent years. For real time systems these algorithms are usually based on minutiae features. The detection of known systems tries to find which fingerprint in a database matches the fingerprint requires the matching of its minutiae against the input fingerprint. Since the detection intricacy is many minutiae of other fingerprints. Hence, fingerprint matching is a higher than verification, detection systems usually accept key process. This paper introduced study on a novel approach like Minutia Cylinder Code (MCC) algorithm, Graphic Processing

Unit (GPU) and Biometric Encryption for security purpose also for feature extraction in which the extracted features are self-determining of shift and rotation of the fingerprint and at the meantime the matching operation is performed much more easily and with higher alacrity and accuracy.

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## ences

- D. Maltoni, D. Maio, A. Jain, and S. Prabhakar, Handbook of Fingerprint Recognition. New York, NY, USA: Springer-Verlag, 2009.
  - Biometric Systems: Privacy and Secrecy Aspects, IEEE, 17 November 2009
- R. Cappelli, M. Ferrara, and D. Maltoni, " Minutia cylinder-code: A new representation and matching technique for fingerprint recognition, " IEEE Trans. Pattern Anal. Mach. Intell., vol. 32, no. 12, pp. 2128–2141, Dec. 2010
- Pablo David Gutiérrez, Miguel Lastra, Francisco Herrera, and José Manuel Benítez " A High Performance Fingerprint Matching System for Large Databases Based on GPU", IEEE TRANSACTIONS ON INFORMATION FORENSICS AND SECURITY, VOL. 9, NO. 1, JANUARY 2014
- M. Friedrichs, P. Eastman, V. Vaidyanathan, M. Houston, S. Legrand, A. Beberg, et al., "Accelerating molecular dynamic simulation on graph-ics processing units," J. Comput. Chem., vol. 30, no. 6, pp. 864–872, 2009.
- M. Schatz, C. Trapnell, A. Delcher, and A. Varshney, " High-throughput sequence alignment using graphics processing units, " BMC Bioinformat., vol. 8, p. 474, Dec. 2007
- M. Lastra, J. M. Mantas, C. Ureña, M. J. Castro, and J. A. García-Rodríguez, " Simulation of shallow-water systems using graphics processing units, " Math. Comput. Simul., vol. 80, no. 3, pp. 598–618, Nov. 2009.
- Dileep Kumar, Yeonseung ryua Brief Introduction of Biometrics and Fingerprint Payment Technology http://www.sersc.org/journals/IJAST/vol4/4.pdf
- Anil Jain, Umut Uludag and Arun Ross Biometric Template Selection: A Case Study in Fingerprints
  - Ross Anderson's: "Chapter 13th Biometrics of Security Engineering".
- H. Xu, R. Veldhuis, A. Bazen, T. Kevenaar, T. Akkermans, and B. Gokberk, " Fingerprint verification using spectral minutiae representations, " IEEE Trans. Inf. Forensics Security, vol. 4, no. 3, pp. 397–409, Sep. 2009
- (2013, Jun. 28). NVIDIA Corporation, Santa Clara, CA, USA [Online]. Available: http://www.nvidia.com/
- (2013, Jun. 28). Cuda [Online]. Available: http://www.nvidia.com/object/cuda\_home\_new. html
- On biometric encryption using fingerprint and its security evaluation, IEEE Conferences, February 2009.
  - B. Schneir, Applied Cryptography, John Wiley and Sons, Inc, New York, 1996

## **Index Terms**

Computer Science

Biometrics/forensic Sciences

## Keywords

Minutiae Latent Prints Alacrity Minutia Cylinder Code (mcc)