WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

User Recognition from Social Behavior

Prof Ramya S Pure, Vijaylaxmi Patil, Vijaylaxmi, Sr Aishwarya, Shivaleela

ABSTRACT

Social interactions are an integral part of human behavior. Although social interactions are likely to possess unique behavioral patterns, their significance for automated user recognition has been noted in the scientific community only recently. This project demonstrate that it is possible to generate a set of unique features, called social behavioral (SB) features,from the social interactions of individuals via an online social network (OSN)

1. Introduction

As we live in the age of the web, which is heavily equipped with social media. Through the medium of social media people interact with other people's thoughts online by sharing their own content. This itself generates a large amount of information from just a couple of hundred comments. a key criterion which makes social media like Facebook, Twitter, WhatsApp, etc.

Human behavior is a great source of biometric information that can be used to establish a precise identity. Social interaction and communication are parts of social behavior. Individuals' social connections, community, profile, pattern of communication and interactions etc, not only contain basic information of a person but also exhibit personal characteristics, dependencies and patterns. Person identification is a basic requirement of preventing the adverse effects of growing security threats in both the real and cyber world.

2. Literature Survey

- The features are exploited as on-the-move biometric features to authenticate the person.
- Interesting study based on spatio-temporal activity based on person authentication has been conducted by Tao,Kudo,Nonaka and Toyama.
- In this work authors observed that in an office environment,every person wants to go back to their desk after a certain task. Therefore, based on the moving direction of different individuals the authors successfully identified persons meeting even at the same position.
- In Kentros,Albayram, and Bamis utilized spatiotemporal information of mobile phone users for being authenticated for mobile transactions.

3. System Specification

3.1 Software Requirements

1. Operating system : Windows 7/8/9.
2. Coding Language : Python.

* *Corresponding author.* Tel:.+ 91 9663761289
E-mail address: mathlaxmi12@gmail.com

3. Front-End : Python.
4. Designing : DJANGO.
5. Data Base : MySQL

3.2 Hardware Requirements

1. System : Pentium IV 2.4 GHz.
2. Hard Disk : 16 GB available hard disk space (32-bit) or 20 GB (64-bit)
3. Monitor : 14' Color Monitor.
4. Mouse : Optical Mouse.
5. RAM : 4 GB

4. System Analysis

4.1 Problem Definition

Majority of existing behaviors are based on either human-computer interactions or measuring body parts and muscle actions.From the above discussion of existing behavioral biometrics, it is pertinent that human interactions and activities contain unique personal characteristics which can aid person authentication in both real and cyber world. However, human activities are not limited to walking, gaming or typing. Social interaction is an indispensable part of human behavior. Now, in the era of social networking our everyday social interactions have been naturally extended into virtual space as well. Nevertheless, social behaviors of individuals are not being studied from a person identification point of view.

4.2 Proposed system

We conduct our analysis usingTwitter - a popular social networking platform,which enables users to interact virtually with their acquaintances by posting real time micro blogs called Tweets. Human social interactions are of interest for researchers from domains as diverse as social science,psychology,neuroscience,organizational behavior and marketing.
It is possible to observe repetitive patterns in a user's social interactions via online context since they are driven by repeatable human behaviors and habits. Furthermore, the analysis of social data may reveal valuable information such as personal interest, preferences,communication patterns, spatio-temporal information etc.

4.3 Objectives of proposed system

The goal of this project is to introduce human social behavior as a novel behavioral biometric trait called Social Behavioral Biometrics (SBB).

Make it possible to recognize a person from their social interactions in a given social context.

To identify a set of social behavioural biometric features that represents distinctive personal characteristics

evaluation of three biometric properties of the proposedSB features is supported by extensive.

5. Advantages

- Social data can be acquired and processed without notifying the user.
- SBB features obtained from social networks contain important information about the user.
- In SBB authentication is done continuously. If the trust level of the user drops significantly,the system can take necessary actions.
- Social behavioral biometrics are a great source of soft biometrics,which can be used to enhance the accuracy and reliability of a person authentication system.
- Accumulation of social data is easy and can be acquired without employing any extra devices.

6. Applications

- The proposed SB features are more suitable for identity verification (1:1) or closed-set identification in its present form.
- They can be useful for user identification from a large population in a multimodal scenario. for example,a small suspect list can be identified by a stronger biometric such as face, then SB biometric information can be used to identify the user from the small set of candidates.
- Other potential security applications of the proposed SB biometric include author recognition,access control in cyberspace, anomaly detection, situation awareness,and forensic.

7. Implementation

Implementation includes all those activities that take place to convert from the old system to the new system. The new system may be totally new, replacing an existing manual on an automated system. It may be a major modification to an existing system. In either case, proper implementation is essential to provide a liable system to meet the organizational requirements.

The implementation requires the following tasks:

- Careful planning.
- Investigation of the system and constraints.
- Design of methods to achieve the changeover
- Evaluation of changeover method

8. Conclusion

This project introduces a novel type of biometric, social behavioral biometrics based on online or offline social communications in virtual or real worlds which supports a very high potential of the proposed research direction not only for security applications, but also for studying social interactions,communications and learning patterns with the goal of discovering new knowledge.

References

[1] “E. Raad, R. Chbeir, and A. Dipanda, ``User profile matching in social networks," in *Proc. 13th Int. Conf. Netw.-Based Inf. Syst. (NBiS)*, “,pp. 297_304.
[2] “Y. Li, Y. Peng, Z. Zhang, H. Yin, and Q. Xu, ``Matching user accounts across social networks based on username and display name," in *Proc. World Wide Web*, 2018, pp. 1_23”.
[3] “X. Zhou, X. Liang, X. Du, and J. Zhao, ``Structure based user identification across social networks," *IEEE Trans. Knowl. Data Eng.*, vol. 30, no. 6, pp. 1178 _ 1191, June. 2018”.
[4] `Y. Li, Z. Zhang, Y. Peng, H. Yin, and Q. Xu, ``Matching user accounts based on user generated content across social networks," *Future Gener. Comput. Syst.*, vol. 83, pp. 104_115, Jun. 2018”.
[5] “J. Haupt, B. Bender, B. Fabian, and S. Lessmann, ``Robust identi_cation of email tracking: A machine learning approach," *Eur. J. Oper. Res.*, vol. 271, no. 1, pp. 341_356, 2018
[6] M. Sultana, P. P. Paul, M. Gavrilova, “On-line user interaction traits in web-based social biometrics,” IGI Chapter, 2014, pp. 177-190.
[7] Md. M. Monwar and M. L. Gavrilova, “FES: A system for combining face, ear and signature biometrics using rank level fusion,” ITNG, 2008, pp. 922-927.
[8] S. Bazazian and M. Gavrilova, “Context-based gait recognition,” Proc. SPIE Defense, Security, and Sensing, 2012, pp. 84070J-84070 International Society for Optics and Photonics, .
[9] N. Bakelman, J. V. Monaco, S. H. Cha, and C. C. Tappert, “Keystroke biometric studies on password and numeric keypad input,” Proc. of IEEE European Intelligence and Security Informatics Conference (EISIC), 2013, pp. 204-207.
[10] Z. Jorgensen and T. Yu, “On mouse dynamics as a behavioral biometric for authentication,” Proc. of 6th ACM Symposium on Information, Computer and Communications Security, 2011, pp. 476- 482.
[11] C. Bo, L. Zhang, X. Y. Li, Q. Huang, and Y. Wang, “SilentSense: Silent user identification via touch and movement behavioral biometrics.” Proc. of 19th annual international conference on Mobile computing & networking, 2013, pp. 187-190. ACM.

[12] K. Igarashi, C. Miyajima, K. Itou, K. Takeda, F. Itakura, and H. About, "Biometric identification using driving behavioral signals," Proc. Of IEEE International Conference on Multimedia and Expo, ICME 04, vol. 1, 2004, pp. 65-68.
[13] R. V. Yampolskiy and V. Govindaraju. "Game playing tactic as a behavioral biometric for human identification," Behavioral biometrics for human identification, 2010, p. 385.
[14] L. Olejnik and C. Castelluccia, "Towards web-based biometric systems using personal browsing interests," Proc. of IEEE Eighth International Conference on Availability, Reliability and Security (ARES), 2013, pp. 274- 280.
[15] M. L. Gavrilova and M. Monwar, "Multimodal biometrics and intelligent image processing for security systems," IGI Global, 2013