International Journal on Applications in Information and Communication Engineering
Volume 8 : Issue 2 : June 2022, pp 37 – 41 www.aetsjournal.com ISSN (Online) : 2394 - 6237

CV BASED PERSONALITY DETECTION SYSTEM IN MACHINE LEARNING

B. SARAVANAKUMAR, MR. N. GANAPATHI RAM

***Abstract*—** This system can used in many business sectors that may require expert candidate. This system will reduce workload of the human resources. This system will help the human resource to select right candidate for desired job profile, which in turn provide expert workforce for the organization. Admin can easily shortlist a candidate based on their online test marks and select the appropriate candidate for particular job profile. This will enable a more effective way to short list submitted candidate CVs from a large number of applicants providing a consistent and fair CV ranking policy, which can be legally justified. Using Natural Language Processing (NLP) can be defined as a process that enables a machine to become more like a human, hence slashing the distance between machines and humans. In this field challenges like understanding the NLP i.e. permitting the machines to understand the natural language of humans are faced. This system will help the HR dept. to easily shortlist the candidate based on their CV ranking policy.

***Keywords*—** Human Resource, Natural Language Processing, CV Ranking Policy, Machine Learning.

I. INTRODUCTION

Selection of candidates in a recruitment drive from a vast pool of candidates is a common issue. Traditional techniques consist organizing personality and technical aptitude tests, group discussions and interviews. With the advancement in technology, the way recruitments are being conducted has shifted. Knowledge Management Systems (Online Recruitment Systems) are used to employ candidates, by using the medium, Web 2.0 and various social media websites. Using social media as a tool here poses newer, powerful challenges and opportunities for employers. It also presents high efficiency, speed and attracts and targets specific, that is, relevant job applicants from the humongous number of candidates of unique differences that are manipulated by the development of an individuals' personal memories, values, social relationships, attitude, skills and habits. Characteristics revealed in a certain pattern of behavior in a different bunch of situations form a personality trait. Finding an individual personality trait and intelligence from his or her face plays a crucial role in interpersonal relationships but it is non reliable. Results show personality traits such as social interaction, capacity of mutual respect, creativity, and many other traits cannot be just estimated by personal interactions. Another XML based multi agent recommender system, proposed by Pasquale DeMeo uses rich user profiles for support. The proposed system was a multi recommender system which used XML for exploiting user profiles to enhance recruitment services in a personalized manner. Another approach proposed by Mohammad Mehrad Sadra et aluses NLP for standardizing resumes through a modelling language approach. Despite in great usage, these techniques have disparities related to structure, inconsistent CV formats and contextual information. Additionally, the applicants may show themselves in a well-behaved manner as an online questionnaire's responses can be manipulated for personality inference. Also, social networking sites contain data that is usually irrelevant for recruitment and thus shall not consist sufficient supplementary information regarding the candidate. In this project, a system is proposed, which automates the eligibility check and estimates the emotional intelligence by leveraging the potentials of the data found and given as input into the system Various attributes of the test are processed for evaluating the candidate's personality in the system. The professional eligibility of a candidate is checked based on the entries and CV submitted by the applicants. Credibility is assured from the mandatory declaration of the users and also resolves

B. Saravanakumar, Student, M.Sc Computer Science, Rathinam College of Arts and Science, Coimbatore, Tamil Nadu, India – 641021, (e-mail: saravanakumar2018@gmail.com).

Mr. N. Ganapathi Ram, Assistant Professor, Department of Computer Science, Rathinam College of Arts and Science, Coimbatore, Tamil Nadu, India – 641021, (e-mail: ganapathiram.cs@rathinam.in).

the standardization issue. The prime intention is the reduction in the time spent on the initial recruitment phases keeping the end goal of making the procedure more effective at a higher stage. Overriding of the decision-making capabilities of employers does not take place by the system.

II. SYSTEM DEVELOPMENT

A. Existing System:

Existing system uses the manual method of screening that will slow the process of initial screening. In the existing system every resume is analysed by the human resource person and saved by them as a document format. If HR has a vacancy to fulfil, they have to read the full resume of the candidate and remember them in order to fulfil the vacancy.

Disadvantages:

1. Work is done manually.
2. Increases the work load in human resource department.
3. It takes time to shortlist the candidate for the job.

B. Proposed System:

Our proposed method gets the score for Openness, Conscientiousness, Extraversion/Introversion, Agreeableness, Natural Reactions and predicts the personality of the resume are stored in a dataset and used for training. Based on this training, the personality of individuals are predicted using data mining concepts. Before testing the dataset, it is pre-processed using different data mining concepts like handling missing values, data discretization, normalization etc. This pre-processed data can then be used to classify/predict user personality based on past classifications. The system analyses user characteristics and behaviors. System then predicts new user personality based on personality data stored by classification of previous user data. Model used to predict the test dataset is “Logistic Regression” because Logistic regression is an effective model to predict output class labels for dependent categorical data.

Advantages of Proposed System:

1. Automatically detects that a candidate is fit for the job that will avoid the manual screening.
2. This method needs very less time to evaluate candidate for the basic needs of the job he/she is applying for
3. This system can be used in many business sectors that may require expert candidate.
4. This system will reduce workload of the human resource department.
5. This system will help the human resource department to select right candidate for particular job profile, which in turn provide expert workforce for the organization.
6. Admin or the concern person can easily shortlist a candidate based on their online test marks and can select an appropriate candidate for desired job profile.

C. Modules:

1. Openness
2. Conscientiousness
3. Extraversion/Introversion
4. Natural Reactions

Module Description:

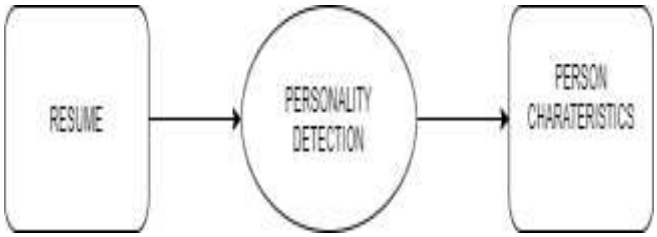
Openness It is sometimes called "Intellect" or "Imagination," this measures your level of creativity, and your desire for knowledge and new experiences. Conscientiousness This looks at the level of care that you take in your life and work. If you score highly in conscientiousness, you'll likely be organized and thorough, and know how to make plans and follow them through. If you score low, you'll likely be lax and disorganized. Extraversion/Introversion This dimension measures your level of sociability. Are you outgoing or quiet, for instance? Do you draw energy from a crowd, or do you find it difficult to work and communicate with other people? This dimension measures how well you get on with other people. Are you considerate, helpful and willing to compromise? Or do you tend to put your needs before others'? Natural Reactions Sometimes called "Emotional Stability" or "Neuroticism," these measures emotional reactions. Do you react negatively or

calmly to bad news? Do you worry obsessively about small details, or are you relaxed in stressful situations.

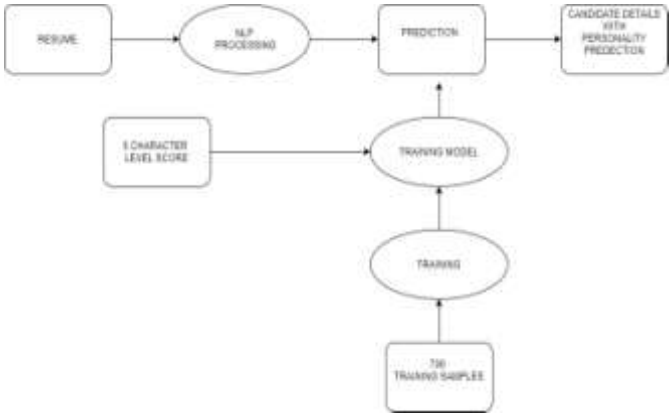
III.PROPOSED WORK DIAGRAM

Data Flow Diagram:

Level 0:

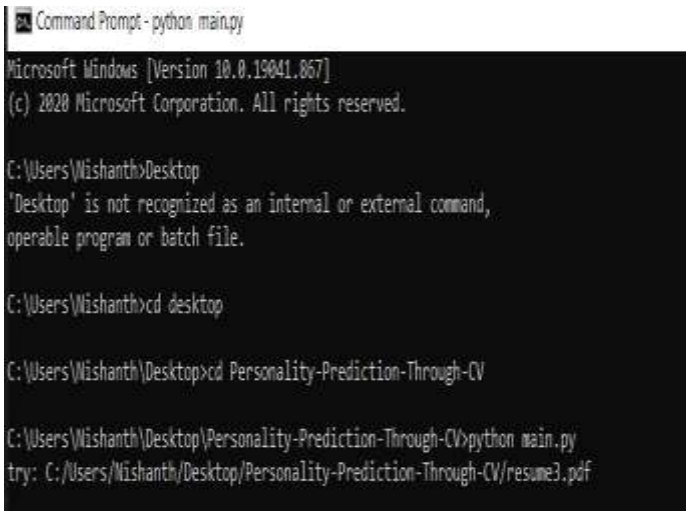


Level 1:

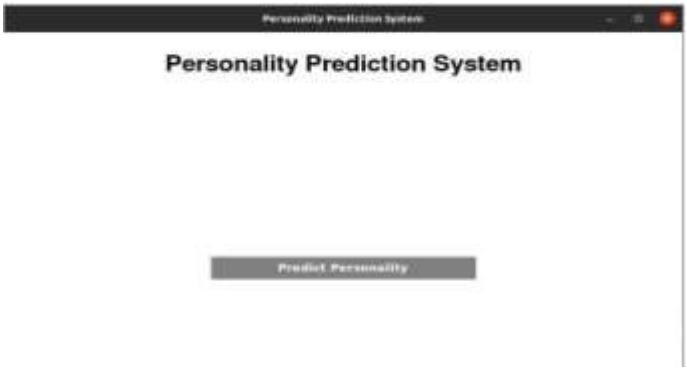


IV. EXPERIMENTAL RESULTS

Main Program

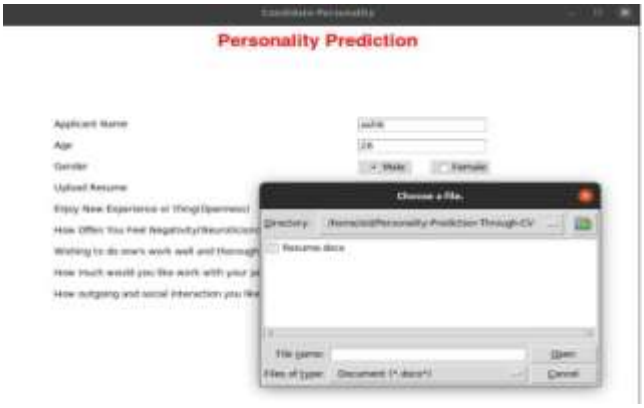


Main Page

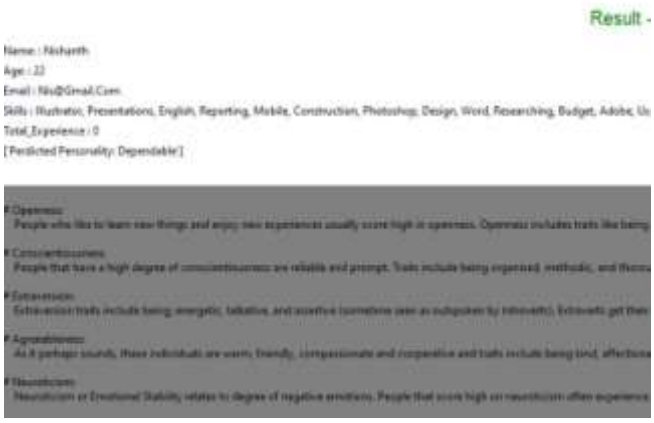


Personality Prediction Page

Upload Resume



Result Page



V. CONCLUSION

In this project, we have implemented an organization-oriented recruitment system that would assist the human resource department in short listing the right candidate for a specific job profile. The system would be used in many business sectors that will require expert candidates, thus reducing the workload on the human resource department.

There are many ways to enhance this project from a future point of view. One of them is to create a deep neural network model that will analyse the words and word frequencies, intention of a workshop/internship attended, relationship between the current and previous year projects and experience gained. Based on this neural network model that is created using machine learning and deep learning libraries, we are able to connect the recruiters and find them the best match candidate for their needs.

Other future enhancements may include storing all the resume data into the database and analysing all the resume data stored in the server and a cluster of complete teams can be formed. By forming such a team for example a web development company needs a designer, web developer, frontend engineer, backend engineer, tester etc.. These types of skilled teams of resumes can be formed with similar personalities or matching personalities. This team can be an communicatively interconnected team than individual hiring and perform well in long run.

SCOPE OF FUTURE WORK

Some open issues remain to be explored in our future work. First, the proposed mechanisms are limited to static or quasi-static wireless ad hoc networks. Frequent changes on topology and link characteristics have not been considered. Extension to highly mobile environment will be studied in our future work. In addition, in this paper have assumed that source and destination are truthful in following the established protocol because delivering packets end-to-end is in their interest. Misbehaving source and destination will be pursued in our future research. Moreover, in this paper, as a proof of concept, mainly focused on showing the feasibility of the proposed cypto-primitives and how second order statistics of packet loss can be utilized to improve detection accuracy. As a first step in this direction, our analysis mainly emphasize the fundamental features of the problem, such as the untruthfulness nature of the attackers, the public verifiability of proofs, the privacy-preserving requirement for the auditing process, and the randomness of wireless channels and packet losses, but ignore the particular behavior of various protocols that may be used at different layers of the protocol stack. The implementation and optimization of the proposed mechanism under various particular protocols will be considered in our future studies.

REFERENCES

[1] J. N. Arauz, “802.11 Markov channel modeling,” Ph.D. dissertation, School Inform. Sci., Univ. Pittsburgh, Pittsburgh, PA, USA, 2004.

[2] C. Ateniese, R. Burns, R. Curtmola, J. Herring, L. Kissner, Z. Peterson, and D. Song, “Provable data possession at untrusted stores,” in Proc. ACM Conf. Comput. and Commun. Secur., Oct. 2007, pp. 598–610.

[3] G. Ateniese, S. Kamara, and J. Katz, “Proofs of storage from homomorphic identification protocols,” in Proc. Int. Conf. Theory Appl. Cryptol. Inf. Security, 2009, pp. 319–333.

[4] B. Awerbuch, R. Curtmola, D. Holmer, C. Nita-Rotaru, and H. Rubens, “ODSBR: An on- demand secure byzantine resilient routing protocol for wireless ad hoc networks,” ACM Trans. Inform. Syst. Security, vol. 10, no. 4, pp. 1–35, 2008.

[5] B. Awerbuch, R. Curtmola, D. Holmer, C. Nita-Rotaru, and H. Rubens, "ODSBR: An on- demand secure byzantine resilient routing protocol for wireless ad hoc networks," ACM Trans. Inf. Syst. Secur., vol. 10, no. 4, pp. 11–35, 2008.

[6] K. Balakrishnan, J. Deng, and P. K. Varshney, "TWOACK: Preventing selfishness in mobile ad hoc networks," in Proc. IEEE Wireless Commun. Netw. Conf., 2005, pp. 2137– 2142.

[7] D. Boneh, B. Lynn, and H. Shacham, "Short signatures from the weil pairing," J. Cryptol., vol. 17, no. 4, pp. 297–319, Sep. 2004.

[8] S. Buchegger and J. Y. L. Boudec, "Performance analysis of the confidant protocol (cooperation of nodes: Fairness in dynamic adhoc networks)," in Proc. 3rd ACM Int. Symp. Mobile Ad Hoc Netw. Comput. Conf., 2002, pp. 226–236.

[9] L. Buttyan and J. P. Hubaux, "Stimulating cooperation in selforganizing mobile ad hoc networks," ACM/Kluwer Mobile Netw. Appl., vol. 8, no. 5, pp. 579–592, Oct. 2003.

[10] J. Crowcroft, R. Gibbens, F. Kelly, and S. Ostring, "Modelling incentives for collaboration in mobile ad hoc networks," presented at the First Workshop Modeling Optimization Mobile, Ad Hoc Wireless Netw., Sophia Antipolis, France, 2003.

[11] J. Eriksson, M. Faloutsos, and S. Krishnamurthy, "Routing amid colluding attackers," in Proc. IEEE Int. Conf. Netw. Protocols, 2007, pp. 184–193.