عنوان مقاله:

Using machine learning-based models for personality recognition

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خلاصه مقاله:

Personality can be defined as the combination of behavior, emotion, motivation, and thoughts that aim at describing various aspects of human behavior based on a few stable and measurable characteristics. Considering the fact that our personality has a remarkable influence in our daily life, automatic recognition of a person's personality attributes can provide many essential practical applications in various aspects of cognitive science. Although various methods have been recently proposed for the task of personality recognition, most of them have mainly focused on human-designed statistical features and they did not make use of rich semantic information existing in users' generated texts while not only these contents can demonstrate its writer's internal thought and emotion but also can be assumed as the most direct way for people to state their feeling and opinion in an understandable form. In order to make use of this valuable semantic information as well as overcoming the complexity and handcraft feature requirement of previous methods, a deep learning based method for the task of personality recognition from text is proposed in this paper. Among various deep neural networks, Convolutional Neural Networks (CNN) have demonstrated profound efficiency in natural language processing and especially personality detection. Owing to the fact that various filter sizes in CNN may influence its performance, we decided to combine CNN with AdaBoost, a classical ensemble algorithm, to consider the possibility of using the contribution of various filter lengths and gasp their potential in the final classification via combining various classifiers with respective filter size using AdaBoost. Our proposed method was validated on the Essay dataset by conducting a series of experiments and the empirical results demonstrated the superiority of our proposed method compared to both machine learning and deep learning methods for the task of personality recognition.

کلمات کلیدی:

Deep Learning, convolutional neural network, Adaboost, Cognitive science, Personality recognition, Big Five personality traits

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