Excellent English writing and speaking skills are required in any case.

Candidates should email a detailed CV with diploma and background in statistics, natural language processing and computer program skills (Perl, Python). Candidates should email a detailed CV with diploma and background in statistics, natural language processing and computer program skills (Perl, Python).

Keywords: hate speech, social media, natural language processing.

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Contexte et atouts du poste

PhD Thesis position in NLP : Automatic classification using deep learning of hate speech posted on the Internet

The rapid development of the Internet and social networks has brought great benefits to women and men in their daily lives. Unfortunately, the dark side of these benefits has led to an increase in hate speech and terrorism as the most common and powerful threats on a global scale. Hate speech is a type of offensive communication mechanism that expresses an ideology of hatred often using stereotypes. Hate speech can target different societal characteristics such as gender, religion, race, disability, etc. Hate speech is the subject of different national and international legal frameworks. Hate speech is a type of terrorism and often follows a terrorist incident or event.

Social networks are incredibly popular today. Nowadays, Twitter, LinkedIn, Facebook and YouTube are used as a standard tool for communicating ideas, beliefs and feelings. Only a small percentage of people use part of the network for unhealthy activities such as hate speech and terrorism. But the impact of this low percentage of users is extremely damaging. For years, social media companies such as Twitter, Facebook and YouTube have invested hundreds of millions of dollars each year in the task of detecting, classifying and moderating hate. But these efforts are mainly based on manually reviewing the content to identify and remove offensive content, which is extremely expensive.

Mission confiée

This thesis aims at designing automatic and evolving methods for the classification of hate speech in the field of social media. Despite the studies already published on this subject, the results show that the task remains very difficult. We will use semantic content analysis methodologies from automatic language processing (NLP) and methodologies based on deep learning (DNN) which is the revolution in the field of artificial intelligence. During this thesis, we will develop a research protocol to classify hate speech in the text in terms of hateful, aggressive, insulting, ironic, neutral, etc. character. This type of problem is placed in the context of the multi-label classification.

In addition, the problem of obfuscation of words in hate messages will need to be addressed. People who want to write hate speech on the Internet know that they risk being censored by rudimentary automatic systems of moderation. So, users try to obscure their words by changing the spelling or the spelling of words.

Among the crucial points of this thesis are the choice of the DNN architecture and the relevant representation of the data, ie the text of the internet message. The system designed will be validated on real flows of social networks.

Principales activités

References:


Compétences

Keywords: hate speech, social media, natural language processing.

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Informations générales

- Ville: Villers-lès-Nancy
- Centre Inria: CRI Nancy - Grand Est
- Date de prise de fonction souhaitée: 2019-09-01
- Durée de contrat: 3 ans
- Date limite pour postuler : 2019-07-31

Contacts

- Equipe Inria : MULTISPEECH
- Recruteur : Illina Irina / irina.illina@inria.fr

A propos d’Inria

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Le poste est susceptible d’être affecté dans une zone à régime restrictif (ZRR), telle que définie dans le décret n°2011-1425 relatif à la protection du potentiel scientifique et technique de la nation (PPST). L’autorisation d’accès à une zone est délivrée par le chef d’établissement, après avis ministériel favorable, tel que défini dans l’arrêté du 03 juillet 2013, relatif à la PPST. Un avis ministériel défavorable pour un poste affecté dans une ZRR aurait pour conséquence l’annulation du recrutement.

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- Social security coverage

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Salary:
1982€ gross/month for 1st and 2nd year. 2085€ gross/month for 3rd year.

Monthly salary after taxes: around 1596,05€ for 1st and 2nd year. 1678,99€ for 3rd year. (medical insurance included).